HP Business Availability Center

for the Windows and Solaris operating systems

Software Version: 8.00

Using System Availability Management

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Welcome to This Guide

This guide describes how to use the System Availability Management application to monitor the enterprise IT infrastructure.

This chapter includes:

How This Guide Is Organized

The guide contains the following parts:

Part I Introduction to SiteScope

Introduces SiteScope and provides an overview of the SiteScope key features, architecture, monitoring model, and a working order for using SiteScope to monitor your organization's IT infrastructure. In addition, it describes how to access SiteScope and use a silent login.

Part II General and Administration

It describes how to navigate the SiteScope user interface, search and filter SiteScope objects, use Global Search and Replace, use SiteScope tools to troubleshoot resource and monitor configuration problems, and use regular expressions. It also describes how to use System Availability Management Administration from within HP Business Availability Center to register, configure, and maintain multiple SiteScopes.

Part III Monitors

Describes how to configure each type of SiteScope monitor. It also describes how to monitor XML documents.

Part IV Integration Monitors

Describes how to configure each type of integration monitor, including troubleshooting issues relating to monitoring EMS environments with SiteScope.

Part V Remote Servers

Describes how to set up connection properties so that SiteScope can monitor in remote environments. It also describes how to use Secure Shell (SSH) connection for remote server monitoring, configure clients working with SSH, and create and customize adapter files for UNIX monitoring.

Part VI Preferences

It describes how to configure the SiteScope's general and administrative functions, including infrastructure, integration, logs, settings for connecting to e-mail pager and SNMP systems, schedule profiles, user profiles, and credential management.

Part VII Templates

Describes how to use templates to efficiently deploy, maintain, and update monitoring solutions, including groups, monitors, remote servers, and alerts. It also describes deploying SiteScope monitoring for commonly used IT applications using solution templates. It also describes using the Monitor Deployment Wizard.

Part VIII SiteScope Dashboard

Describes how to use the SiteScope Dashboard tab to view the latest real-time monitor data and to customize the display of monitor results. It also describes monitoring SiteScope server health.

Part IX Alerts and Reports

Describes how to use SiteScope Alerts to send notifications of an event or change of status in your infrastructure, and how to customize alert templates and write script alerts. It also describes how to create SiteScope Reports to define the monitor parameters, time interval, or summary data you want to measure. It also describes using System Availability Management reports.

Who Should Read This Guide

This guide is intended for the following users of HP Business Availability Center:

- HP Business Availability Center administrators
- HP Business Availability Center application administrators
- HP Business Availability Center data collector administrators
- HP Business Availability Center end users

Readers of this guide should be knowledgeable about enterprise system administration, infrastructure monitoring systems, and SiteScope, and have familiarity with the systems being set up for monitoring. In addition, readers who are integrating with HP Business Availability Center should be familiar with HP Business Availability Center and enterprise monitoring and management concepts.

Getting More Information

For a complete list of all online documentation included with HP Business Availability Center, additional online resources, information on acquiring documentation updates, and typographical conventions used in this guide, see the *HP Business Availability Center Deployment Guide* PDF.

Part I

Introduction to SiteScope

1

Introducing SiteScope

This chapter introduces the SiteScope monitoring model.

This chapter includes:

Concepts

Tasks

SiteScope Overview

HP SiteScope is an agentless monitoring solution designed to ensure the availability and performance of distributed IT infrastructures—for example, servers, operating systems, network devices, network services, applications, and application components. This Web-based infrastructure monitoring solution is lightweight, highly customizable, and does not require that data collection agents be installed on your production systems.

SiteScope has over 90 types of monitors that can monitor utilization, response time, usage, and resource availability of a variety of host types and application platforms. SiteScope can be configured to alert whenever it detects a problem in the IT infrastructure. There are several types of alert actions, such as sending e-mail messages, paging, sending Simple Network Management Protocol (SNMP) traps, or executing a script.

You can create a report for a single monitor, several monitors, or even several monitor groups. SiteScope reports display information about how the servers and applications you are monitoring have performed over time. SiteScope reports are important tools in monitoring and troubleshooting operational performance and availability and reviewing the monitored environment.

SiteScope provides different tools, such as templates, the Publish Template Changes wizard, and automatic template deployment that enable you to develop a standardized set of monitor types and configurations into a single structure. SiteScope templates can be speedily deployed across the enterprise and quickly updated to make sure that the monitoring infrastructure is compliant with the standards set in the template. SiteScope also includes alert types that you can use to communicate and record event information in a variety of media. You can customize alert templates to meet the needs of your organization.

SiteScope monitors key aspects of its own operability and identifies monitor configuration problems and critical server load. It also monitors its own integration and data events when configured to report to HP Business Availability Center.

Key Features of SiteScope

SiteScope has the following features:

- **Agentless monitoring.** SiteScope monitors without the deployment of agent software on the servers to be monitored. This function makes deployment and maintenance of SiteScope relatively simple compared to other performance monitoring solutions.
- **Enterprise-ready architecture.** SiteScope provides failover capabilities, simultaneous monitoring of large number of systems, and support for secure connections.
- **Simple installation and deployment.** SiteScope is installed on a single server running as a service or a process. This results in quick installation and easy monitoring configuration.
- **Infrastructure performance and availability monitoring.** SiteScope has over 90 types of monitors. SiteScope can monitor utilization, response time, usage, and resource availability of a variety of host types and application platforms.
- **Standardized monitor deployments and updates using templates.** SiteScope templates, the Publish Template Changes wizard, and automatic template deployment provide an enterprise solution for standardizing the monitoring of the different IT elements in your enterprise. Templates speed the deployment of monitors across the enterprise through the single-operation deployment of groups, monitors, alerts, remote servers, and configuration settings in a single structure that can be repeatedly deployed and updated.
- **Proactive alerting.** SiteScope can be configured to alert whenever it detects a problem in the IT infrastructure. There are several types of alert actions, such as sending e-mail messages, paging, sending Simple Network Management Protocol (SNMP) traps, or executing a script.
- **Self-monitoring.** SiteScope monitors key aspects of its own operability and identifies monitor configuration problems and critical server load. It also monitors its own integration and data events when configured to report to HP Business Availability Center.

- **Customization capabilities.** SiteScope allows for display of customizations of groups and monitors by using custom data fields and HTML-sensitive description tags. In addition, SiteScope allows for the customization of alert text and report configurations by using templates and user-defined variables.
- **Intuitive administration.** SiteScope reduces the time spent managing a monitoring environment by providing a user friendly browser-based interface for viewing and administering of the monitoring platform.

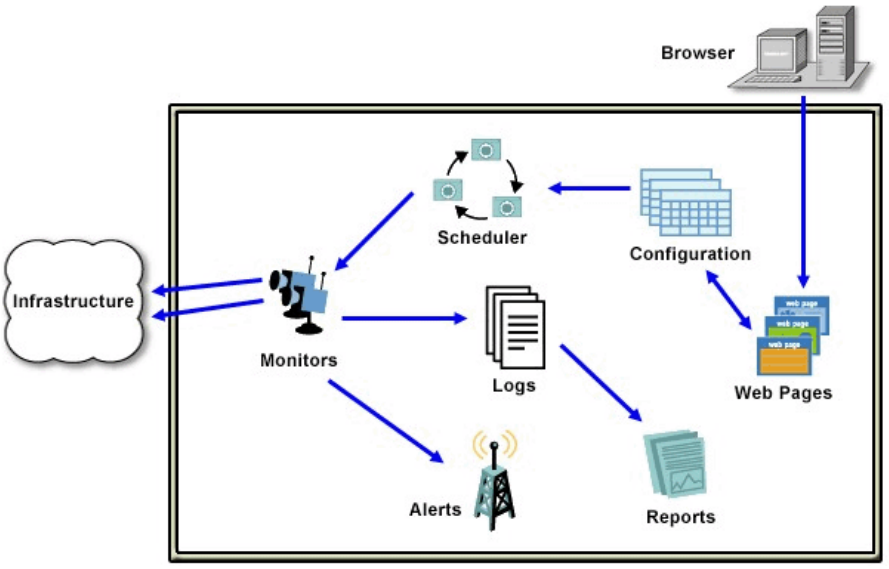
SiteScope Architecture

SiteScope's Web-enabled architecture allows for the creation and ongoing administration of a scalable monitoring environment. It consists of the following components:

- **Browser-based interface.** Manages end user status information requests, configuration change requests, and access control.
- **Scheduler.** Coordinates the running of monitors, alert creation, and report generation.
- **Monitors.** Collect performance and availability information about the system being monitored.
- **Alerts.** Notifications of exceptions, failures, and status change events in the system being monitored.
- **Reports.** A historical representation of monitored data for trending and analysis purposes.

SiteScope Monitoring Model

The SiteScope monitoring model is displayed in the diagram below.



SiteScope architecture is comprised of the following key components:

- **Groups.** A group is a container for monitoring assets. Groups may contain subgroups and are used to organize monitors. Groups are created prior to monitors.
- **Monitors.** A monitor checks the status of server components, key application processes, log files, or network devices, to name a few. It collects data based on selected metrics and displays a status of good, warning, or error with respect to the configured thresholds.
- **Alerts.** An alert is an action triggered by a change in the status of a monitored asset. Alerts notify required users when negative events or failures occur. An alert can be sent to a variety of media including e-mail, pager, Short Message Service (SMS) messages, or an SNMP trap.
- **Reports.** A report is a historical representation of monitored data. SiteScope offers a variety of reports from quick monitor reports to detailed management reports. Reports enable you to track trends and operational performance and to troubleshoot problems.

Accessing SiteScope

To access SiteScope, enter the SiteScope address in a Web browser. The default address is: http://localhost:8080/SiteScope.

On Windows platforms, you can also access SiteScope from the Start menu by clicking **Start** > **Programs** > **HP SiteScope** > **Open HP SiteScope**.

The first time SiteScope is deployed, there is a delay for initialization of the interface elements. When you connect to a SiteScope, the SiteScope opens to the Dashboard view.

Note:

- To restrict access to this account and its privileges, you need to edit the Administrator account profile to include a user login name and login password. SiteScope then displays a login dialogue before SiteScope can be accessed. If no user name and password are defined for the Administrator user, SiteScope skips the Login page and automatically logs in. For details on editing the Administrator account profile, see "User Management Preferences" on page 1118.
- You can also access SiteScope using a silent login. This enables you to skip the login page and directly open the user account for the given user name and password using the silent login address. For details on this topic, see "Using a Silent Login" on page 33.

Using a Silent Login

Silent login is an automatic process that launches SiteScope without having to enter the user login name and password in the SiteScope login page. This enables you to skip the initial login page and instead go directly to a SiteScope client. In addition, you can use silent login in conjunction with a page option view that you saved in your browser's list of Favorites to open SiteScope directly to a particular group or view. For details on configuring a favorite page option view, see Page Options in "SiteScope Common Toolbar" on page 49.

To start SiteScope using silent login, you must encrypt the user login name and password using the SiteScope Encryption Tool, and enter the encrypted information in the silent login URL. The URL is in the format:

http://<server_name>:8080/SiteScope?sis_silent_login_type=encrypted&login=<encrypted_login_name>&password=<encrypted_password>

For details on how to create a SiteScope silent login URL, see "Create a Silent Login URL" on page 34.

Create a Silent Login URL

This task describes how to create a silent login URL which enables you to log on to the specified SiteScope server directly without showing the SiteScope login page.

This task includes the following steps:

1 Create a User Profile

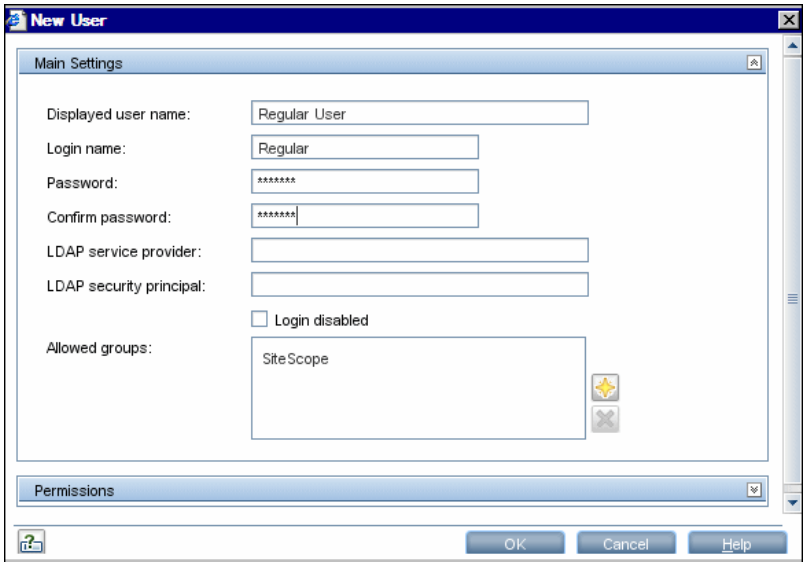
In the preferences view, click the **User Management** menu and create a user account.

For details on the user interface, see "User Management Preferences User Interface" on page 1216.

Note: The Administrator account is the default account that is active when the product is installed. To create other accounts, you must first edit the Administrator account profile to include a user login name and login password.

Example

A user profile with the displayed name Regular User was added with login name Regular and password Regular.



2 Configure User Permissions - Optional

Configure the user action permissions in the **Permissions** section of the New/Edit User dialog box. By default, a new user has full permissions except for the permission to modify or delete other user preferences.

For details on the user interface, see “New/Edit User Dialog Box” on page 1217.

3 Encrypt the User Profile

Encrypt the user login name and password.

a In a command prompt, run the following command for the login name: **<SiteScope root directory>\tools\AutoDeployment\ encrypt_password.bat <login name>**

For example:
C:\SiteScope\tools\AutoDeployment\encrypt_password.bat Regular

The encrypted value for Regular is (sisp)uq1zrGl1lms=.

b Encode any non-standard URL characters according to the list in http://www.blooberry.com/indexdot/html/topics/urlencoding.htm. Note that URL encoding of a character consists of a % symbol, followed by the two-digit representation for the character.

In this example, = is a reserved character, and should be replaced by %3D. Thus, the encoded value for Regular is (sisp)uq1zrGl1lms%3D.

c Save the encrypted value so that you can add it to the silent login URL.

d Repeat the encryption process for the login password (if different from the login name).

4 Create a SiteScope Silent Login URL for the User Profile

Enter the SiteScope silent login URL in a Web browser. The URL should be in the format:

http://<server_name>:8080/SiteScope?sis_silent_login_type=encrypted&login=<encrypted_login_name>&password=<encrypted_password>

where <encrypted_login_name> and <encrypted_password> are replaced by the encrypted login name and password.

5 Results

SiteScope skips the login page and directly opens the user account for the given user name and password.

Note: If values entered for the login name and password parameters either do not exist, are not found, or if authentication fails, then the SiteScope login page is displayed.

Setup and Administration

This task describes a suggested working order for preparing to use SiteScope.

This task includes the following steps:

1 Log in to SiteScope

Enter the SiteScope address in a Web browser. The default address is: http://localhost:8080/SiteScope.

2 Enter your SiteScope License

If you did not enter your SiteScope license information during installation, enter it in the Main Panel of the General Preferences page.

For details on the user interface, see "License number" on page 1132.

3 Configure SiteScope Preferences

Configure specific properties and settings related to administrative tasks within SiteScope.

a Create a SiteScope user account. The Administrator account is the default account that is active when the product is installed. It has full privileges to manage SiteScope and is the account that all users who access the product use unless you restrict the account. Create and configure other user accounts based on the requirements of the organization. For details on this topic, see "User Management Preferences" on page 1118.

Note: If no user name and password are defined for the administrator user, SiteScope skips the Login page and automatically logs in.

b **Configure the SiteScope restart schedule.** Restarting the SiteScope server is necessary for clearing problems and resetting monitors. For details on configuring this setting, see "SiteScope restart schedule" on page 1133.

c **Configure the SiteScope E-mail Preferences server.** Configure an administrators e-mail address and specify a mail server that SiteScope can use to forward e-mail messages and alerts to users. For details on the E-mail Preferences user interface, see "E-mail Preferences" on page 1114.

d **Adjust Log Preferences.** Set the number of days of monitor data that are retained on the SiteScope server. By default, SiteScope deletes logs older than 40 days. If you plan to have monitor data exported to an external database, prepare the database, the necessary drivers, and configure the Log Preferences as applicable. For details on the Log Preferences user interface, see "Log Preferences" on page 1113.

e **Configure SiteScope to report to HP Business Availability Center.** This enables logging of SiteScope monitor data to Business Availability Center. For details on this topic, see "Configuring the Integration" on page 133.

f **Configure credentials for SiteScope objects.** Use Credential Preferences to store and mange credentials for SiteScope objects that require user authentication. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.

Note: In addition, you can configure any of the other SiteScope preferences as required. For details, see "Preferences Overview" on page 1102.

4 Configure Connection Profiles for Remote Servers

Specify the connection method for the remote servers you want to monitor in accordance with your security requirements.

For details on enabling SiteScope to monitor data on remote Windows servers, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

For details on enabling SiteScope to monitor data on remote UNIX servers, see "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021.

5 Install Middleware Drivers

Install middleware drivers for connectivity with remote databases and applications for those monitors that require drivers.

For details, see the help for the specific monitor.

6 Results

You are now ready to use SiteScope.

- For a workflow on creating a basic monitoring structure in SiteScope, see "Configure SiteScope for Monitoring – Workflow" on page 40.
- For a workflow on how to create and develop templates to help speed the deployment of monitoring using standardized group structure, naming conventions, and configuration settings, see "Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266.

Configure SiteScope for Monitoring – Workflow

This task describes the working order for creating a basic monitoring structure in SiteScope.

Note: It is more efficient to use SiteScope templates, the Publish Template Changes wizard, and automatic template deployment than the basic monitoring method for standardizing the monitoring of the different IT elements in your enterprise. For a flowchart that shows the steps involved in configuring a monitoring solution using a template, see "Configure a SiteScope Monitoring Solution Using a Template – Flowchart" on page 43. For details on the workflow, see "Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266.

This task includes the following steps:

1 Prerequisites

Check that the post-installation administration tasks have been performed before configuring SiteScope for monitoring.

For details on how to perform this task, see "Setup and Administration" on page 37.

2 Create Groups and Subgroups

Create groups and subgroups to make deployment of monitors and associated alerts manageable and effective for your environment and organization. For example, you can create groups of locations, server types, network resources, and so forth.

For details on how to perform this task, see "Manage a Group – Workflow" on page 250.

3 Create Monitor Instances

Select the monitor instances you want to add to the group.

For details on how to perform this task, see "Deploy a Monitor – Workflow" on page 278.

4 Set Monitor Dependencies - Optional

Build dependencies between groups and key monitors to help control redundant alerting.

For details on this topic, see "Monitoring Group Dependencies" on page 263.

5 Set Monitor Thresholds - Optional

Set thresholds for one or multiple monitors using a baseline, or manually set logic conditions that determine the reported status of each monitor instance.

- For details on how to set monitor thresholds using a baseline, see "Set Monitor Thresholds Using a Baseline" on page 282.
- For details on the user interface for setting monitor thresholds manually, see "Threshold Settings" on page 309.

6 Set Up Monitor and Group Alerts - Optional

Create alerts to send notification of an event or change of status in some element or system in your infrastructure.

For details on how to configure alerts, see "Configure an Alert" on page 1604.

7 Set Up Monitor and Group Reports - Optional

Create reports to display information about how the servers and applications you are monitoring have performed over time.

For details on how to create reports, see "Create a Report" on page 1653.

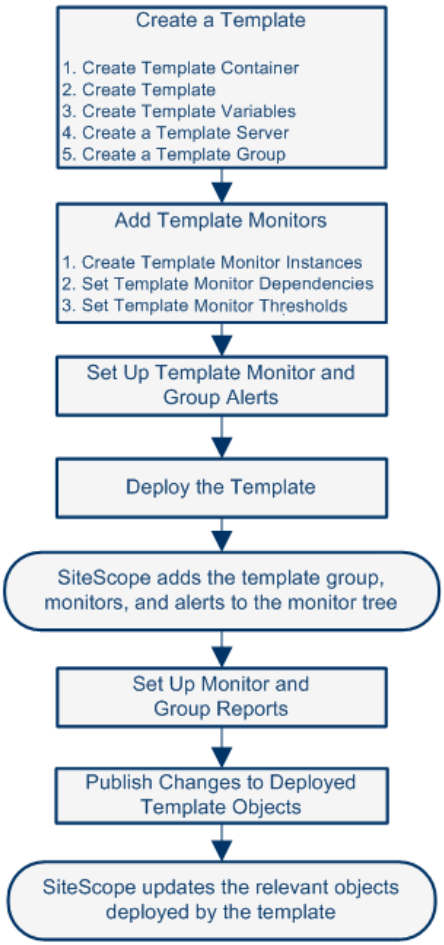
8 Results

SiteScope adds the monitors, alerts, and reports to the specified container in the monitor tree.

Configure a SiteScope Monitoring Solution Using a Template – Flowchart

The flowchart below shows the steps required to configure a SiteScope monitoring solution using SiteScope templates and the Publish Template Changes wizard. Templates are used to standardize a set of group structures, monitor types and configuration settings into a single structure that can be repeatedly deployed and updated.

For details on the workflow, see "Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266.



Part II

General and Administration

2

Navigating the SiteScope User Interface

This chapter introduces and explains how to navigate the SiteScope user interface.

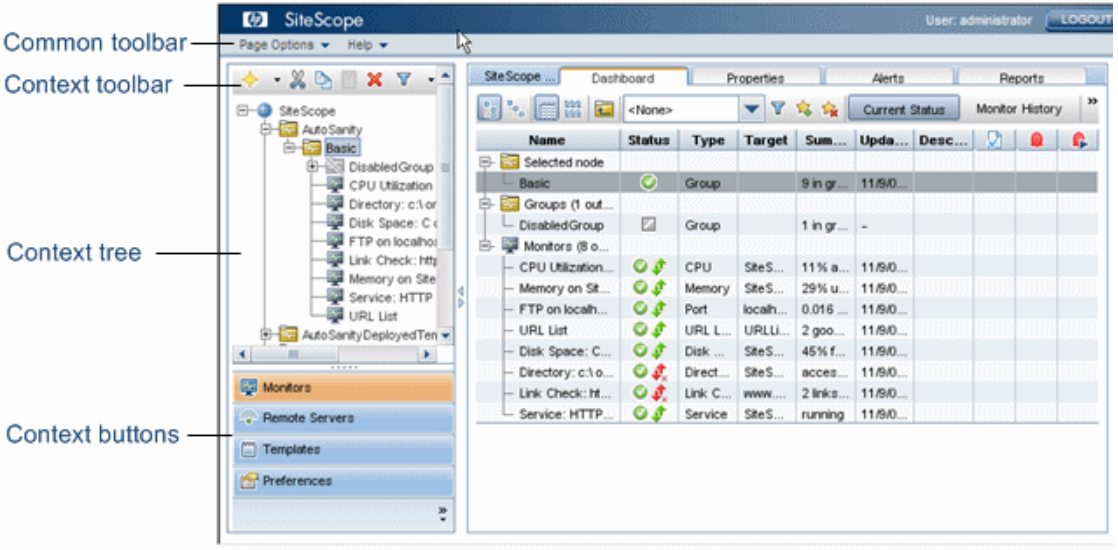
This chapter includes:

Concepts

Reference

Understanding the SiteScope User Interface

When you connect to a SiteScope, the SiteScope opens to the Dashboard view as shown below. If you entered a user name to log on to SiteScope, it is displayed on the upper-right side of the window.



The SiteScope window contains the following key elements:

- **SiteScope common toolbar.** Provides access to page options, documentation, and additional resources. This toolbar is located on the upper part of the window. For more details, see "SiteScope Common Toolbar" on page 49.
- **SiteScope context toolbars.** Contains buttons for frequently-used commands in the selected SiteScope context. For more details, see "Tree Toolbar Buttons" on page 56.
- **SiteScope context tree.** Enables you to create and manage SiteScope objects in a tree structure. For details, see "Monitor Tree" on page 62, "Remote Server Tree" on page 72, and "Template Tree" on page 73.
- **SiteScope context buttons.** Provide access to the SiteScope Monitors, Remote Servers, Templates, and Preferences. For more details, see "SiteScope Context Buttons" on page 50.

Note: The SiteScope Classic interface, that was available in earlier SiteScope versions using the URL http://<sitescope_host>:8888, is no longer available for managing SiteScope. For more information, see "SiteScope Classic Interface" in the *HP SiteScope Deployment Guide* PDF.

This section includes the following topics:

SiteScope Common Toolbar

The SiteScope common toolbar, located at the top of the SiteScope window, is accessible from all contexts, and contains the following buttons:

GUI Element	Description
Page Options	Enables you to select the following page options: ➤ **Add to Favorites.** Enables you to add the current SiteScope view to your list of Favorites in your browser. ➤ **Save Layout to User Preferences.** Enables you to save the current view as the default layout for the specific SiteScope user.
Help	Enables you to access SiteScope Help, context-sensitive help for specific windows, release notes, and other additional online resources. You can also see descriptions of user interface elements in most pages or dialog boxes. To activate this feature, click the **Quick Help** button in the specific page or dialog box, and rest the mouse pointer on the element label to display a ToolTip description. Click the **Quick Help** button again to make this feature unavailable.
LOGOUT	Logs you out of your SiteScope session.

You can customize your view of the monitor tree to list only those SiteScope elements with which you are working. You can also assign search/filter tags to your groups, monitors, reports, and alerts to further refine your selection. For details on this topic, see "Searching and Filtering SiteScope Objects Overview" on page 85.

SiteScope enables you to change monitor configurations across multiple monitors, groups, or multiple SiteScopes using Global Replace. For details on the Global Replace user interface, see "Global Search and Replace Wizard" on page 157.

SiteScope Context Buttons

SiteScope has the following contexts that are available from the left pane:

GUI Element	Description
	Enables you to create and manage SiteScope groups and monitors in a hierarchy represented by a monitor tree. For details on the user interface, see "Monitor Tree" on page 62.
	Enables you to set up the connection properties so that SiteScope can monitor systems and services running in remote Windows and UNIX environments. For details on the user interface, see "Remote Server Tree" on page 72.
	Enables you to use templates to deploy a standardized pattern of monitoring to multiple elements in your infrastructure. You can use preconfigured SiteScope solution template or create and manage your own templates. For details on the user interface, see "Template Tree" on page 73.
	Enables you to configure specific properties and settings related to most of the administrative tasks within SiteScope. For details on the user interface, see "Preferences Menu" on page 81.

Navigating and Performing Actions in the Context Tree

There are several ways to navigate the context tree, perform actions, and edit object properties.

You can perform actions using the context toolbar, or you can highlight any object within the context tree itself, and right-click the object to access a menu of options for that object. For example, if you right-click the SiteScope node in the monitor tree, you select from a menu listing only those actions that can performed on the SiteScope node. You can also perform actions on multiple groups and monitors. For details, see "Performing Actions on Multiple Groups and Monitors" on page 51.

For details of the context tree objects and various context menu options that are available for each object in the tree, see "Monitor Tree" on page 62, "Remote Server Tree" on page 72, "Template Tree" on page 73, and "Preferences Menu" on page 81.

Performing Actions on Multiple Groups and Monitors

You can perform move, copy, duplicate (copy and rename), delete, and refresh actions on multiple SiteScope objects in the monitor tree. You can also use the Filter options to create a filtered list of groups and monitors based on a filter criteria.

Using the Manage Monitors and Groups dialog box, you can select one or more groups and monitors from an expandable hierarchical view of the organization, and select the action you want to perform. You can also replace text strings that define various monitor parameters.

For details on the user interface, see "Manage Monitors and Groups Dialog Box" on page 58.

Copying and Moving SiteScope Objects

You can copy SiteScope objects to different locations within a context tree. In addition, you can copy SiteScope objects to templates. You can also move monitors and groups, together with their contents, to different groups in the monitor tree.

To enable you to differentiate between objects, object names must be unique within the parent container. For instance, when you copy or move SiteScope objects, you cannot create two monitors within the same group with exactly the same name. If you make a copy of a SiteScope object and it has the same name as an existing object in the container, SiteScope automatically adds a suffix (number) to the end of the object's name. For example, if you create a copy of monitor Mail Flow and paste it in the same monitor group, SiteScope automatically renames it Mail Flow(1).

You can copy or move the following SiteScope objects:

SiteScope Object	Action and Description
Group	**Copy/Paste.** Copy a monitor group, including its subgroups, monitors, alerts, and reports, to the same or a different monitor group. **Cut/Paste.** Move a monitor group, including its subgroups, monitors, alerts, and reports, to a different monitor group. **Copy to Template.** Copy a monitor group, including its monitors, alerts, and reports, to a template. **Note:** ➤ You cannot move or copy a monitor group to its subgroup. ➤ If you move a group that is targeted by an alert or report without also moving the alert or report, the group is removed from the alert or report target. ➤ Baseline thresholds are not copied or moved with a monitor whose thresholds were set using the baseline.

SiteScope Object	Action and Description
Monitor	**Copy/Paste.** Copy a monitor, including its alerts and reports, to the same or a different monitor group. **Cut/Paste.** Move a monitor, including its alerts and reports, to a different monitor group. **Copy to Template.** Copy a monitor, including its alerts and reports, to a template. **Note:** ➤ If you move a monitor that is targeted by an alert or report without also moving the alert or report, the monitor is removed from the alert or report target. ➤ Baseline thresholds are not copied or moved with a monitor whose thresholds were set using the baseline.
Remote Server	**Copy to Template.** Copy a remote server profile to a template.
Template Container	**Paste.** Paste a template into the template container.
Template	**Copy/Paste.** Copy a template including its groups, monitors, alerts, and report, to a template container.
Template Group	**Copy/Paste.** Copy a template group including its subgroups, monitors, alerts, and reports to a template (provided the template does not already contain a template group) or to a template group.
Template Monitor	**Copy/Paste.** Copy a template monitor including its alerts and reports to a template group.
Alert	**Copy/Paste.** Copy an alert definition (from the Alerts tab) to the same or a different location (group or monitor) in the monitor tree or template tree.
Report	**Copy/Paste.** Copy a report definition (from the Reports tab) to the same or a different location (group or monitor) in the monitor tree or template tree.

Note: You can also move or copy multiple monitors and groups to a target group by clicking the **Manage Monitors and Groups** button in the monitor tree toolbar. For details on the user interface, see "Manage Monitors and Groups Dialog Box" on page 58.

For details on copying or moving SiteScope objects, expand the context menu option for the relevant SiteScope view in "SiteScope User Interface" on page 55.

SiteScope Keyboard Shortcuts

You can perform the following commands in the monitor tree, template tree, and remote server tree by pressing the corresponding shortcut keys:

GUI Element (A-Z)	Description
CTRL+A	Opens the New Alert dialog box, enabling you to create a new alert. For details on the user interface, see "New/Edit Alert Dialog Box" on page 1612.
CTRL+C	Copies the selected item and puts it on the Clipboard.
CTRL+D	Deletes the selected item.
CTRL+F	Opens the New Filter dialog box, enabling you to create a new filter. For details on the user interface, see "New/Edit Filter Dialog Box" on page 91.
CTRL+G	Opens the New Group dialog box, enabling you to create a new group. For details on the user interface, see "New SiteScope Group Page" on page 253.

GUI Element (A-Z)	Description
CTRL+J	Opens the Select Template/Group dialog box, enabling you to select the template that you want to deploy or the group to which you want to deploy a template. For details on the Select Template user interface, see "Select Template Dialog Box" on page 324. For details on the Select Group user interface, see "Select Group Dialog Box" on page 1315.
CTRL+M	Opens the New Monitor Page, enabling you to add a new monitor. For details on the user interface, see "New Monitor Page" on page 300.
CTRL+R	Clears the filter configured in the Filter dialog box. For details on the user interface, see "New/Edit Filter Dialog Box" on page 91.
CTRL+V	Pastes the contents of the Clipboard to the selected location.
CTRL+X	Cuts the selected item and puts it on the Clipboard.
DELETE	Deletes the selection.
F5	Refreshes the tree.

SiteScope User Interface

This section describes:

Tree Toolbar Buttons

Description	Enables you to perform common functions in the different SiteScope views. Some toolbar buttons are not available in all SiteScope views.
Useful Links	"Monitor Tree" on page 62 "Remote Server Tree" on page 72 "Template Tree" on page 73 "Preferences Menu" on page 81

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
	Click the **New** button to add SiteScope objects (groups, monitor, alerts, remote servers, and templates) to the relevant tree. The objects that you can add depend on the context.
	Click the **Test** button to test the connection to the server. **Note:** Available in the remote server tree toolbar only.
	Click the **Detailed Test** button to run a test that displays the result of running commands on the remote server. This enables checking the permissions for the defined user. **Note:** Available in the remote server tree toolbar for UNIX servers only.
	Click the **Cut** button to move the selected object to another location in the tree.
	Click the **Copy** button to make a copy of the selected object.
	Click the **Paste** button to copy or move an object to the selected location in the tree.
	Click the **Delete** button to delete the selected object from the tree.

GUI Element (A-Z)	Description
	Enables you to filter the monitor tree to display only those SiteScope objects that meet the criteria that you define. Click the **Filter** button and select a filter option: ➤ **New Filter.** Opens the New Filter dialog box which enables you to create a filter. For details on the user interface, see "New/Edit Filter Dialog Box" on page 91. ➤ **Clear Filter.** Clears the filter settings. ➤ **<List of existing filters>.** Displays a list of existing filters. The following options are available: ➤ **Apply.** Applies the filter to the left tree pane. ➤ **Edit.** Opens the Edit Filter dialog box which enables you to edit the filter. For details on the user interface, see "New/Edit Filter Dialog Box" on page 91. ➤ **Delete.** Deletes the filter from the filter list. **Note:** Available in the monitor tree toolbar only.
	Click the **Tools** button to display diagnostic tools that can help you troubleshoot problems in SiteScope and facilitate monitor configuration. For details on the user interface, see "SiteScope Tools Overview" on page 171. **Note:** Available in the monitor and template tree toolbar, and in the monitor Dashboard for applicable monitors.
	Click the **Refresh** button to refresh the data in the tree.
	Click the **Manage Monitors and Groups** button to perform an action (add, delete, move, duplicate, and refresh) on multiple groups and monitors. For details on the Manage Monitors and Groups page, see "Manage Monitors and Groups Dialog Box" on page 58. **Note:** Available in the monitor tree toolbar only.

GUI Element (A-Z)	Description
	Click the **Show/Hide Pane** buttons to show or hide the tree, and expand or contract the right pane.
	Click to configure the context button display. The following options are available: ➤ **Show More Buttons.** Click to show the next highest ranking SiteScope context button in the left pane. This button is available only if not all the context buttons are displayed. ➤ **Show Fewer Buttons.** Click to hide the lowest ranking SiteScope context button from the left pane. This button is available only if at least one context buttons is displayed. ➤ **Option.** Choose the order in which the SiteScope context buttons are displayed. Use the **Move Up** and **Move Down** buttons to rearrange the order. To hide a button from the left pane, clear the check box for the context. By default, all the context buttons are selected (displayed in the left pane). ➤ **Add or Remove Buttons.** Shows the show/hide status of the context buttons. By default, all the context buttons are selected (displayed in the left pane). To hide a button, clear the check box for the context.

Manage Monitors and Groups Dialog Box

Description	Enables you to select one or more groups and monitors and perform an action on the selected objects (add, delete, move, duplicate, and refresh). You can also use the filter options to create a filtered list of groups and monitors based on a filter criteria. **To access:** In the monitor or template tree toolbar, click the **Manage Monitors and Groups** button.

Included in Tasks	"Manage a Group – Workflow" on page 250 "Deploy a Monitor – Workflow" on page 278
Useful Links	"Performing Actions on Multiple Groups and Monitors" on page 51

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Filter Settings	
Match Name	Enter a text string to filter monitors based on the Name string of the monitor. The match is case sensitive. A regular expression is used to define the values to match. **Example:** The expression /URL Monitor.* \.gov/ matches all monitor names containing the string URL Monitor with addresses containing the domain .gov.
Match Machine	Type in the name or IP address of a particular machine to display only those monitors associated with that machine. You can perform a match in this item. The match is case sensitive. A regular expression can be used to define the values to match. **Example:** The expression /206.168.191.(\d+)/ matches all the machines at ports defined by the last digits of the IP address containing the string 206.168.191.
For Monitor Type	Use this selection box to select a specific monitor type to display. You can choose to view only the monitors of a given type, such as URL, Directory, or Service. **Default value:** All types (monitors of all type are shown)
Apply Filter	Click the **Apply Filter** button to display a list of groups and/or monitors that match the filter options you have selected. **Note:** Any groups matching the filter settings are displayed first followed by individual monitors. Any monitor matching the filter criteria is preceded by the name of the group that contains the monitor.

GUI Element	Description
Hierarchical Tree	
Group/Monitor name	Actions are applied to all monitors and groups that are checked using the check box selections in the tree or filtered view lists displayed above the actions section. To select a monitor or group, click the check box to the left of the name of the monitor or group. Any combination of groups or monitors can be selected. **Default value:** The top level groups are shown. Click the plus symbol ("+") to the left of the group name to expand the group to show the monitors and subgroups contained within that group. Click the minus symbol ("-") to collapse the group display. The display of the tree is saved across visits to the page and the actions associated with it.
Manage Monitor and Group Action Buttons	
Move	**Monitor:** Moves a monitor from its current group and adds it to the destination group. Any alerts defined for that specific monitor are transferred with the monitor. **Group:** Moves a group and all its subgroups and makes it a subgroup of the destination group. If it is already a subgroup, it becomes a subgroup in the destination group. **Note:** ➤ Moving a monitor restarts its history and any reports generated for the monitor are started from the time that the monitor was moved. The history data is still in the log files, but it is inaccessible from the reports for the monitor after it has been moved. Moving groups has no effect on history. ➤ Moving a monitor may break group-to-monitor dependencies. If you have one or more groups dependent on the status of the monitor you are moving, you should update that dependency after moving the monitor.

GUI Element	Description
Copy	**Monitor:** Copies the monitor to the destination group. **Group:** Copies a group and all its subgroups and makes it a subgroup of the destination group. If it is already a subgroup, it becomes a subgroup in the destination group. You can search and replace text or values in the items being copied using the **Advanced Options** section.
Duplicate	**Monitor:** Enables you to rename a monitor when copying it to the destination group. The default name for the copied monitor is "Copy of <monitor name>". **Group:** Enables you to rename a group when copying it and all its subgroups to the destination group. If it is already a subgroup, it becomes a subgroup in the destination group. The default name for the copied group is "Copy of <group name>". You can search and replace text or values in the items being duplicated using the **Advanced Options** section. This is useful when duplicating groups and allows all instances of a server name, for example, to be changed at once. **Example:** If you had a group that contained a series of monitors for the machine www.thiscompany.com and you wanted to create a similar monitoring suite for demo.thiscompany.com, then entering www.thiscompany.com in the **Find** box, and demo.thiscompany.com in the **Replace With** box would change the setting in all of the monitors and groups being duplicated.
Delete	**Monitor:** Deleting a monitor deletes the monitor and any alerts defined for that monitor. **Group:** Deleting a group deletes the group, all monitors in the group, and any subgroups of the group.
Refresh	Refreshes all of the monitors in a selected group, and all monitors in subgroups of the group.

Monitor Tree

Description	Represents the organization of systems and services in your network environment. The tree includes containers and objects within your infrastructure. The Context Menu Options include descriptions of the various context menu options that are available for each object in the monitor tree.
Important Information	The root node of the tree is the SiteScope container. Only one SiteScope node exists in the monitor tree. You add all other elements to the tree under the SiteScope node.
Useful Links	"Working with SiteScope Monitors" on page 257

Monitor Tree Objects

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SiteScope	Represents an individual SiteScope server. **Parent:** Enterprise node or container. **Add to tree by:** Importing or adding an empty SiteScope profile.
	Represents a SiteScope monitor group or subgroup (with enabled monitors/with no monitors or no enabled monitors). If an alert has been set up for the monitor group or subgroup, the alert symbol is displayed next to the group icon. If a Management report has been set up for the monitor group or subgroup, the report symbol is displayed next to the group icon. **Parent:** SiteScope or SiteScope group. **Add to tree by:** Creating, or importing with a SiteScope that has groups defined.

GUI Element	Description
	Represents a SiteScope monitor (enabled/disabled). If an alert has been set up for the monitor, the alert symbol is displayed next to the monitor icon. If a Management report has been set up for the monitor, the report symbol is displayed next to the monitor icon. **Parent:** SiteScope group or subgroup, template, or solution template. **Add to tree by:** Creating, or importing with a SiteScope that has monitors configured.
	Represents the collection of available health monitors that are deployed to check proper functioning of SiteScope monitors. **Parent:** SiteScope. **Add to tree by:** Automatically added with SiteScope object.

SiteScope Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Baselining	Enables you to create a baseline for monitoring variations in response times and performance in the infrastructure for all monitors under SiteScope. ➤ **Calculate.** Enables you to select monitors and specify the relevant time and schedule to be used for calculating the baseline. It also enables you to select and fine-tune the baseline adherence level and define boundaries. ➤ **Review & Activate.** Displays a summary of calculated monitors and baseline data. It also enables you to save the current monitor configuration, view and retry failed operations, view baseline measurement graphs, and apply the baseline configuration. ➤ **Remove.** Enables you to remove the baseline threshold or recalculate the baseline after a baseline has been calculated. ➤ **Status Report.** Displays information about the baseline status for all monitors under SiteScope. For details on this topic, see "Setting Status Thresholds Using a Baseline" on page 269.
Deploy Template	Opens the Select Template dialog box that enables you to select a template to deploy to the group. For details on the user interface, see "Select Template Dialog Box" on page 324.
Expand All	Opens all the subtrees under SiteScope.
Global Search and Replace	Opens the Global Search and Replace Wizard, which enables you to run a global search and replace for monitor, alert, group, preferences, alert action, and report properties. For details on this topic, see "Global Search and Replace Wizard" on page 157.

Menu Item (A-Z)	Description
Monitor Deployment Wizard	This menu item is available only to those users accessing SiteScope from System Availability Management Administration in HP Business Availability Center. Opens the Monitor Deployment Wizard. For details on this topic, see "Monitor Deployment Wizard" on page 1451.
New > Alert	Opens the New Alert window which enables you to define a new alert for SiteScope. For details on this topic, see "SiteScope Alerts" on page 1579.
New > Group	Opens the New Group window which enables you to define a new SiteScope group. For details on the user interface, see "New SiteScope Group Page" on page 253.
Paste	Pastes the selected SiteScope object (that was previously copied or cut) to the SiteScope node.
Paste from other SiteScope	This menu item is available only through System Availability Management Administration when there is more than one SiteScope connected to Business Availability Center. Pastes the selected SiteScope object (that was previously copied or cut) from another SiteScope to the SiteScope node.
Reports > Management/Quick/ Monitor/Alert	Enables you to select the type of SiteScope report you want to define. For details on these reports, see "SiteScope Reports" on page 1647.
Reports > Progress	Generates a report that displays key SiteScope server performance metrics. For details on the user interface, see "SiteScope Progress Report Page" on page 1572.

Group Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Baselining	Enables you to create a baseline for monitoring variations in response times and performance in the infrastructure for all monitors in the group. ➤ **Calculate.** Enables you to select monitors from the group and specify the relevant time and schedule to be used for calculating the baseline. It also enables you to select and fine-tune the baseline adherence level and define boundaries. ➤ **Review & Activate.** Displays a summary of calculated monitors and baseline data for the group. It also enables you to save the current monitor configuration, view and retry failed operations, view baseline measurement graphs, and apply the baseline configuration. ➤ **Remove.** Enables you to remove the baseline threshold or recalculate the baseline after a baseline has been calculated. ➤ **Status Report.** Displays information about the baseline status for all monitors in the group. For details on this topic, see "Setting Status Thresholds Using a Baseline" on page 269.
Copy	Copies the group and its contents (monitors, alerts, and reports) to a monitor group or template. **Note:** When copying a group that contains monitors with baseline thresholds, the baseline thresholds are replaced with static thresholds (which are the current percentile values), and the monitors are no longer in baseline mode.

Menu Item (A-Z)	Description
Copy to other SiteScope	This menu item is available only through System Availability Management Administration when there is more than one SiteScope connected to Business Availability Center. Copies the group and its contents (monitors, alerts, and reports) from another SiteScope to a monitor group or template in the SiteScope node.
Copy to Template	Copies the group and its contents (monitors, alerts, and reports) to a template group. For details on this topic, see "Create a Template by Copying Existing Configurations" on page 1274.
Cut	Moves the group and its contents (monitors, alerts, and reports) or a monitor and its contents (alerts and reports) to a monitor group. **Note:** When moving a group that contains monitors with baseline thresholds, the baseline thresholds are replaced with static thresholds (which are the current percentile values), and the monitors are no longer in baseline mode.
Delete	Deletes the group. **Note:** You cannot delete a group if it has dependent alerts or reports at the container level. To delete a group with dependencies, you must remove the group from **Alert Targets** and **Report Targets** for each dependency, and then delete the group. You can delete groups that have dependencies at the child level.
Deploy Template	Opens the Select Template dialog box that enables you to select a template to deploy to the group. For details on the user interface, see "Select Template Dialog Box" on page 324.
Expand All	Opens all the subtrees under the group.
Global Search and Replace	Opens the Global Search and Replace Wizard, which enables you to run a global search and replace for monitor, alert, group, preferences, alert action, and report properties. For details on this topic, see "Global Search and Replace Wizard" on page 157.

Menu Item (A-Z)	Description
Monitor Deployment Wizard	This menu item is available only to those users accessing SiteScope from System Availability Management Administration in HP Business Availability Center. Opens the Monitor Deployment Wizard. For details on this topic, see "Monitor Deployment Wizard" on page 1451.
New > Alert	Opens the New Alert window which enables you to define a new alert for the group. For details on this topic, see "SiteScope Alerts" on page 1579.
New > Group	Opens the New Group window which enables you to define a new SiteScope group. For details on the user interface, see "New SiteScope Group Page" on page 253.
New > Monitor	Opens the New Monitor window which enables you to define a new SiteScope monitor. For details on the user interface, see "New Monitor Page" on page 300.
Paste	Pastes the selected group and its contents (monitors, alerts, and reports) or a monitor and its contents (alerts and reports) to the specified monitor group.
Paste from other SiteScope	This menu item is available only through System Availability Management Administration when there is more than one SiteScope connected to Business Availability Center. Pastes the selected group and its contents (monitors, alerts, and reports) or a monitor and its contents (alerts and reports) from another SiteScope to the specified monitor group.
Reports	Enables you to select the type of SiteScope report you want to define. For details on this topic, see "SiteScope Reports" on page 1647.
Run Monitors	Runs any monitors configured in the group, and opens an information window with the results.

Monitor Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Baselining	Enables you to create a baseline for monitoring variations in response times and performance in the infrastructure for the specific monitor. ➤ **Calculate.** Enables you to select the monitor and specify the relevant time and schedule to be used for calculating the baseline. It also enables you to select and fine-tune the baseline adherence level and define boundaries. ➤ **Review & Activate.** Displays a summary of the calculated monitor's baseline data. It also enables you to save the current monitor configuration, view and retry failed operations, view baseline measurement graphs, and apply the baseline configuration. ➤ **Remove.** Enables you to remove the baseline threshold or recalculate the baseline after a baseline has been calculated. ➤ **Status Report.** Displays information about the monitor's baseline status. For details on this topic, see "Setting Status Thresholds Using a Baseline" on page 269.
Copy	Copies the monitor and its contents (alerts and reports) to a monitor group or template. **Note:** When copying a monitor with baseline thresholds, the baseline thresholds are replaced with static thresholds (which are the current percentile values), and the monitor is no longer in baseline mode.
Copy to other SiteScope	This menu item is available only through System Availability Management Administration when there is more than one SiteScope connected to Business Availability Center. Copies the monitor and its contents (alerts and reports) from another SiteScope to a monitor group or template.

Menu Item (A-Z)	Description
Copy to Template	Copies the monitor and its contents (alerts and reports) to a template group. For details on this topic, see "Create a Template by Copying Existing Configurations" on page 1274.
Cut	Moves the monitor and its contents (alerts and reports) to a monitor group. **Note:** When moving a monitor with baseline thresholds, the baseline thresholds are replaced with static thresholds (which are the current percentile values), and the monitor is no longer in baseline mode.
Delete	Deletes the monitor. **Note:** You cannot delete a monitor if it has dependent alerts or reports at the container level. To delete a monitor with dependencies, you must remove the monitor from **Alert Targets** and **Report Targets** for each dependency, and then delete the monitor. You can delete monitors that have dependencies at the child level.
Global Search and Replace	Opens the Global Search and Replace Wizard, which enables you to run a global search and replace for monitor, alert, group, preferences, alert action, and report properties. For details on this topic, see "Global Search and Replace Wizard" on page 157.
New > Alert	Opens the New Alert window which enables you to define a new alert for the monitor. For details on this topic, see "SiteScope Alerts" on page 1579.
Paste	Pastes the selected monitor context object to the specified monitor.
Paste from other SiteScope	This menu item is available only through System Availability Management Administration when there is more than one SiteScope connected to Business Availability Center. Pastes the selected monitor context object from another SiteScope to the specified monitor.
Reports	Enables you to select the type of SiteScope report you want to define. For details on this topic, see "SiteScope Reports" on page 1647.

Menu Item (A-Z)	Description
Run Monitor	Runs the monitor and opens an information window with the results.

SiteScope Health Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Deploy Template	Opens the Select Template dialog box that enables you to select a template to deploy to the group. For details on the user interface, see "Select Template Dialog Box" on page 324.
Expand All	Opens all the subtrees under SiteScope Health.
New > Alert	Opens the New Alert window which enables you to define a new alert for Health. For details on this topic, see "SiteScope Alerts" on page 1579.
New > Group	Opens the New Group window which enables you to define a new SiteScope group. For details on the user interface, see "New SiteScope Group Page" on page 253.
New > Monitor	Opens the New Monitor window which enables you to define a new SiteScope monitor. For details on the user interface, see "New Monitor Page" on page 300.
Paste	Pastes monitors and monitor groups into the Health container.
Recreate missing health monitors	Enables you to restore health monitors that have been deleted from the **Health** container.
Reports	Enables you to select the type of SiteScope report you want to define. For details on this topic, see "SiteScope Reports" on page 1647.
Run Monitors	Runs the health monitors and opens an information window with the results.

Remote Server Tree

Description	Represents the remote servers configured in your network environment. The Context Menu Options include descriptions of the various context menu options that are available for each object in the remote server tree.
Useful Links	"Remote Servers" on page 1013 "Remote Server Properties Page" on page 1023

Remote Server Tree Objects

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Represents the Windows/UNIX remote server container in the remote server view.
	Represents a Windows/UNIX remote server. **Parent:** Windows/UNIX Remote Server container. **Add by:** Creating in the Windows/UNIX Remote Server container or template tree.

Remote Servers Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
New Microsoft Windows/UNIX Remote Server	Opens the New Server window which enables you to define a new Microsoft Windows or UNIX server.

Remote Server Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Copy to Template	Copies the remote server to a template group. For details on this topic, see "Create a Template by Copying Existing Configurations" on page 1274.
Delete	Deletes the remote server
Detailed Test (for UNIX servers only)	Enables you to test the running commands on the remote host and check the permissions for the defined user. Available for UNIX servers only.
Test	Enables you to test the connection to the remote server.

Template Tree

Description	Represents the SiteScope solution template sets, template examples, and user-defined templates that are available for deployment to monitor groups. The Context Menu Options include descriptions of the various context menu options that are available for each object in the template tree.
Useful Links	"SiteScope Templates" on page 1245 "SiteScope Solution Templates" on page 1341 "Templates Tree - Properties Tab" on page 1286 "Templates Tree - Alerts Tab" on page 1287

Template Tree Objects

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Represents an individual SiteScope server. **Parent:** Enterprise node or container. **Add to tree by:** Importing or adding an empty SiteScope profile.
	Represents a solution template container (available/unavailable). Only licensed solution templates that have the available icon are configurable solution templates. **Parent:** SiteScope.
	Represents a template container. A template container is used to organize configuration deployment templates. **Parent:** SiteScope. **Add to template tree by:** Creating, or importing with a SiteScope that has template containers defined.
	Represents a template configuration for deploying SiteScope objects. **Parent:** Template container. **Add to template tree by:** Creating.

GUI Element	Description
	Represents a SiteScope template group or subgroup (with enabled monitors/with no monitors or no enabled monitors). If an alert has been set up for the template group or subgroup, the alert symbol is displayed next to the group icon. If a Management report has been set up for the template group or subgroup, the report symbol is displayed next to the group icon. **Parent:** Template. **Add to tree by:** Creating, or importing with a SiteScope that has template groups defined.
	Represents a SiteScope template monitor (enabled/disabled). If an alert has been set up for the template monitor, the alert symbol is displayed next to the monitor icon. If a Management report has been set up for the template monitor, the report symbol is displayed next to the monitor icon. **Parent:** Template group or subgroup, template, or solution template. **Add to tree by:** Creating, or importing with a SiteScope that has template monitors configured.
	Represents a Windows/UNIX remote server. **Parent:** Template. **Add by:** Creating in the remote server tree or template tree.
	Represents a variable used as placeholder to prompt for input when deploying a template. **Parent:** Template. **Add to template tree by:** Creating.

SiteScope Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Expand All	Opens all the subtrees under SiteScope.
Template Container	Opens the New Template Container window which enables you to define a new template container.

Solution Templates Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Expand All	Expands the solution templates container to display all the solution templates within the container.

Solution Template Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Copy	Copies a solution template. You can paste the solution template to a template container in the template tree.
Deploy Template	Opens the Select Group dialog box which enables you to select the group to which to deploy the solution template. For details on the user interface, see "Select Group Dialog Box" on page 1315.

Menu Item (A-Z)	Description
Expand All	Expands the solution templates container to display all the solution templates within the container.
Generate XML	Opens the Generate Auto Deployment XML window which enables you to create an XML file to use for automatically deploying the solution template. For details on the topic, see "Auto Template Deployment" on page 1319. For details on the user interface, see "Generate Auto Deployment XML" on page 1317.

Template Container Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Delete	Deletes the template container.
Expand All	Expands the templates container to display all the template objects within the container.
Export	Opens the Export Template window which enables you to export a template file.
Generate XML	Opens the Generate Auto Deployment XML window which enables you to create an XML file to use for automatically deploying the templates in the container.
Import	Opens the Import Template window which enables you to import a template file.
New > Template	Opens the New Container window which enables you to define a new template.
New > Template Container	Opens the New Template Container window which enables you to define a new template container.
Paste	Pastes a template into the template container.

Template Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Copy	Copies a template group, monitor, or alert. You can paste the template group, monitor, or alert to the SiteScope tree.
Delete	Deletes the template.
Deploy Template	Opens the Select Group dialog box which enables you to select the group to which to deploy the template. For details on the user interface, see “Select Group Dialog Box” on page 1315.
Expand All	Opens all the subtrees under the template.
New > Group	Opens the New Group window, which enables you to define a new template group. For details on the user interface, see “New SiteScope Group Page” on page 253.
New > UNIX Server	Opens the New Template window, which enables you to define a new remote UNIX template.
New > Variable	Opens the New Template Variable window, which enables you to define a new template variable.
New > Microsoft Windows Server	Opens the New Template window, which enables you to define a new remote NT template.
Paste	Pastes a template group, monitor, or alert to a template.
Publish Changes	Opens the Publish Template Changes wizard, which enables you to check deployed groups for template compliancy and to update SiteScope objects deployed by templates whenever the template is updated.

Template Variable Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Copy	Copies the template variable to a template.
Delete	Deletes the template variable.

Template Remote Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Copy	Copies the template remote to a template. **Note:** You can add only one template remote server to a template. This does not apply to templates created in older versions of SiteScope.
Delete	Deletes the template remote.

Template Group Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Copy	Copies the template group and its contents (monitors, alerts, and subgroups) to a template.
Delete	Deletes the template group.
Expand All	Opens all the subtrees under the template group.
New > Alert	Opens the New Template Alert window which enables you to define a new alert for the template group. For details on this topic, see "SiteScope Alerts" on page 1579.

Menu Item (A-Z)	Description
New > **Group**	Opens the New Template Group window which enables you to define a new template subgroup. For details on the user interface, see "New SiteScope Group Page" on page 253.
New > **Monitor**	Opens the New Monitor window which enables you to define a new SiteScope monitor for the template group. For details on the user interface, see "New Monitor Page" on page 300.
Paste	Pastes the selected template group and its contents (monitors, alerts, and subgroups) to a template.

Template Monitor Context Menu Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Copy	Copies the template monitor and its contents (alerts) to a template group.
Delete	Deletes the template monitor.
New > **Alert**	Opens the New Template Alert window which enables you to define a new alert for the template monitor. For details on this topic, see "SiteScope Alerts" on page 1579.
Paste	Pastes the selected template monitor and its contents (alerts) to a template group.

Preferences Menu

Description	Represents the preference types that enable you to configure specific properties and settings related to most of the administrative tasks available within SiteScope.
Important Information	Only an administrator, or a user granted **Edit preferences and remote servers** permissions, can create or make changes to SiteScope Preferences and restart SiteScope from Infrastructure Settings Preferences.
Useful Links	"Working with Preferences" on page 1101

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<Preference types>	Represent the different preference types that contain the SiteScope configuration settings. These include General, Infrastructure, Integration, Log, Contact Management, SNMP, Schedule, and User Management preferences.
<Preferences>	Represents a preference. **Add by:** Creating in the specific preference container, or importing with a SiteScope that has preferences defined.

Alerts Tab Context Menu Options

Description	The Context Menu Options include descriptions of the various context menu options that are available for alerts in the monitor tree and template tree.
Included in Tasks	"Configure an Alert" on page 1604
Useful Links	"SiteScope Alerts" on page 1579

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Copy	Copies the alert to the selected location in the monitor tree. **Note:** Available for alerts in the **Alerts on Monitor/Group** table only.
Copy to other SiteScope	This menu item is available only through System Availability Management Administration when there is more than one SiteScope connected to Business Availability Center. Copies the alert from another SiteScope to the selected location in the monitor tree.
Create New Alert	Opens the New Alert dialog box, which enables you to create a new alert definition. For details on how to perform this task, see "Configure an Alert" on page 1604. **Note:** Available for alerts in the **Alerts on Monitor/Group** table only.
Delete	Deletes the alert.
Disable Alert	Disables the alert.
Edit Alert	Opens an editing window for the alert, which enables you to edit its settings.
Enable Alert	Enables the alert.
Paste	Pastes the selected alert. **Note:** Available for alerts in the **Alerts on Monitor/Group** table only.
Test	Opens the Test Alert page which enables you to test the alert.

Reports Tab Context Menu Options

Description	The Context Menu Options include descriptions of the various context menu options that are available for Management reports in the monitor tree.
Included in Tasks	"Create a Report" on page 1653
Useful Links	"SiteScope Reports" on page 1647

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Menu Item (A-Z)	Description
Copy Report	Copies the report to the selected location in the monitor tree. **Note:** Available for reports in the **Reports on Monitor/Group** table only.
Create New Report	Enables you to select the type of SiteScope report you want to create. For details on this topic, see "SiteScope Report Types" on page 1649. **Note:** Available for reports in the **Reports on Monitor/Group** table only.
Delete Report	Deletes the report.
Edit Report	Opens an editing window for the report, which enables you to edit its settings.
Generate Report	Generates the report.
Paste Report	Pastes the selected report. **Note:** Available for reports in the **Reports on Monitor/Group** table only.
Select All	Selects all the listed reports.
Unselect All	Clears the selection.

3

Searching and Filtering SiteScope Objects

This chapter includes the main concepts, tasks, and reference information for searching and filtering SiteScope objects.

This chapter includes:

Concepts

Tasks

Reference

Searching and Filtering SiteScope Objects Overview

When administrating monitor deployment, extensive trees displaying every object added to them could prove difficult to manage. SiteScope enables you to select which objects in the trees you want to view, based on various filter criteria. You can define multiple filters with different conditions that can be applied for varying configuration tasks.

For example, you can create a filter to display only SiteScope monitors that are monitoring CPU utilization and Disk Space. The result of this filter displays a tree with all CPU and Disk Space monitor types directly under the enterprise node.

You can also assign search/filter tags to any object in the context tree and to preference profiles, and use those tags to search or filter the display. For example, you can define a tag for all monitors running on a specific operating system.

For details on filters, see "Defining and Managing Filter Settings" on page 86.

For details on tags, see "Working with Search/Filter Tags" on page 87.

Defining and Managing Filter Settings

You define and manage views by creating and using global filters that you configure from the New/Edit Filter dialog box.

You can define filters by:

- **Monitor name.** This is done by using wild card ("*") and OR expressions to filter SiteScope objects appearing in the tree by the monitor name.
- **Monitor type.** For example, you can define a filter that includes all CPU monitors, regardless of their properties. In this view, the monitor tree lists all the CPU monitors defined in the SiteScope.
- **Target Server.** For example, you can define a filter that includes all SiteScope monitors with the same host defined, giving you a view of only those monitors monitoring the selected host.
- **Filter tags.** Enables you to define a filter that includes all SiteScope objects that have a specific tag value. For example, if there is a platform tag with values Windows, Linux, AIX, and Solaris, you can filter for all objects that have the AIX tag value assigned to them.
- **Monitor status (enabled/disabled).** Enables you to define a filter that includes only enabled or disabled SiteScope monitors.
- **HP Business Availability Center logging.** Enables you to define a filter that includes monitors based on their settings for reporting data to Business Availability Center.

Note: To create a filter based on specific common properties, use Global Search and Replace. For details, see "Global Search and Replace" on page 149.

If you have any filters defined, they appear in the drop-down filter list above the monitor tree. You select the filter from the list and the tree displays only those objects defined in your filter selection.

Working with Search/Filter Tags

You create custom search/filter tags for use in filtering the display of the left tree pane for SiteScope objects (groups, monitors, templates, and preference profiles). You define the tags and their values, and assign these to the different elements in your enterprise.

For example, you define a tag called Priority with the possible values of Critical, High, Medium, and Low. You assign these tag values to different elements in the infrastructure. Monitors of Web servers and databases that support 24x7 customer access could be assigned a category value of Priority: Critical. While adding a new filter setting, you select **Tags** in the Filter Options section, enter Priority:Critical as the value of the object, and click **Save**. This filter displays only those elements to which you assigned this tag and value.

Create and Define a New Search/Filter Tag

This task describes the steps involved in defining a new search/filter tag and assigning it to one or more elements in the context tree.

This task includes the following steps:

- "Create a Search/Filter Tag" on page 88
- "Assign Search/Filter Tags to SiteScope Tree Elements" on page 88
- "Define a Tag for a Filter Setting" on page 89

1 Create a Search/Filter Tag

You use the **Search/Filter Tags** panel of the SiteScope object to add search/filter tags.

For details on the user interface, see "Search/Filter Tags" on page 321.

For details on adding a tag, see "New/Edit SiteScope Tag Dialog Box" on page 96.

2 Assign Search/Filter Tags to SiteScope Tree Elements

Before you can use a tag as part of a view filter, you must assign it to one or more elements in the context tree or to preference profiles. You can assign tags to any item in the tree, including any container, monitor, group, or alert.

You assign tags while adding, importing, or editing context tree objects or preference profiles. Tags are included as properties for every type of object in the context tree. For details on the various tree objects in the user interface, see:

- "Monitor Tree" on page 62.
- "Template Tree" on page 73.

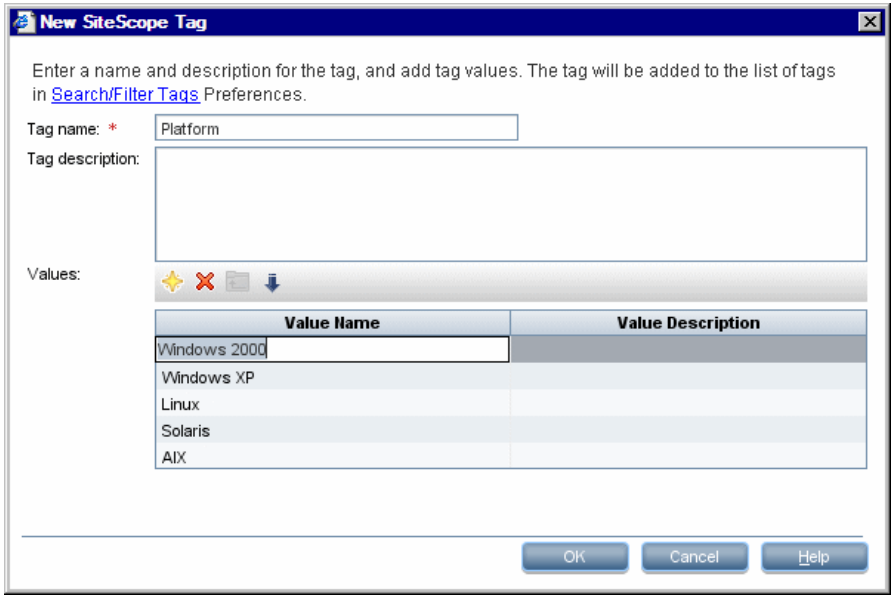
3 Define a Tag for a Filter Setting

Once you have assigned the tag to one or more items in the context tree or preference profiles, you can use the tag as an object for a filter.

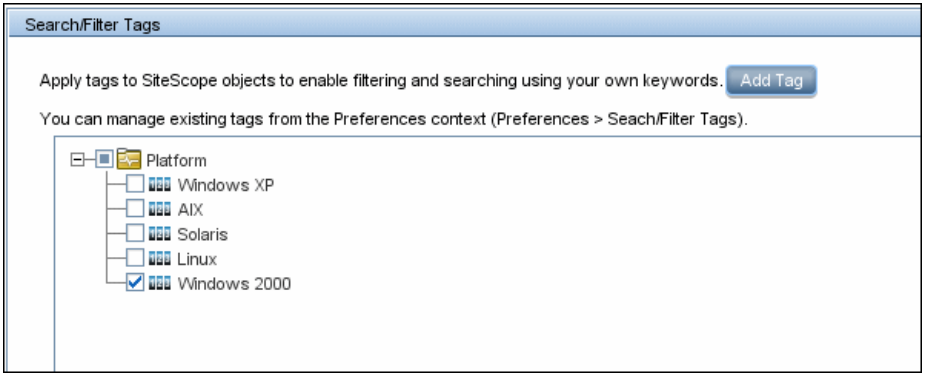
For details on filtering in the user interface, see "New/Edit Filter Dialog Box" on page 91.

Example

Create a tag indicating the type of operating system on which the monitors are running. The tag Operating Systems would have values such as Windows 2000, Windows XP, Solaris, Linux, and so forth.



Assign the tag to a monitor tree element such as a group, by opening the Search/Filter Settings for the group, and selecting Windows 2000 as the value under the Operating Systems tag.



Using this new tag, you could define a filter setting for the monitor tree to display only those monitors running on Windows machines.

Search/Filter Tags User Interface

This section describes:

- New/Edit Filter Dialog Box on page 91
- New/Edit SiteScope Tag Dialog Box on page 96

New/Edit Filter Dialog Box

Description	Enables you to add a new filter or edit an existing one when working in the monitor tree. **To access:** In the context toolbar (above the left tree pane), click the arrow next to the **Filter** button, and select **New Filter**, or select an existing filter and click **Edit**.
Useful Links	"Searching and Filtering SiteScope Objects Overview" on page 85 "Defining and Managing Filter Settings" on page 86 "Tree Toolbar Buttons" on page 56

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
General Settings	
Filter name	Enter a filter name. This name appears in the list of available filters when you click the **Filter** arrow.
Filter description	You can enter a description for the filter. This description appears only when editing the filter. **Note:** This field is optional.
Public	Describes the permissions of the filter. If the filter is public, all users can see, use, and edit the filter, but only the public filter owner can change this filter to a private filter. If the filter is not public, only the current user can see and use it.

GUI Element (A-Z)	Description
Filter Options	
Monitor name	To filter the objects appearing in the tree by the monitor name, type a monitor name. ➤ The monitor name is the string entered in the **Name** box in the General Settings area during monitor configuration. ➤ Enter a regular expression to widen the filter. You can use the wild card character ("*") and **or** expressions. The monitor tree displays only those monitors, within their groups, matching the string entered and only those groups containing these monitors. **Example**: To display only those monitors beginning with the string CPU, type CPU*. **Note:** This field is case sensitive.
Monitor type	To filter the objects appearing in the tree by the monitor type, enter the monitor type, or click the **Browse** ... button and select the monitor types by which you want to filter in the Monitors list. For details on the Filter Monitor Types user interface, see “Filter Monitor Types Dialog Box” on page 94. **Note:** ➤ When entering multiple monitors, separate them with a comma (","). ➤ When entering a monitor type, you can use the wild card character ("*") and **or** expressions. **Example:** SAP* or CPU*

GUI Element (A-Z)	Description
Target server	To filter the objects appearing in the tree by the target server, type a server name or click the **Browse** ... button and select the remote servers by which you want to filter from the Targets list. ➤ The target is the string entered in the **Server** box in the Monitor Settings area during monitor configuration. ➤ Enter a regular expression to widen the filter. You can use the wild card character ("*****") and **or** expressions. The tree displays only those monitors, within their groups, whose target server matches the string entered and only those groups containing these monitors. For details on the Filter Targets user interface, see "Filter Target Servers Dialog Box" on page 95. **Note:** When entering multiple targets, separate them with a comma (",").
Tags	Enter tag values, or click the **Browse** ... button and select the tag values by which you want to filter in the Tags list. For details on the Filter Tags user interface, see "Filter Tags Dialog Box" on page 96. **Note:** ➤ When entering multiple tag values, separate them with a comma (","). ➤ You can use the wild card character ("*****") and **or** expressions to filter tag values.
Enable/Disable monitor	Select the monitor status (enabled/disabled) by which you want to filter. **Default value**: None
HP BAC Logging	Select a BAC logging option by which to filter. For details on the logging options, see "HP BAC Integration Settings" on page 316.

Filter Monitor Types Dialog Box

Description	Enables you to select the monitor type by which you can filter SiteScope objects. **To access:** In the context toolbar, click the arrow next to the **Filter** button, and select **New Filter**, or select an existing filter and click **Edit**. In the New/Edit Filter dialog box, click the **Browse** button next to **Monitor Type**.
Useful Links	"Searching and Filtering SiteScope Objects Overview" on page 85 "Defining and Managing Filter Settings" on page 86 "New/Edit Filter Dialog Box" on page 91

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Available Monitor Types	Displays the available monitor types. Select the monitor types you want to include in the filter and click the **Move to Selected Monitor Types list** button. The selected monitor types are moved to the Selected Monitor Types list.
Selected Monitor Types	Displays the monitor types currently selected for this filter. To remove monitor types from this list, select the monitor types and click the **Remove from Selected Monitor Types list** button. The measurements are moved to the Available Monitor Types list.

Filter Target Servers Dialog Box

Description	Enables you to filter SiteScope objects by the selected server targets configured in SiteScope. **To access:** In the context toolbar, click the arrow next to the **Filter** button, and select **New Filter**, or select an existing filter and click **Edit**. In the New/Edit Filter dialog box, click the **Browse** button next to **Target Server**.
Useful Links	"Searching and Filtering SiteScope Objects Overview" on page 85 "Defining and Managing Filter Settings" on page 86 "New/Edit Filter Dialog Box" on page 91

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Available Target Servers	Displays the remote servers available in SiteScope. Select the remote servers you want to include in the filter and click the **Move to Selected Target Servers list** button. The selected remote servers are moved to the Selected Target Servers list.
Selected Target Servers	Displays the remote servers currently selected for this filter. To remove remote servers from this list, select the remote servers and click the **Remove from Selected Target Servers list** button. The measurements are moved to the Available Target Servers list.

Filter Tags Dialog Box

Description	Enables you to select the tag values by which you can filter SiteScope objects. **To access:** In the context toolbar, click the arrow next to the **Filter** button, and select **New Filter**, or select an existing filter and click **Edit**. In the New/Edit Filter dialog box, click the **Browse** button next to **Tags**.
Useful Links	"Searching and Filtering SiteScope Objects Overview" on page 85 "Defining and Managing Filter Settings" on page 86 "New/Edit Filter Dialog Box" on page 91

The following elements are included (unlabeled GUI elements are shown in

GUI Element	Description
<tag name and values>	Displays the tag names and tag values if tags have been created. Select the check box next to the tags that you want to include in the filter, and click **Save**. For details on using tags, see "Working with Search/Filter Tags" on page 87.

New/Edit SiteScope Tag Dialog Box

Description	Enables you to add a new search/filter tag. **To access:** Select a SiteScope object (group, monitor, template, or preference profile), and open the **Search/Filter Tags** panel in the Properties tab or preference profile page. Click the **Add Tag** button.
Important Information	You can edit existing tags in the Preferences context (**Preferences > Search/Filter Tags**). For details on this topic, see "Search/Filter Tag Preferences" on page 1123.
Included in Tasks	"Create and Define a New Search/Filter Tag" on page 88
Useful Links	"Working with Search/Filter Tags" on page 87

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click the **New** button to add a tag value. A new row is added at the bottom of the list of tag values.
	Click the **Delete** button to delete the selected value from the tag.
	Click the **Move up tag value** button to move up the list of tag values from the selected value.
	Click the **Move down tag value** button to move down the list of tag values from the selected value.
Tag name	The name of the search/filter tag. **Maximum length:** 255 characters
Tag description	A description of the search/filter tag.
Values	The values included in the tag.
Value Name	Enter a name for the value to be included in the tag. Each value appears as a child object of the tag name when defining or editing tag settings for all objects in the monitor tree.
Value Description	Enter an optional description for each value. This description appears only when editing the tag.

4

System Availability Management Administration

This chapter includes the main concepts, tasks, and reference information for System Availability Management Administration.

This chapter includes:

Concepts

Tasks

Reference

System Availability Management Administration Overview

You install SiteScope on designated host machines with access to the applications and operating systems to be monitored. SiteScope collects key performance measurements on a wide range of back- and front-end infrastructure components, including Web, application, database, and firewall servers.

SiteScope can be accessed as a standalone application or using System Availability Management Administration from within HP Business Availability Center or HP Operations Manager. (Windows-based and Solaris-based SiteScope installations both work with Windows-based or Solaris-based HP Business Availability Center servers.)

System Availability Management Administration enables you to register, configure and maintain your SiteScope servers. You can configure and manage multiple SiteScopes from within System Availability Management Administration. You can configure SiteScope monitors, alerts, and reports and make any other configuration changes for the SiteScope. All the configuration changes that are done from System Availability Management Administration are reflected in the SiteScope itself.

System Availability Management enables you to:

- Add SiteScopes to System Availability Management Administration. For details on the user interface, see "New SiteScope Page" on page 113.
- Copy group, monitor, report, and alert instances from one SiteScope to another SiteScope using copy/paste. For details on this topic, see "Copying and Moving SiteScope Objects" on page 52.
- Synchronize a SiteScope's settings with another SiteScope by copying settings, preferences, and template files using the Sync SiteScope wizard. For details on the user interface, see "Sync SiteScopes Wizard - Select Source and Targets Page" on page 119.
- Perform a Global Replace operation across multiple SiteScopes. For details, see "Global Search and Replace Wizard" on page 157.

- View accessibility information and summary information regarding registration status of the SiteScope to Business Availability Center, licence points, sample reporting rates, monitor run rates and health of the SiteScopes. For details on the user interface, see "System Availability Management Administration" on page 105.
- Run the Monitor Deployment Wizard to deploy monitors onto configuration items in Business Availability Center's CMDB. (This feature is not available to users accessing SiteScope from HP Operations Manager.) For details on the user interface, see "Monitor Deployment Wizard" on page 1451.

Manage Multiple SiteScopes in System Availability Management

This task describes how to work with System Availability Management to manage multiple SiteScopes.

This task includes the following steps:

1 Prerequisites

You must have at least one SiteScope running in a network location that is accessible to the System Availability Management application.

If you are working in HP Business Availability Center, you can download SiteScope from the Downloads page in Platform Administration.

2 Add a SiteScope to System Availability Management Administration

Add one or more SiteScope profiles. While entering the information in the New SiteScope page, keep the following in mind:

The following fields are mandatory:

- **Display Name**. Enter a name to represent this SiteScope in Business Availability Center and HP Operations Manager applications and in System Availability Management Administration.
- **Host Name**. If you are using a Business Availability Center with Lightweight Single Sign-on enabled (by default), you must enter a fully qualified domain name as the host name.
- **Port Number**. The default value is **8080**. If the port number used to communicate with SiteScope is different than 8080, enter it here.

For details on the user interface, see "New SiteScope Page" on page 113.

3 Configure Integration Preferences

Access the Integration Preferences within the SiteScope interface and modify the fields as necessary.

For details on how to perform this task, see "Configure SiteScope-HP Business Availability Center Integration Preferences for Inaccessible Profiles" on page 1124.

For details on this concept, see "Integration Preferences" on page 1108.

For details on the user interface, see "Integration Preferences User Interface" on page 1165.

4 Use the Sync SiteScopes Wizard to Update Properties - Optional

You can use the Sync SiteScopes wizard to update the properties of all the SiteScopes in System Availability Management Administration. This is useful for copying configuration objects, such as templates, alert templates, schedule preferences, MIB files, and script files, from one SiteScope to one or multiple SiteScopes in your network environment.

For details on the user interface, see "Sync SiteScopes Wizard - Select Source and Targets Page" on page 119.

5 Perform a Global Search and Replace - Optional

Use the Global Search and Replace Wizard to replace values across multiple SiteScopes. This is useful for when you must update values pertaining to the integration between SiteScope and Business Availability Center or for enterprise level updates to perform across multiple SiteScopes and large monitoring environments.

For details on how to perform this task, see "Perform a Global Search and Replace" on page 152.

6 Copy Monitoring Objects from One SiteScope to Another SiteScope - Optional

Once you have multiple SiteScopes running in System Availability Management Administration, you can copy monitoring and other SiteScope objects from one SiteScope to another. You can copy multiple or single groups, monitors, and alerts.

Right-click the object to be copied and select **Copy** from the context menu. Highlight the parent object to where you want to copy, right-click and select **Paste** from the context menu. The source and the target can be in different SiteScopes.

7 View Accessibility, License, and Monitoring Data for All Registered SiteScopes

The main page of System Availability Management Administration enables you to view the details of your multiple SiteScopes.

For details on the user interface, see "System Availability Management Administration" on page 105.

System Availability Management Administration User Interface

This section describes:

Note: System Availability Management Administration is available only to those users accessing SiteScope from HP Business Availability Center.

System Availability Management Administration

Description	System Availability Management Administration is a portal within HP Business Availability Center that enables you to add SiteScope servers to an HP Business Availability Center system and to access those SiteScope servers. The SiteScopes are represented as nodes in the tree in the left pane. ➤ When you highlight the root node, the right pane displays the System Availability Management functions, including summary information for the SiteScopes. ➤ When you highlight a SiteScope in the tree, the right pane displays that SiteScope's Dashboard and you can perform any function within the SiteScope. **To access**: Select **Admin** > **System Availability Management**.
Important Information	Each SiteScope is listed by name with an icon displaying its current connection status to HP Business Availability Center. You access the SiteScope server by highlighting the name of the server in the list in the left pane.

List of SiteScope Servers - Left Pane

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<SiteScope server name>	Represents an individual SiteScope server. The name includes a tooltip that displays the following data: ➤ **Health**. Health status of the SiteScope server represented by a status icon. ➤ **Mode**. Whether the SiteScope is currently hosted by the HP Business Availability Center. ➤ **Points**. The number of license points in use by the SiteScope. ➤ **Remote server**. The number of remote servers being monitored by this SiteScope. ➤ **Operating system**. The type of operating system on which the SiteScope is running. ➤ **High Availability server**. The name of the server used by this SiteScope for failover.
	Icon accompanying the SiteScope name indicating that the SiteScope is registered to HP Business Availability Center and fully accessible from System Availability Management Administration. A SiteScope with this status is considered 'hosted' by HP Business Availability Center.
	Icon accompanying the SiteScope name indicating that the SiteScope is registered to HP Business Availability Center but not available for configuring. A SiteScope with this status reports data to HP Business Availability Center but can be configured only when accessing the SiteScope standalone.
	Icon accompanying the SiteScope name indicating that the existing SiteScope profile is empty and there is no running SiteScope associated with it.

GUI Element	Description
	Icon accompanying the SiteScope name indicating that the integration between HP Business Availability Center and the SiteScope has been reset. The profile remains in HP Business Availability Center and can be used to prepare history reports. Data, however, is not reported to HP Business Availability Center applications.
	Click to add a SiteScope. Opens the New SiteScope page.
	Click to edit the properties of the highlighted SiteScope's connection to this HP Business Availability Center. Opens the Edit SiteScope page.
	Click to delete the highlighted SiteScope from this HP Business Availability Center.

Context Menu Options

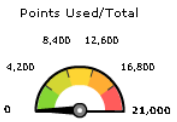
The following elements are included (unlabeled GUI elements are shown in angle brackets):

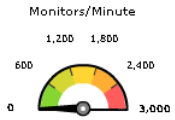
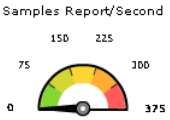
Menu Item	Description
New SiteScope	When highlighting the root node, click to add a SiteScope to the list of SiteScopes that are accessible to this HP Business Availability Center. Opens the New SiteScope page.
Edit SiteScope	Click to edit the properties of the highlighted SiteScope's connection to this HP Business Availability Center. Opens the Edit SiteScope page.
Delete SiteScope	Click to delete the highlighted SiteScope from this HP Business Availability Center.

Summary Information - Right Pane

Description	When you highlight the root node, the right pane displays the summary information for all the SiteScopes accessed by this HP Business Availability Center. **To access**: Select **Admin** > **System Availability Management** and highlight the root node in the left pane.
Important Information	You access the SiteScope server by highlighting the name of the server in the list in the left pane or by clicking the name of the SiteScope in the table. The graphs displayed at the top of the page are a summary of all the SiteScopes listed.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Graph represents the overall health status of the listed SiteScopes. Each SiteScope represents its proportionate section of all the SiteScopes attached to HP Business Availability Center.
	Gauge represents the current monitor points that are in use by all the registered and configurable (hosted) SiteScopes versus the total points available for this installation. **Note:** The points displayed are per individual SiteScope. You cannot share license points among SiteScopes but you can shift a license key from one SiteScope to another. Delete the license key from the SiteScope that no longer uses that license and enter the same license key in the SiteScope that you want to use the license. For details on entering license information, see “General Settings Preferences User Interface” on page 1131.

GUI Element	Description
	Gauge represents the total runs per minute and is calculated by taking the sum of all monitor runs per minute for all the hosted SiteScopes versus the number of hosted SiteScopes times 1000 (the maximum number of monitor runs per minute).
	Gauge displaying the rate of samples being reported from all SiteScopes to HP Business Availability Center. The maximum number of samples per second is determined by the HP Business Availability Center deployment.
	You can adjust the width of the table's columns by dragging the borders of the column to the right or the left. Click to reset the table columns' width to their default setting.
	Click to open the Select Columns dialog box and select the columns you want displayed in the table.
Global Search and Replace	Click to open the Global Search and Replace Wizard to update properties across multiple SiteScopes. For details on the user interface, see “Global Search and Replace Wizard” on page 157.
Sync SiteScopes	Click to open the Sync SiteScope Wizard to copy preferences, settings, and configuration files between SiteScopes. For details on the user interface, see “Sync SiteScopes Wizard - Select Source and Targets Page” on page 119.

SiteScope Summary Table

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Table Column	Description
Display Name	The name give to the SiteScope when it was added to System Availability Management Admin.
Points Used/Total	The number of license points currently being used by the SiteScope versus the total license points available.
Deployed Monitors	The number of monitors configured the specific SiteScope server.
Monitors/Minute	The number of monitor runs per minutes.
Remote Targets	Displays the number of remote servers being monitored by this SiteScope.
OS	The operating system on which the SiteScope is running.
Version	The version of the SiteScope software.
Samples/Report	Displays the rate of samples reported from this SiteScope to HP Business Availability Center.
HA Status	Displays whether the failover SiteScope installation is running or not and whether the failover SiteScope is running instead of the primary SiteScope.

Table Column	Description
Health	Indicates the status of the SiteScope itself. The following are the available status levels:  **OK**. All performance measurements are within the OK threshold level.  **Warning**. At least one performance measurement is within the Warning range, but no measurements are within the Error or Poor range.  **Error/Poor.** At least one performance measurement is within the Error or Poor range. This indicates either of the following: ➤ the performance measurement has a value, but at poor quality level ➤ there is no measurement value due to some error  **No thresholds breached.** No thresholds were defined for the monitor, so no status is assigned.
MDW	Click to access the Monitor Deployment Wizard. You use the wizard to deploy monitors from the SiteScope onto existing CIs in HP Business Availability Center. For details on this topic, see "Monitor Deployment Wizard" on page 1451.

Optional Columns for SiteScope Summary Table

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Table Column	Description
Last Report Time	The last time monitor data was reported to Business Availability Center, displayed in format: Day Month Date Hours:Minutes:Seconds.
Host Name	The host name or IP address of the machine on which the SiteScope is currently running.
Port Number	The port number used to communicate with SiteScope. **Default value:** 8080

Table Column	Description
Inaccessible Profile	Displays if this SiteScope profile was added to System Availability Management Administration without a running SiteScope server registered to it. This means that the profile name was added to the database but there is no connection to the SiteScope from HP Business Availability Center until the actual registration from the SiteScope server.
Use SSL	Displays whether this SiteScope is using a secure communication through HTTPS.
Profile Name	The name to identify this SiteScope for HP Business Availability Center operations and reports. **Note**: If no value is entered, the **Display Name** entered in the Main Settings is used.
GMT Offset	The GMT Offset set for the SiteScope profile used for reports and aggregation purposes.
Enable Reporting to HP BAC	Displays whether the SiteScope is enabled to forward measurements to HP Business Availability Center.
GW Server Name	The name or IP address of HP Business Availability Center's Gateway server.
Failover Host	Displays the host name of the failover server if one has been installed for this SiteScope.
Description	The description of this SiteScope as entered when adding the SiteScope to System Availability Management Administration.

New SiteScope Page

Description	Use to add an existing SiteScope to this HP Business Availability Center. You can determine whether the SiteScope is hosted by System Availability Management or if it just reports data to HP Business Availability Center.
Important Information	Once a SiteScope is added to the System Availability Management page, it is assigned a connectivity status. Only a user who is defined with Administrator permissions in SiteScope standalone can add that SiteScope to System Availability Management Administration.
Useful Links	"System Availability Management Administration" on page 105

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Display Name	Enter a descriptive name representing this SiteScope in System Availability Management Admin. This name identifies the SiteScope in the list of SiteScopes in the left pane and in the summary list in the right pane.
Host Name	Enter the host name or IP address of the machine on which SiteScope is currently running. **Note:** If the Business Availability Center you are using uses Lightweight Singe Sign-on (enabled by default), you must enter a fully qualified domain name. **Example:** lab1.emea.hp

GUI Element	Description
Port Number	Enter the port number used to communicate with SiteScope. **Default value:** 8080
Inaccessible Profile	Use this box to create a profile for a SiteScope that is not currently accessible from HP Business Availability Center. Creating the profile in this way adds the profile name to the database but there is no connection to the SiteScope from HP Business Availability Center until the actual registration from the SiteScope. Registering a SiteScope to an empty profile is done in SiteScope by creating an integration setting for BAC in **Preferences** > **Integration Preferences**. **Example:** Enter a profile name for a SiteScope to report data to HP Software-as-a-Service. HP Software-as-a-Service cannot access the SiteScope until it has been registered from the SiteScope.

Distributed Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Gateway Server name/IP address	By default, this box displays the name or IP address of the Gateway server. **Note**: Modify this box only if the HP Business Availability Center has a distributed deployment and the Gateway server is installed on different machines. In this case, enter the name or IP address of the Core server.
SiteScope agent machine location	Enter the SiteScope agent machine location. If no value is entered, the default is used.

GUI Element	Description
Gateway Server authentication user name	Enter the login user name used to access the Gateway server. If no value is entered, the default is used.
Gateway Server authentication password	Enter the password used to access the Gateway server. If no value is entered, the default is used.

Advanced Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SiteScope user name	Enter the user name needed to connect to the SiteScope.
SiteScope password	Enter the SiteScope login password if the SiteScope you are adding has been set up with a password.
Failover Host	If a failover server has been installed for this SiteScope, enter the host name. **Note:** There is no validation to check if there is a failover SiteScope running on this host.
Description	Enter a description for this SiteScope.

Profile Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Use SSL	Select to secure the communication of the SiteScope API through a secure HTTPS. Selecting this option requires you to configure your SiteScope to run with SSL.
Profile name	Enter a name to identify this SiteScope for HP Business Availability Center operations and reports. If no value is entered, the **Display Name** entered in the Main Settings is used.
GMT offset	Select the GMT Offset for the SiteScope profile used for reports and aggregation purposes.
Profile database name	Select the database (Microsoft SQL) or schema (Oracle) into which the profile information is saved.
Web server authentication user name	Enter the user name for the authentication (basic authentication and protocol) of the Web server security options.
Web server authentication password	Enter the password for the authentication of the Web server security options (basic authentication and protocol).
Web server use SSL	Select this option for the Web server to use https protocol over a secure connection.
Proxy name/IP address	If SiteScope uses a proxy to connect to the HP Business Availability Center server, enter the IP address.
Proxy user name	If SiteScope uses a proxy to connect to the HP Business Availability Center server, enter the user name for the proxy.

GUI Element	Description
Proxy password	If SiteScope uses a proxy to connect to the HP Business Availability Center server, enter the password for the proxy.
Enable Reporting to BAC	Enables reporting SiteScope measurements to HP Business Availability Center. You can clear this option to temporarily disable reporting from this SiteScope to HP Business Availability Center. **Default value**: Selected. Can be cleared only in edit mode and not when adding a SiteScope.

Topology Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Topology resynchronization time interval	The number of days for SiteScope to synchronize topology data with Business Availability Center. The topology information SiteScope reports to Business Availability Center is synchronized when SiteScope restarts after this time interval has been reached. SiteScope restarts by default every 24 hours. **Default value**: 7 (days) **Note**: All topologies created by SiteScope and stored in CMDB are subjected to the aging process. To prevent aging, see "Aging of CIs in CMDB" on page 139.
Default topology probe domain	Enter the default domain of the SiteScope topology probe. **Note:** You must restart SiteScope if you change this setting.

GUI Element	Description
Topology receiver port	Enter the topology receiver port used in Business Availability Center. **Default value:** 8080 **Note:** You must restart SiteScope if you change this setting.
Topology receiver SSL port	Enter the topology receiver SSL port used in Business Availability Center. **Default value:** 443 **Note:** You must restart SiteScope if you change this setting.

Note: The following settings can only be modified in the user interface, and not from the **<SiteScope root directory>\conf\ems\jython.properties** file:

- **Default topology probe domain** (appilog.collectors.domain)
- **Topology receiver port** (serverPort)
- **Topology receiver SSL port** (serverPortHttps)

If you modified these settings from the properties file in a previous version of SiteScope (the property name is shown in brackets), these changes are lost when upgrading to SiteScope 9.50 and you must reconfigure the settings in the user interface. If you modified the remaining settings, these changes are lost when upgrading to SiteScope 9.50, and you must reconfigure the settings in the **<SiteScope root directory>\discovery\discovery_agent.properties** file.

Sync SiteScopes Wizard - Select Source and Targets Page

Description	Use this wizard to synchronize settings from different SiteScopes by copying files and settings from one SiteScope to another. **To Access:** Select **Admin** > **System Availability Management** and click **Sync SiteScopes**. Use the Select Source and Targets page to select the source SiteScope from which to copy settings and the target SiteScope to which to copy settings.
Important Information	➤ This wizard can be used to copy the settings configured for a SiteScope to another SiteScope. ➤ To copy groups, monitors, alerts, or reports from one SiteScope to another SiteScope, use the **Copy** and **Paste to another SiteScope** option in the monitor tree's context menu. ➤ The Select Source and Targets page lists only those SiteScopes that: ➤ are version 9.0 or higher ➤ have been added to System Availability Management ➤ are currently accessible to HP Business Availability Center
Wizard Map	The Sync SiteScopes wizard includes: **Sync SiteScopes Wizard - Select Source and Targets Page** > Select Types to Sync > Select Instances to Sync > Summary Page.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Source SiteScope	Select the SiteScope from which to copy settings or files. You can select only one SiteScope from which to copy. Once a SiteScope is selected as the source, it cannot be selected as a target. **Note:** Only those SiteScopes appear for which the current user has at least view permissions as applied in Permissions Management. For details on this topic, see "Operations" in *Platform Administration*..
Target SiteScope	Select the SiteScopes to which to copy settings or files. You can select multiple SiteScopes as the target of the synchronization. **Note:** Only those SiteScopes appear for which the current user has at least change permissions as applied in Permissions Management. For details on this topic, see "Operations" in *Platform Administration*..

Select Types to Sync

Description	Use this page to select those objects, settings, or files to copy from one SiteScope to other SiteScopes. You can copy preferences, views, and categories. Only those objects appear that have been configured in the source SiteScope.
Important Information	You can use the **Select All**, **Clear Selection**, and **Invert Selection** buttons to modify your selections.
Wizard Map	The Sync SiteScopes wizard includes: Sync SiteScopes Wizard - Select Source and Targets Page > **Select Types to Sync** > Select Instances to Sync > Summary Page.

SiteScope Objects

The following are the objects that can be copied from one SiteScope to other SiteScopes:

GUI Element	Description
Preferences	Copy the preferences configured in the source SiteScope to the target SiteScope. Only those preferences that have been configured in the source SiteScope appear here. If no preferences or instances of preference types have been defined in the source SiteScope, there are no preferences listed here. The following preferences can be selected for the sync operation: ➤ E-mail preferences ➤ Pager preferences ➤ SNMP trap preferences ➤ Absolute schedule preferences ➤ Range schedule preferences For details on types of preferences, see "Working with Preferences" on page 1101. **Example**: Copy the absolute schedules that have been configured in the source SiteScope to the target SiteScope. You can then use those same absolute schedules when scheduling monitors to run (while configuring or editing monitors) in the target SiteScope.

GUI Element	Description
Categories (Search/Filter tags in SiteScope 10.00)	Copy the categories configured in the source SiteScope to the target SiteScope. If no categories have been defined in the source SiteScope, there are no categories listed here. In SiteScope 10.00 and later, categories are know as Search/Filter tags and include the same functionality. For details about using categories (Search/Filter tags) in SiteScope, see "Working with Search/Filter Tags" on page 88. **Example**: A category defining operating system with values of Windows, Linux, and so forth has been defined in the source SiteScope. These same categories can be copied for use in the target SiteScope.
Templates	Copy the templates configured in the source SiteScope to the target SiteScope. If no templates have been defined in the source SiteScope, there are no templates listed here. For details about working with templates in SiteScope, see "SiteScope Templates Overview" on page 1234.

SiteScope Files

The following are the files that can be copied from one SiteScope to other SiteScopes:

GUI Element	Description
SNMP Template Files	Templates that can be selected when creating an SNMP trap alert action. Select to copy all the files in the following folder path: **<SiteScope root directory>\templates.snmp**.
Certificate Template Files	Select to copy all the files in the following folder path: **<SiteScope root directory>\templates.certificates**.
Post Template Files	Templates that can be selected when creating a post alert action. Select to copy all the files in the following folder path: **<SiteScope root directory>\templates.post**.
OS Template Browsable Files	Select to copy all the files in the following folder path: **<SiteScope root directory>\templates.os\browsable**.

GUI Element	Description
OS Template Files	Select to copy all the files in the following folder path: **<SiteScope root directory>\templates.os**.
Mail Reports Template Files	Select to copy all the files in the following folder path: **<SiteScope root directory>\templates.history**.
Mail Template Files	Templates that can be selected when creating an e-mail alert action. Select to copy all the files in the following folder path: **<SiteScope root directory>\templates.mail**.
Sound Template Files	Templates that can be selected when creating a sound alert action. They include the media files that create the sound for a triggered alert. Select to copy all the files in the following folder path: **<SiteScope root directory>\templates.sound**.
Scripts Remote Files	Select to copy all the files in the following folder path: **<SiteScope root directory>\scripts.remote**.
Scripts Files	Scripts that can be selected when creating a script alert action. Select to copy all the files in the following folder path: **<SiteScope root directory>\scripts**.
MIB Files	Select to copy all the files in the following folder path: **<SiteScope root directory>\templates.mib**.

Select Instances to Sync

Description	This page displays a tree with all the instances of the type of file or object selected in the Select Types to Sync page. You can then select specific instances of the file type or object type you want copied from the source SiteScope to the target SiteScopes.

Important Information	You can use the **Select All**, **Clear Selection**, and **Invert Selection** buttons to modify your selection of file or object instances. When you finish making your selections, click **Finish**.
Wizard Map	The Sync SiteScopes wizard includes: Sync SiteScopes Wizard - Select Source and Targets Page > Select Types to Sync > **Select Instances to Sync** > Summary Page.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<Files/objects tree>	Use the tree to select or clear specific instances occurring in the source SiteScope of the file type or object type you want to copy to the target SiteScope. The tree lists all instances of the selected file type or object type that occur in the source SiteScope. **Default value**: All instances of every file or object selected in the Select Types to Sync page are selected. Clear the check box next to an instance to remove it from the sync operation.
Override existing instances	Select this option for the sync action to override any instances of the same name in the target SiteScopes with the selected instances. If this option is cleared and during the sync operation, an instance of the object or type with the same name is found in the target, the sync operation does not copy the instance onto the target SiteScope. **Example**: You selected Absolute Schedule Preferences in the Select Type to Sync page and the target SiteScope has an absolute schedule with the same name as in the source SiteScope: ➤ If this option is selected, the target's absolute schedule is overwritten with the properties of the schedule in the source SiteScope. ➤ If this option is cleared, the target's absolute schedule maintains its properties and is not overwritten.

Summary Page

Description	Displays the number of objects or files successfully copied to the target SiteScopes. If any objects or files failed to copy to the target SiteScopes, this number is also displayed.
Wizard Map	The Sync SiteScopes wizard includes: Sync SiteScopes Wizard - Select Source and Targets Page > Select Types to Sync > Select Instances to Sync > **Summary Page**.

Troubleshooting and Limitations

Use the following information to troubleshoot issues, as required.

Receive a 408 error when attempting to access SiteScope user interface from System Availability Management Administration.

Possible Solution 1: Add the SiteScope machine's URL to your Web browser's list of trusted sites and restart all browsers.

Possible Solution 2: Configure the browser to accept cookies from the SiteScope server.

Reverse integration does not work.

Possible Solution: Enter the SiteScope machine name in the **SiteScope agent machine location** field when adding a SiteScope to System Availability Management.

Page cannot be displayed due to 404 error.

This error may occur because there is no access from the browser machine to SiteScope (pinging the machine also does not work). The SiteScope host may be changed to a fully qualified host name after adding the SiteScope to System Availability Management Administration.

Possible Solution: If there is no DNS configured for the network, you can configure SiteScope to report its IP address to HP Business Availability Center. Open the **<SiteScope root directory>\groups\master.config** file, and enter the SiteScope machine's IP address in the **_sisHostNameOverride** property.

To solve the problem on the browser's machine, you can add the SiteScope machine name with IP to the host's file in the **//WINDOWS/system32/drivers/** directory on the HP Business Availability Center machine.

Flash components (summary graphs) are not displayed in the System Availability Management Administration page.

Possible solution: Install Flash on the client browser.

Error while adding a SiteScope to System Availability Management Administration in the Add SiteScope page.

While adding the SiteScope to System Availability Management Administration, an error occurs and you want to change the **Display name** field to try to add the SiteScope again. The **Profile name** field, which is used in Business Availability Center reports, Dashboard, and so forth, is defined from the **Display name** field. The **Profile name** may still have the default value from the first time you tried adding the SiteScope.

Possible solution: If you change the **Display name** field or **Host name** field after an error during initially trying to add the SiteScope, you should change all the fields that get their default values from those fields, for example **Profile name**.

Error while opening the SiteScope user interface when SiteScope is unable to access the HP Business Availability Center permissions application.

The following error message is displayed: "The SiteScope interface failed to open because SiteScope was unable to access the HP Business Availability Center's permissions application using http://<your BAC server>/topaz/ url. SiteScope needs this access to build the permission model before granting access to the SiteScope interface. Check your network configuration and verify that SiteScope can access HP Business Availability Center."

Possible Solution 1: Check your network configuration.

Possible Solution 2: Add the IP address of the HP Business Availability Center server to the **etc\hosts** file on the SiteScope machine.

Javascript errors while opening specific features in a SiteScope hosted from HP Business Availability Center when using a Firefox 2.x browser.

When SiteScope is hosted from HP Business Availability Center, the following features may not work when using a Firefox 2.0.x browser: Opening help pages, diagnostic tools, reports, copying between SiteScopes, Monitor Deployment Wizard, Link Monitor to CI, and the Publish Templates PDF report.

Possible Solution: Use Firefox 3.x or an Internet Explorer browser.

5

Integrating with HP Business Availability Center

This chapter includes the main concepts, tasks, and reference information for integrating SiteScope with HP Business Availability Center.

This chapter includes:

Concepts

Tasks

Reference

Understanding SiteScope Integration with HP Business Availability Center

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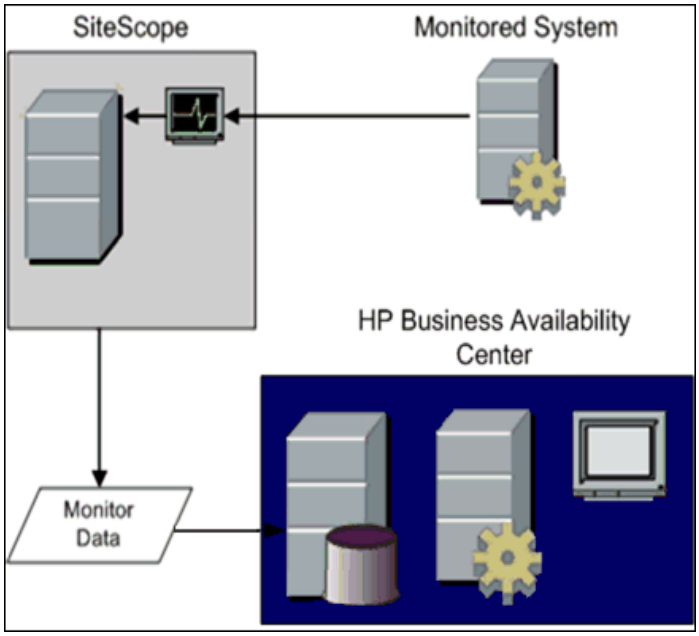
Note: This section is relevant only to those users integrating SiteScope with HP Business Availability Center.

SiteScope, as a standalone application, is an agentless solution for IT infrastructure performance and availability monitoring. SiteScope can also be used as a data collector for HP Business Availability Center. HP Business Availability Center collects data about end-users, business processes, and systems.

When configured as a data collector to HP Business Availability Center, the data and measurements collected by SiteScope monitors can be passed on to HP Business Availability Center for use in reports and analysis. Monitor data can be sent for all monitors or for selected monitors.

The following diagram illustrates the use of SiteScope as a data collector for HP Business Availability Center.



There are two main aspects of compatibility between SiteScope and HP Business Availability Center. The first is data logging which is the process of logging data collected by SiteScope to HP Business Availability Center for the purposes of real-time status, reporting topology information, Service Level Management, and so forth. The second aspect of compatibility is monitor configuration which refers to configuring SiteScope, including deploying monitors, from within HP Business Availability Center.

HP Business Availability Center includes a System Availability Management Administration page. This function allows you to manage SiteScope monitor configurations for one or more SiteScope servers through a central console. This level of SiteScope integration is separate from the integration of SiteScope monitor data with HP Business Availability Center.

The following table contains compatibility information regarding these two aspects of compatibility and the various combinations of SiteScope and HP Business Availability Center releases.

- 1 = Data logging support
- 2 = Configuration support

HP SiteScope Version	HP Business Availability Center Version		
	8.00	**7.50**	**7.0**
SiteScope 10.00	1,2 Recommended	1,2	1,2
SiteScope 9.50	1,2	1,2 Recommended	1,2
SiteScope 9.0	1,2	1,2	1,2 Recommended
SiteScope 8.5	1	1	1

When SiteScope is registered as a data collector reporting data to HP Business Availability Center, it may also be accessed as a standalone product.

Note: If integrating with SiteScope 8.5, you can still create a SiteScope profile in System Availability Management Administration. This profile enables the SiteScope to report data to HP Business Availability Center but does not enable configuration of the SiteScope from HP Business Availability Center.

Configuring the Integration

To enable the integration between SiteScope and Business Availability Center, the SiteScope must be configured as a data collector for Business Availability Center. This involves adding a SiteScope to the System Availability Management Administration page in the Business Availability Center. For details on this task, see "Collect Data on the Performance of an IT Resource" on page 144.

If the HP Business Availability Center Server to which you are connecting is on a different machine than the HP Business Availability Center Server to which SiteScope reports data, you must provide connection information for both servers under the **Main Settings** in SiteScope's Integration Preferences, or under **Distributed Settings** in System Availability Management Administration's New SiteScope Page.

Monitors created in SiteScope before registration to Business Availability Center have their logging option set to **Disable reporting to BAC**. After you configure SiteScope as a data collector reporting to Business Availability Center, the default for new monitors created in SiteScope is to log their monitoring data to Business Availability Center.

To change logging options, edit a specific monitor and select the relevant option in the **HP BAC Integration Settings** panel of the monitor properties page. For details, see "HP BAC Integration Settings" on page 316. You can use the Global Search and Replace wizard to update the logging options on those monitors created before the integration was established. For details on the wizard, see "Global Search and Replace" on page 149.

This section includes the following topics:

Using SSL for SiteScope-HP Business Availability Center Communication

You can use Secure Sockets Layer (SSL) to transmit data from SiteScope to the Business Availability Center server. If you have installed a certificate signed by a root Certificate Authority on the Business Availability Center server, no additional setup is required on the SiteScope server. If you are using a self-signed certificate on the HP Business Availability Center server and want to use that certificate for secure communication with SiteScope, you must perform the steps as described in "Use SSL for SiteScope-HP Business Availability Center Communication" on page 1126.

Note:

- You must specify these settings only if the certificate installed on the Business Availability Center machine is not signed by a root Certificate Authority (CA). For example, if you are using a certificate signed by a Certificate Authority like Verisign, you do not need to change these settings.
- You can import the self-signed certificate into the same keystore file used for other SiteScope monitors but that is not required. You can create a separate keystore for the Business Availability Center server certificate.

Changing the Gateway Server to Which SiteScope Sends Data

You can change the Gateway Server to which a SiteScope reports its data. Generally, this is only applicable if you are working with an HP Business Availability Center deployment with components installed on more than one server. You make this change by entering the required Gateway Server name or IP address in the **Business Availability Center server machine name/IP address** box in the Integration Preferences page. You must also update the SiteScope settings with the Gateway Server name in System Availability Management Administration.

Note: This function can only be used for changing the Gateway Server for a SiteScope that is already registered with a given HP Business Availability Center installation. It cannot be used to add a new SiteScope, or to connect a SiteScope to a different HP Business Availability Center system.

For information about troubleshooting reporting data to HP Business Availability Center, see “Troubleshooting and Limitations” on page 1231.

For details on configuring these preferences, see “Integration Preferences User Interface” on page 1165.

Integrating SiteScope Data with HP Business Availability Center's Configuration Items

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Note: This section is relevant only to those users integrating SiteScope with HP Business Availability Center.

When a monitor instance is added to a SiteScope reporting data to Business Availability Center, that monitor creates a corresponding configuration item (CI) in the HP Universal CMDB. For details on understanding configuration items, see "Configuration Items (CI)" in *Model Management*.

The SiteScope monitors that populate the Universal CMDB include both actual monitors and the groups in which they are created. Actual monitors instances are represented in the Universal CMDB as monitor CIs. Monitor CIs receive data from the corresponding SiteScope monitor instance and use the data to calculate Key Performance Indicator (KPI) status. SiteScope groups are represented as group CIs in the Universal CMDB and receive KPI status from the monitor CIs created by the monitors they are running.

This section includes the following topics:

Monitor Types and Topology Reporting

SiteScope reports different levels of topology data to the CMDB depending on the type of monitor and the options selected for the monitor. The types of monitors are as follows:

- **Technology Integration Monitors**. These monitors report data based on the topology settings script you select and edit for the monitor. The data they report is tightly integrated with Business Availability Center. You can create a custom topology or use a predefined script to forward the relevant data. For details on these monitors and how to work with their topology settings, see "Topology Settings for Technology Integration Monitors" on page 871.
- **Monitors of Supported Environments**. For these supported environments SiteScope acts like a discovery probe when the monitor is created or its configuration is changed. When the **Include topology data when reporting to BAC** option under the **HP BAC Integration Settings** pane is selected, SiteScope automatically discovers the application's topologies and populates the CMDB with the relevant CIs and monitor CIs. For details and a list of supported environments, see "Reporting Discovered Topologies to HP Business Availability Center" on page 141.
- **Monitors of Hosts**. These are monitors that are not included among the Technology Integration monitors or the monitors of supported environments but can forward host topology data to Business Availability Center. When the **Include topology data when reporting to BAC** option under the **HP BAC Integration Settings** pane is selected, SiteScope forwards the host topology along with monitor CI data to Business Availability Center. For details on this option, see "HP BAC Integration Settings" on page 316.
- **Monitors Without Host Data.** SiteScope includes monitors that do not monitor hosts or servers and, therefore, cannot report host data to the CMDB. These monitors do not have the option to include topology data when reporting to Business Availability Center. For a list of these monitors, see "Monitors Without Host Data" on page 148.

Creating Relationships Between Monitors and CIs

You can also create relationships between SiteScope monitor CIs and existing CIs in the Universal CMDB. This relationship enables the monitor to pass KPI status to the CI to which it is attached, even if that CI was not created from a topology forwarded by SiteScope.

This relationship can be created:

- In System Availability Management Administration, by using the **Monitor Deployment Wizard** which uses the existing CI property data in the CMDB to deploy SiteScope monitors, groups, and remote servers. For details on using the wizard, see "Monitor Deployment Wizard Overview" on page 1452.
- In IT Universe Manager, by SiteScope sending host data to Business Availability Center and connecting those hosts using the **Monitored by** relationship in IT Universe Manager. This creates a logical dependency between the CI and the monitor CI. For details, see "Working with Relationships" in *Model Management*.
- In SiteScope, by manually selecting the **Link Monitor to CI** option when editing a monitor instance. This creates a logical dependency between the CI and the monitor CI. This option is available only when accessing SiteScope from System Availability Management Administration and when editing a monitor. It is not available when creating a monitor instance. For details on this option, see "Link Monitor to CI" on page 315.

Aging of CIs in CMDB

In the CMDB, CIs that have had no activity over a period of time are removed from the database. The CIs created from SiteScope data are also subject to this aging policy. However, SiteScope prevents the CIs it has sent to Business Availability Center from being removed by synchronizing the data it sends to Business Availability Center. When this synchronization occurs, it refreshes the data for those CIs and creates activity on the CIs.

For details on setting the time interval for topology synchronization, see "Topology Settings" on page 117. For details on the Aging Mechanism, see "Working with CIs" in *Model Management* in the HP Business Availability Center Documentation Library.

Note:

- Synthetic monitors and groups created by the EMS integration monitors that use Measurement field mapping are subject to the aging process regardless of the synchronization.
- If you delete a CI from CMDB you must perform a resynchronization or a hard synchronization of SiteScope (in Integration Preferences), or you must wait for a restart of SiteScope so the CI is restored to the CMDB. This is due to the CI cache in SiteScope that prevents SiteScope from sending an unchanged CI twice. For details, see "BAC Preferences Available Operations" on page 1171.

Discovery Scripts and the Package Manager

Note: This section applies to users integrating with Business Availability Center version 8.00 or later. When integrating topology data with previous versions of Business Availability Center, SiteScope uses legacy scripts which are stored on the SiteScope server.

The scripts that enable SiteScope to act as a discovery probe are stored on the Business Availability Center server in the **SiteScope** package. When SiteScope is configured to discover an application's topology, SiteScope downloads the appropriate script from the Business Availability Center server. It then uses the script to perform the discovery while monitoring the application.

The SiteScope package includes scripts and other SiteScope-related CMDB resources, such as views and enrichments. You can access this package in Business Availability Center in **Admin** > **Universal CMDB** > **Settings** > **Package Manager**. The package is a factory package, meaning that the out-of-the-box configurations for the package enable it to perform the discoveries in SiteScope. For details on working with packages, see "Package Administration Overview" in *Model Management*.

Note for advanced users only: Advanced users may want to modify the topology scripts within the package. Be warned that the **SiteScope** package uses scripts from other packages which may be shared by SiteScope and Discovery and Dependency Mapping. Any changes made to the scripts in the package can also affect Discovery and Dependency Mapping.

Any changes made to the topology script that influence the way a topology is reported to Business Availability Center can affect all the applications that use those topologies, including Business Availability Center applications and HP Operations Manager *i*.

Reporting Discovered Topologies to HP Business Availability Center

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Note: This section is relevant only to those users integrating SiteScope with HP Business Availability Center, and only when the SiteScope is reporting to HP Business Availability Center version 7.50 or later.

SiteScope can act as a discovery probe and discover the hierarchy of the monitored entities of selected environments. These hierarchies are represented by topologies that SiteScope reports to HP Business Availability Center. The CIs within the topologies correspond to the hosts, servers, and applications that SiteScope monitors, and are created in HP Business Availability Center's CMDB. Monitor and measurement CIs are also created and SiteScope reports their status to Business Availability Center. The relationships between the CIs are defined by the topology reported by SiteScope.

You enable this feature by selecting the **Include topology data when reporting to BAC** option under the **HP BAC Integration Settings** pane when creating or configuring a monitor instance. If this option is cleared, the CIs that were created in the CMDB are not automatically deleted. If there is no activity on the CI, they are eventually removed from the database through aging or they must be manually deleted.

Supported Environments

This direct integration between SiteScope and Business Availability Center is available only for selected environments. For details on the specific topologies SiteScope reports for the applicable monitors, see:

Database environments:

- "DB2 8.x Topology Settings" on page 523
- "Microsoft SQL Server Topology Settings" on page 539
- "Oracle Database Topology Settings" on page 542

ERP/CRM application environments:

- "SAP CCMS Topology Settings" on page 381
- "SAP Work Processes Topology Settings" on page 394
- "Siebel Application Server Topology Settings" on page 399
- "Siebel Web Server Topology Settings" on page 403

SOA environments:

- "Web Service Topology Settings" on page 589

Web server environments:

- "Microsoft IIS Server Topology Settings" on page 372
- "WebLogic Application Server Topology Settings" on page 574
- "WebSphere Application Server Topology Settings" on page 419

For details on the Topology Settings user interface, see "Topology Settings" on page 117.

Accessing SiteScope and Building Permissions Model

Note: This section is relevant only to those users accessing SiteScope from System Availability Management Administration in HP Business Availability Center, and only when the SiteScope is reporting to HP Business Availability Center version 7.00 or later.

System Availability Management Administration builds a permissions model for each Business Availability Center user accessing SiteScope. That permissions model is based on the Business Availability Center user's permissions for SiteScope objects and not on the user's permissions as defined in SiteScope.

When assigning permissions to users in Business Availability Center for accessing a SiteScope through System Availability Management Admin, be aware that the permissions in Business Availability Center have been mapped to the equivalent permissions in SiteScope. The permissions model maps between the types of permissions available in SiteScope to what can be granted in Business Availability Center.

There are several differences between the Business Availability Center permissions model and SiteScope standalone permissions:

- Business Availability Center permissions enables granting permissions per group instance. In SiteScope standalone, permissions are granted onto groups as an object and do not have the instance granularity that exists in Business Availability Center.

  For example, a user can have permissions within Business Availability Center to view or change specific instances of SiteScope groups with no permission to access other SiteScope groups.

- SiteScope enables specific types of permissions onto object types, such as the ability to enable/disable whereas in Business Availability Center the operations are standard for all objects and include view, change, add, and full control. In this case, enable/disable is mapped to Business Availability Center's change permission.

- When applying permissions in Business Availability Center onto SiteScope objects, you can hover over an operation to see a description of how it maps to the permissions available to users of SiteScope standalone.
- Only a user at the Administrator level in SiteScope standalone has the necessary permissions to add a SiteScope to System Availability Management Administration in Business Availability Center.

Collect Data on the Performance of an IT Resource

Note: This section is relevant only to those users integrating SiteScope with HP Business Availability Center.

This task describes how to set up and use SiteScope to collect data on the performance of IT infrastructure components.

This task includes the following steps:

- "Prerequisites" on page 145
- "Download and Install SiteScope" on page 145
- "Integrate the Installed SiteScope with Business Availability Center" on page 145
- "Configure SSL for SiteScope-HP Business Availability Center Communication" on page 146
- "Configure SiteScope Groups and Subgroups" on page 146
- "Configure SiteScope Monitors" on page 146
- "Assign Permissions in Business Availability Center" on page 147
- "Modify the Integration Settings" on page 147

1 Prerequisites

Prepare a plan that maps out the specific IT infrastructure resources who data you want to collect. Include information about the business processes that are affected by the specified infrastructure components. For example, business processes being monitored by Business Process Monitor, that are running on an application server against which you plan to run SiteScope monitors.

2 Download and Install SiteScope

Navigate to **Admin** > **Platform** > **Setup and Maintenance**, click **Downloads**. Download and save the SiteScope installation files (for Windows or Solaris) to a local or network drive.

Install SiteScope on machines designated to run the SiteScope data collector. You can run multiple SiteScopes from multiple platforms. For more information, see the *HP SiteScope Deployment Guide* PDF.

3 Integrate the Installed SiteScope with Business Availability Center

In Business Availability Center, navigate to **Admin** > **System Availability Management**.

Add the SiteScope to System Availability Management Administration. For details on the user interface, see "New SiteScope Page" on page 113.

For details on this topic, see "System Availability Management Administration Overview" on page 100.

Note: If you are working with a SiteScope that is not accessible to Business Availability Center (for example in HP Software-as-a-Service), the procedure for the integration includes creating an empty profile in System Availability Management Administration and creating an Integration Preference for BAC in SiteScope. For details on how to perform this task, see "Configure SiteScope-HP Business Availability Center Integration Preferences for Inaccessible Profiles" on page 1124.

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4 Configure SSL for SiteScope-HP Business Availability Center Communication

For details on this task, see "Use SSL for SiteScope-HP Business Availability Center Communication" on page 1126.

5 Configure SiteScope Groups and Subgroups

Create groups and subgroups to organize the monitors to be deployed. For example, you can create groups of locations, server types, network resources, and so forth.

For details on the user interface, see "New SiteScope Group Page" on page 253.

6 Configure SiteScope Monitors

When configuring monitors, verify that HP BAC Logging settings are set as required. You can create monitors individually into the groups you created or in the following ways:

- Using the Monitor Deployment Wizard to deploy monitors onto existing CIs in the CMDB. For details on this topic, see "Monitor Deployment Wizard Overview" on page 1452.
- Using Solution Templates to configure predefined sets of monitors on specific systems. For details on this topic, see "SiteScope Solution Templates" on page 1341.
- Using SiteScope templates. For details on this topic, see "SiteScope Templates Overview" on page 1246.

Once defined, the SiteScope and its groups and monitors are added as CIs to the CMDB and are automatically attached to the relevant monitor views, from where they can be added to other views. When editing a monitor in System Availability Management Administration, you can associate the monitor with existing CIs using **Link Monitor to CI** Settings. For example, you can attach the CPU monitor to an existing logical CI representing a machine whose CPU is being monitored.

The data from the SiteScope is available in Dashboard and Service Level Management.

7 Assign Permissions in Business Availability Center

Navigate to **Admin** > **Platform** > **Users and Permission**, click **User Management**.

For each defined user, assign permissions to view SiteScope groups and their subgroups in System Availability Management reports and custom reports. For details, see "System Availability Management Administration (SAM Admin)" in *Platform Administration*.

For details on how permissions are applied, see "Accessing SiteScope and Building Permissions Model" on page 143.

8 Modify the Integration Settings

Once you have created the integration, you can modify the settings either in SiteScope or in Business Availability Center, depending on the setting that you are modifying.

➤ In SiteScope, open the **Preferences** context and select **Integration Preferences**. Edit the BAC Integration Preference.

For details on the user interface, see "New/Edit BAC Integration Dialog Box" on page 1168.

➤ In Business Availability Center, select **Admin** > **System Availability Management**. In the list of SiteScopes, right-click the relevant SiteScope and select **Edit SiteScope** from the context menu.

For details on the user interface, see "New SiteScope Page" on page 113.

Monitors Without Host Data

Following is a list of those monitors that do not monitor the status of a host or server. These monitors cannot report host CI information to Business Availability Center. Therefore, these monitors do not have the option to **Include topology data when reporting to BAC** under the **HP Integration Settings** pane. The monitors include:

- Composite
- Directory
- e-Business Transaction
- File
- Formula Composite
- Link Check
- Log File
- Microsoft Windows Dialup
- Microsoft Windows Media Player
- Multi Log
- Network Bandwidth
- Real Media Player
- Script
- SNMP Trap
- URL
- URL Content
- URL List
- URL Sequence
- Web Script
- Web Service
- XML Metrics

6

Global Search and Replace

This chapter includes the main concepts, tasks, and reference information for the Global Search and Replace Wizard.

This chapter includes:

Concepts

Tasks

Reference

Global Search and Replace Overview

The Global Search and Replace Wizard enables you to make changes to monitor, alert, alert action, group, preferences, and report properties. You can select an object based on object type and globally replace any of the properties of the selected object across your SiteScope or across multiple SiteScopes when working in System Availability Management Administration.

For example, when upgrading HP Business Availability Center, use the Global Search and Replace Wizard to configure all the SiteScopes reporting data to Business Availability Center to the upgraded version.

This section contains the following topics:

Advanced Filter

Use the Advanced Filter option to further refine your selected object for the search operation. You can select specific properties and select or enter values pertaining to your object. This enables you to limit the selected objects but not the value to replace.

When performing the replace operation, only the value to replace is replaced and only on those objects that match the properties selected in the Advanced Filter page. For example, select all monitors with frequency set to 5 minutes and replace the monitor dependency setting for all of those monitors, or select only those monitors monitoring a specific server and replace the threshold settings for only those monitor instances matching the value of the server entered in the filter.

Replace Versus Find and Replace

Use the replace method to search for a field value and replace it with a new value. For example, change the default monitor run frequency setting for the selected monitors by selecting the **Frequency** check box in the Monitor Run Settings area, and updating the frequency value from 10 to 15 minutes.

Use the find and replace method to search for specific settings and property values and replace only those objects with the entered setting or value. You can search a string, value, or regular expression pattern and replace only that string. Replacements are made only if the filter criteria matches. For example, search for all monitors whose name value includes a server name that is no longer in use. Replace the string representing the old server with a new string representing the updated server.

Threshold Settings

When replacing threshold settings for monitors, by default you replace only those settings that share all of the following:

- have the same condition (**Error if**, **Warning if**, or **Good if**)
- are configured for the same schedule
- use the same operator type (< <=, > >=, ==, !=, contains, !contains).

Note: < (less than) and <= (less than and equal to) are considered the same operator type as are > (greater than) and >= (greater than and equal to).

You also have the option to override all the existing threshold settings that have the same condition (**Error if**, **Warning if**, or **Good if**) regardless of the operator used and the schedule configured. The option is called **Override Category** and appears in the Choose Changes page of the wizard under the **Threshold Settings** area if you selected **Monitor** in the Select Type page of the wizard.

For example, you want to change the **Error if** threshold settings for all CPU monitors to greater than 85%. In the wizard, you select **Monitor** in the Select Type page, **CPU** in the Select Subtype page, and expand the **Threshold Settings** area in the Choose Changes page.

If you select the **Override Category** option when selecting greater than 85% as the **New Error if** status condition, all the existing **Error if** settings for all CPU monitors are overwritten and changed to greater than 85% when you complete the wizard.

If you leave the option cleared, the greater than 85% **Error if** setting you select in the wizard replaces only those **Error if** settings that use the < (greater than) and <= (greater than and equal to) operators and were configured for the same schedule for all CPU monitors.

For details on setting thresholds, see “Setting Status Thresholds” on page 266.

Perform a Global Search and Replace

This task describes how to perform a global search and replace for objects, using the Global Search and Replace Wizard.

This task includes the following steps:

- "Begin Running the Global Search and Replace Wizard" on page 148
- "Select SiteScope" on page 148
- "Select Object Type" on page 149
- "Search and Replace Objects" on page 150
- "Check Affected Objects" on page 152
- "Review Replaced Objects" on page 152

1 Begin Running the Global Search and Replace Wizard

When you are accessing SiteScope from Business Availability Center, in System Availability Management Administration, select **Admin** > **System Availability Management** and click the **Global Search and Replace** button.

When you are accessing SiteScope standalone, right-click SiteScope root or the group or monitor in the monitor tree to which you want to perform the global replace. To replace Preferences objects, you must be on the SiteScope root object. To replace alert objects, right-click SiteScope root, or the relevant group or monitor object. Select **Global Search and Replace** from the context menu.

For details on the user interface, see "Global Search and Replace Wizard" on page 153.

2 Select SiteScope

Note: This step is only applicable when you access the Global Search and Replace wizard from System Availability Management.

In the **Select SiteScope** page, select one or more SiteScopes on which to run the search and replace.

3 Select Object Type

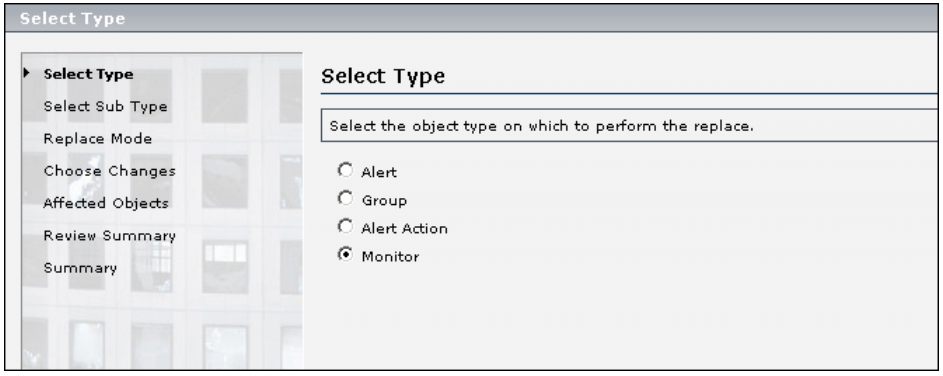
In the **Select Type** and **Select Subtype** page, select the object and, if relevant, the subtype upon which you want to make a replacement.

For details on the user interface, see "Select Type Page" on page 158 and see "Select Subtype Page" on page 159.

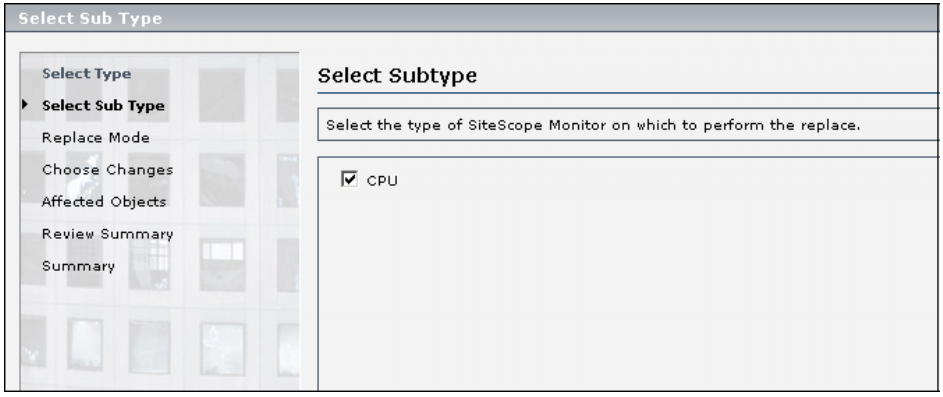
Example

You want to change the threshold boundaries for all CPU monitors.

You select **Monitor** as the object type.



You select **CPU** as the specific monitor type.



4 Search and Replace Objects

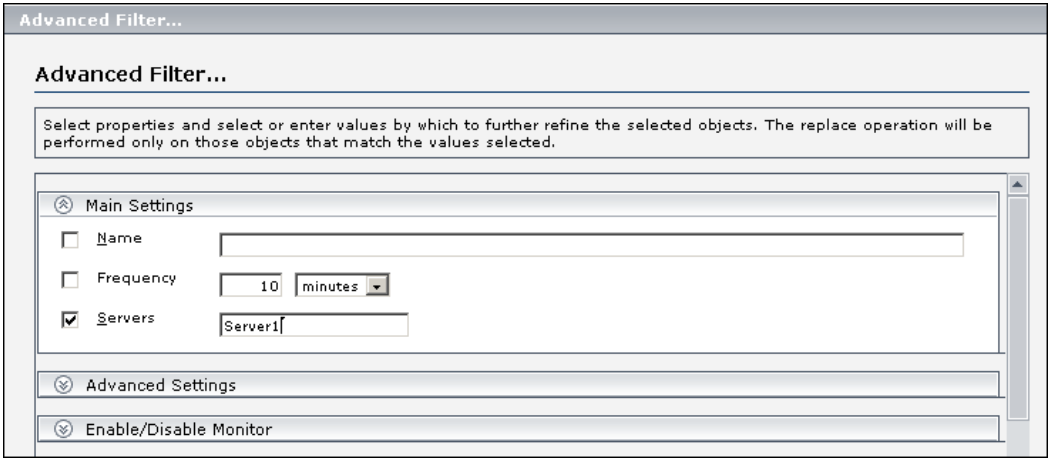
In the **Replace Mode** page, select the type of replacement. Select **Replace** to globally replace the object or select **Find and Replace** to replace specific instances of the object. Optionally, you can open the Advanced Filter dialog box to filter by the object properties. Here you select on which objects to perform the replace operation. In the **Choose Changes** page, you select what properties or values to replace.

For details on the user interface, see "Replace Mode Page" on page 160 and see "Choose Changes Page" on page 162.

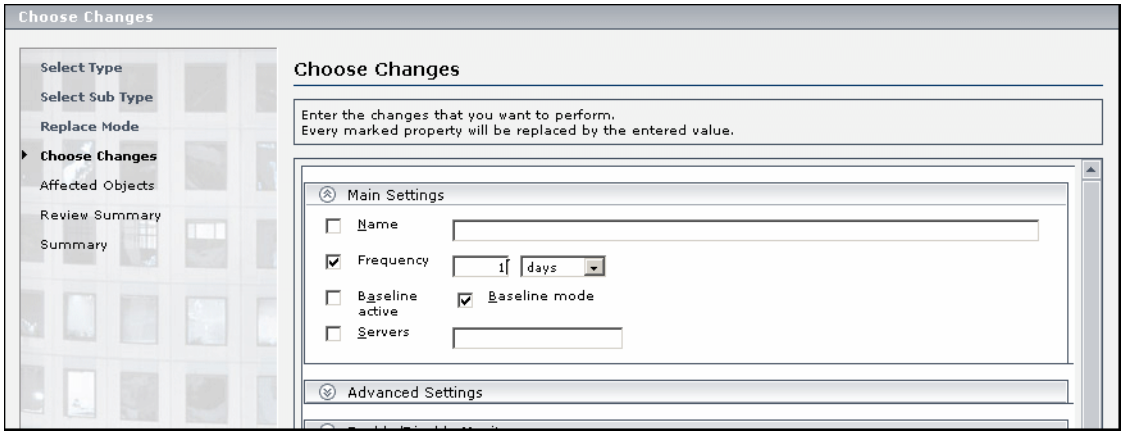
Example - Reducing the Frequency of a Monitor Run on a Specific Server

You want to reduce the frequency of how often a monitor runs on a specific server in your company.

You filter your selection in the Advanced Filter page to include only those monitors monitoring the specified server.



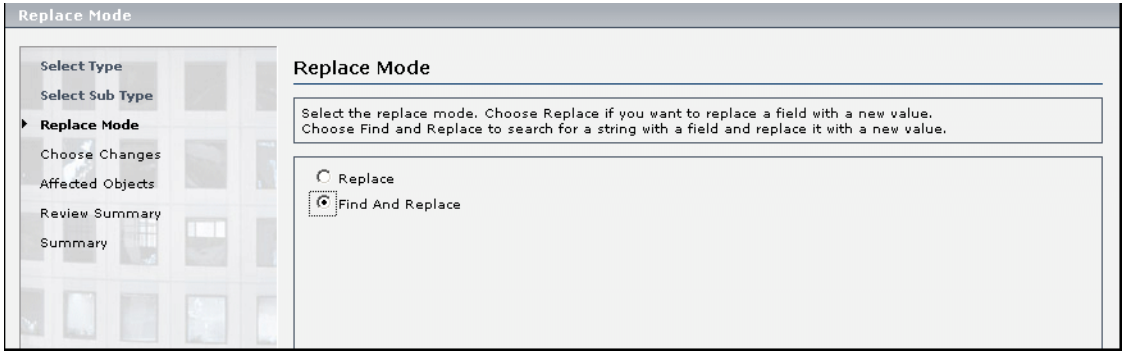
In the Choose Changes page, you then enter a new frequency of once a day, to monitor the specified server.



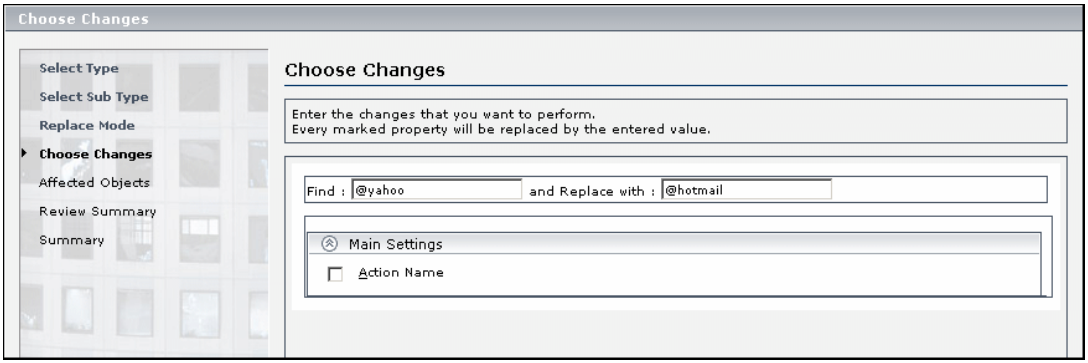
Example - Setting Up Alert Action to Send Alert Messages to Specified E-mail Addresses

You set up your alert action to send alert messages to specified e-mail addresses. However, one of the e-mail addresses you configured to receive the alerts has changed and you want to send alert messages to the new e-mail address. You want to update only the e-mail address that has changed.

After selecting **Alert Action** as the object type, you select **Find and Replace** in the Replace Mode page.



In the Choose Changes page, you enter the old e-mail address in the **Find** field and the new e-mail address in the **and Replace with** field.



5 Check Affected Objects

In the **Affected Objects** page, view the affected objects and, if necessary, clear or select objects for the replacement operation.

For details on the user interface, see "Affected Objects Page" on page 161.

6 Review Replaced Objects

In the **Review Summary** page, review the results of the replacement operation and click **Finish** to complete the wizard. You can view a summary of the changes in the **Summary** page to see which changes were implemented successfully and in which errors occurred.

For details on the user interface, see "Review Summary Page" on page 163 and see "Summary Page" on page 165.

Global Search and Replace User Interface

This section describes:

Global Search and Replace Wizard

Description	Global Search and Replace enables you to make changes to group, monitor, preferences, alert, alert action, and report properties. These changes can be made across a SiteScope or across several SiteScopes when working in System Availability Management Administration. **To access:** In SiteScope standalone, right-click SiteScope root or the group or monitor in the monitor tree to which you want to perform the global replace. To replace Preferences objects, you must be on the SiteScope root object. To replace alert objects, right-click SiteScope root, or the relevant group or monitor object. Select **Global Search and Replace** from the context menu. In System Availability Management Administration, select **Admin > System Availability Management** and click the **Global Search and Replace** button. **Note:** You may be prompted to enter your user login credentials when you click the **Help** button in any page of the wizard.
Included in Tasks	"Perform a Global Search and Replace" on page 148
Wizard Map	The Global Search and Replace wizard includes: Select SiteScope Page (when working in System Availability Management Admin) > Select Type Page > Select Subtype Page > Replace Mode Page > Choose Changes Page > Affected Objects Page > (Advanced Filter Dialog Box) > Review Summary Page > Summary Page.

Select SiteScope Page

Description	Use the Select SiteScope Page to select the SiteScope on which to make replacements.
Important Information	➤ This page is displayed only when you are working in System Availability Management. ➤ Only SiteScopes running version 9.0 and higher and whose connection status allows configuration changes from System Availability Management are listed. ➤ You must select at least one SiteScope.
Wizard Map	The Global Search and Replace Wizard includes: **Select SiteScope Page** (when working in System Availability Management Admin) > Select Type Page > Select Subtype Page > Replace Mode Page > Choose Changes Page > Affected Objects Page > (Advanced Filter Dialog Box) > Review Summary Page > Summary Page.

Select Type Page

Description	Use the Select Type page to select the object type on which you want to make replacements.
Important Information	Only those types of objects available for the node you selected are listed.
Wizard Map	The Global Search and Replace Wizard includes: Select SiteScope Page (when working in System Availability Management Admin) > **Select Type Page** > Select Subtype Page > Replace Mode Page > Choose Changes Page > Affected Objects Page > (Advanced Filter Dialog Box) > Review Summary Page > Summary Page.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Alert **Alert Action** **Group** **Monitor** **Preferences** **Report**	You can select only one object type for each replace operation. Only those objects that exist in the SiteScope appear. When performing Global Search and Replace from System Availability Management Administration, group, monitor, alert, alert action, and preferences appear only if they exist on at least one SiteScope selected in the previous page.

Select Subtype Page

Description	Use the Select Subtype page to select the properties of the object type on which you want to make replacements.
Important Information	This page opens only if you selected **Alert Action, Monitor**, or **Preferences** as the object type in the Select Type Page of the wizard. If you selected the object type **Group, Alert,** or **Report**, this page does not open.
Wizard Map	The Global Search and Replace Wizard includes: Select SiteScope Page (when working in System Availability Management Admin) > Select Type Page > **Select Subtype Page** > Replace Mode Page > Choose Changes Page > Affected Objects Page > (Advanced Filter Dialog Box) > Review Summary Page > Summary Page.

Replace Mode Page

Description	Use the Replace Mode page to select the type of replacement: global replacement or replacement based on filter criteria.
Wizard Map	The Global Search and Replace Wizard includes: Select SiteScope Page (when working in System Availability Management Admin) > Select Type Page > Select Subtype Page > **Replace Mode Page** > Choose Changes Page > Affected Objects Page > (Advanced Filter Dialog Box) > Review Summary Page > Summary Page.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Advanced Filter...	Optionally, click to open the **Advanced Filter** dialog box if you want to further refine your selections. For details on the user interface, see "Advanced Filter Dialog Box" on page 166.
Find and Replace	Select to search the target objects for properties that match a string or regular expression and replace only the matching pattern with the replacement value. This method of replacement includes a search for specific settings and property values and replaces only those objects with the entered setting or value. You can select only a partial value and replace only that string. **Example**: Search for all monitors whose name value includes a server name that is no longer in use. Replace the string representing the old server with a new string representing the updated server. **Note**: ➤ If you select this option, only settings whose values can contain a string are available in the settings area of the **Choose Changes** page and can be selected for the find and replace action. ➤ Use this setting to determine the selection and the value to replace. It differs from the Advanced Filter option which is a way to limit the selected objects but not the value to replace.
Replace	Globally replaces all matching objects with the new string or value.

Choose Changes Page

Description	Use the Choose Changes page to select what to replace for the global replace. The wizard displays only the settings and properties that may be changed for the object type selected in the previous pages. The filter criteria is built from your selections in the Type, Subtype, and Advanced Filter pages.
Important Information	The subtype's properties may be displayed differently than how they are displayed when editing a monitor, alert, preference, and so forth in SiteScope. **Examples**: **Mail Preferences** is a text box in Global Search and Replace utility rather than a drop-down list, and the **Depends on** property is not displayed in the Global Search and Replace utility. **Note for users of SiteScope within System Availability Management Administration**: If the SiteScopes selected for the replace operation are not all the same version, the subtypes of the SiteScopes may have different properties.
Wizard Map	The Global Search and Replace Wizard includes: Select SiteScope Page (when working in System Availability Management Admin) > Select Type Page > Select Subtype Page > Replace Mode Page > **Choose Changes Page** > Affected Objects Page > (Advanced Filter Dialog Box) > Review Summary Page > Summary Page.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<**Settings area**>	This area includes the settings for the object you selected. For details about these settings, refer to the selected object's settings page. ➤ If you selected **Find and Replace** in the Replace Mode page, you select only the setting in the settings area. Enter the old and new values to replace in the **Find**/**Replace with** boxes. ➤ If you selected **Replace** in the Replace Mode page, you select the setting and the new value in the settings area. **Note:** If you selected **Monitor** in the Select Type page: ➤ In the **Threshold Settings** area, the **Override Category** option appears. When selected, this option enables you to override the threshold settings of the same threshold condition (**Error if**, **Warning if**, or **Good if**) for the selected monitor instances with the settings you enter here for the replace operation. If this option is cleared, the settings you enter here replace only those settings with the same operator type (< <=, > >=, !=, ==, contains, !contains) and the same configured schedule for the monitor instances. Any other settings for the same condition but with a different operator type or a different schedule remain. For details on this option and an example, see "Threshold Settings" on page 151.

GUI Element	Description
Find **Replace With**	If you chose the **Find and Replace** option in the Replace Mode page, the text boxes **Find** and **Replace With** are added to the top of this page. ➤ In the **Find** box, enter the search string, value, or regular expression pattern for the setting or property you want to replace. ➤ In the **Replace With** box, enter the string or value to which you want all matching patterns to be changed. **Note:** If you select **Frequency** in the Monitor Run Settings, the values you enter in the **Find** and **Replace With** text boxes must be in seconds. For example, you want to find monitors with a frequency of 10 minutes and change the frequency to 20 minutes. In the **Find** text box, enter 600 and in the **Replace With** text box enter 1200. If no objects are found that meet the filter criteria, an error message appears. Reselect your filter criteria.

Affected Objects Page

Description	Use the Affected Objects page to view the objects that you selected to change. The page displays the selected objects in tree format. You can clear or select objects in the Affected Objects tree for the replacement operation. ➤ If you selected **Find and Replace** in the Replace Mode page, replacements are made only if the filter criteria are matched. ➤ If you selected **Replace**, replacements are made in all selected objects.
Important Information	The objects displayed depend on whether the user has change permissions on those objects. ➤ When in System Availability Management Administration, the permissions are set in Business Availability Center's Permissions Management (**Admin** > **Platform** > **Users and Permissions**). ➤ When in SiteScope standalone, the permissions are set in **Preferences** > **User Preferences**.
Wizard Map	The Global Search and Replace Wizard includes: Select SiteScope Page (when working in System Availability Management Admin) > Select Type Page > Select Subtype Page > Replace Mode Page > Choose Changes Page > **Affected Objects Page** > (Advanced Filter Dialog Box) > Review Summary Page > Summary Page.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<Affected Objects tree>	The Affected Objects tree includes all objects that are matched against the various filter criteria selected in the previous pages of the wizard. Select or clear objects as required for the replace operation. **Note**: When using Global Search and Replace from System Availability Management Administration, a tree is displayed for each SiteScope selected.

Advanced Filter Dialog Box

Description	Enables you to select objects based on their specific settings and not only based on object type. For example: ➤ Select all alerts that have a defined category of critical and replace any setting for those alerts. ➤ Select all groups with a dependency set to a specific monitor or group and replace any setting for those groups. **To access:** Click the **Advanced Filter** button in the Replace Mode Page.
Important Information	Using this option only refines your selection for the replace and does not determine what to replace.
Wizard Map	The Global Search and Replace Wizard includes: Select SiteScope Page (when working in System Availability Management Admin) > Select Type Page > Select Subtype Page > Replace Mode Page > Choose Changes Page > Affected Objects Page > (**Advanced Filter Dialog Box**) > Review Summary Page > Summary Page.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<**Settings areas**>	The setting areas pertinent to the object you selected are displayed. For details about these settings, refer to the selected object's settings page. Select the properties and enter the values by which to filter the selected objects.

Review Summary Page

Description	Use the Review Summary page to preview the objects on which the replacement operation is performed. When working with multiple SiteScopes in System Availability Management Administration, a table is displayed for each SiteScope and the name of the SiteScope appears above the table.
Important Information	➤ The number of objects that are affected by the global replacement is displayed above the table. ➤ Each table column can be sorted in ascending or descending order by right-clicking the column title. An up or down arrow indicates the sort order. ➤ Once you click **Finish** in this page, you cannot undo the replacement operation.
Wizard Map	The Global Search and Replace Wizard includes: Select SiteScope Page (when working in System Availability Management Admin) > Select Type Page > Select Subtype Page > Replace Mode Page > Choose Changes Page > Affected Objects Page > (Advanced Filter Dialog Box) > **Review Summary Page** > Summary Page.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Change the sort order in the columns by clicking the up and down arrow in the column title. **Default:** The **Monitor Full Name** column is in alphabetical order, from top to bottom.
Monitor Full Name	The name format is <group name>/<monitor name>.
Property	The box name that you marked in the Choose Changes page that changes as a result of the replace operation.
Previous Value	The current value that changes as a result of the replace operation.
New Value	The new value that you entered in the Choose Changes page.

Summary Page

Description	The Summary page reports the changes that were implemented successfully and those in which errors occurred. The page displays the changes in table format. When working with multiple SiteScopes in System Availability Management Administration, a table is displayed for each SiteScope and the name of the SiteScope appears at the top of the table.
Important Information	➤ There is no way to undo changes made by the replace operation. ➤ The number of objects affected by the global replacement is given above the table. ➤ Each table column can be sorted in ascending or descending order by right-clicking the column title. An up or down arrow indicates the sort order.
Wizard Map	The Global Search and Replace Wizard includes: Select SiteScope Page (when working in System Availability Management Admin) > Select Type Page > Select Subtype Page > Replace Mode Page > Choose Changes Page > Affected Objects Page > (Advanced Filter Dialog Box) > Review Summary Page > **Summary Page**.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Change the sort order in the columns by clicking the up and down arrow in the column title. **Default:** The **Monitor Full Name** column is in alphabetical order, from top to bottom.
Monitor Full Name	The name format is <group name>/<monitor name>.
Property	The box name that you marked in the Choose Changes page that changed as a result of the replace operation.

GUI Element	Description
Previous Value	The value that was replaced in the global replace operation.
New Value	The new value that resulted from the global replace operation.
	Click to open a printer-friendly version of the results. This version can then be printed, sent via e-mail, converted into a format for editing, such as Microsoft Word, and saved.
OK	Closes the wizard. You return to System Availability Management Administration.

7

Tools for Troubleshooting

When SiteScope reports a problem with a monitored system or you are having difficulty configuring a monitor, it is useful to have some resources to troubleshoot and diagnose problems. SiteScope provides a number of tools to help you uncover issues and facilitate monitor configuration.

This chapter includes:

Concepts

Reference

SiteScope Tools Overview

SiteScope provides a number of utilities that are useful to test the monitoring environment. Use these tools to make a variety of requests and queries of systems you are monitoring and to view detailed results of the action. Requests may include simply testing network connectivity or verifying login authentication for accessing an external database or service.

The following tables list the diagnostic tools that are available. See the applicable sections for more information about these tools.

Application Diagnostic Tools

Tool Name	Description
DNS Lookup Tool	Test a DNS server to verify that it can resolve a domain name. (Includes access to a Traceroute tool to test network routing.). For more information, see "DNS Lookup Tool" on page 175.
Database Connection Tool	Check connectivity and configuration of JDBC or ODBC database connections. For more information, see "Database Connection Tool" on page 176.
Database Information Tool	Retrieve and display database server metadata such as product and driver version, SQL compatibility level information, and supported SQL functions. For more information, see "Database Information Tool" on page 179.
FTP Server Tool	Check the availability of an FTP server and whether a file can be retrieved. For more information, see "FTP Server Tool" on page 181.
Get URL Tool	Request a URL from a server and prints the returned data. Includes access to a Trace Route Tool to test network routing. For more information, see "Get URL Tool" on page 183.
Mail Round Trip Test Tool	Test a mail server by sending and retrieving a test message. For more information, see "Mail Round Trip Test Tool" on page 187.
Ping Tool	Perform a round-trip Ping test across the network. Includes access to a Traceroute tool to test network routing. For more information, see "Ping Tool" on page 195.
Trace Route Tool	Perform a traceroute from your server to another location. For more information, see "Trace Route Tool" on page 206.
SNMP Browser Tool	Browse an SNMP MIB and view available OIDs. For more information, see "SNMP Browser Tool" on page 200.

Tool Name	Description
SNMP Tool	Performs a SNMP get command to a specified SNMP host to retrieve a list of OIDs. For more information, see “SNMP Tool” on page 203.
SNMP Trap Tool	View the log of SNMP Traps received by SiteScope from SNMP-enabled devices. For more information, see “SNMP Trap Tool” on page 204.
URL Sequence Tool	Retrieve a sequence of URLs. For more information, see “URL Sequence Tool” on page 207.
Web Service Tool	Test the availability of SOAP enabled Web Services. For more information, see “Web Service Tool” on page 210.
XSL Transform Tool	Test custom XSL transformation of XML data to be monitored with the Browsable XML Monitor. For more information, see “XSL Transform Tool” on page 214.

Server Diagnostic Tools

Tool Name	Description
Network Tool	Display the server's network interface status and active connections. For more information, see “Network Tool” on page 191.
Processes Tool	Show a list of currently running processes either locally or on a remote server. For more information, see “Processes Tool” on page 196.
Services Tool	Show a list of currently running Windows Services. For more information, see “Services Tool” on page 198.

Advanced Diagnostic Tools

Tool Name	Description
News Server Tool	Check whether a News Server is operational. For more information, see "News Server Tool" on page 192.
Event Log Tool	Display portions of the Windows Event Log locally or on a remote server. For more information, see "Event Log Tool" on page 180.
LDAP Authentication Tool	Test an LDAP server by requesting a user authentication. For more information, see "LDAP Authentication Tool" on page 185.
Performance Counters Tool	Check connectivity to and values in Win NT Performance Counter registries. For more information, see "Performance Counters Tool" on page 193.
Regular Expression Tool	Test a regular expression for content matching against a sample of the content you want to monitor. For more information, see "Regular Expression Tool" on page 197.

SiteScope Tools User Interface

Description	Displays a list of diagnostic tools that can help you troubleshoot problems in SiteScope and facilitate monitor configuration. **To access:** In the monitor or template tree toolbar, click the **Tools** button.
Important Information	Tools are available for selected monitors only. To avoid character set problems when the SiteScope client uses a multibyte locale different from the SiteScope server, set the value in the **master.config** file for the **_httpCharset** setting to **UTF-8**. By default, the **_httpCharset** value is empty, which means that the default server locale is used.
Useful Links	"SiteScope Tools Overview" on page 171

This section includes the pages that are part of the SiteScope diagnostic tools user interface.

DNS Lookup Tool

Description	Looks up names from a Domain Name Server and shows you the IP address for a domain name. It also shows you information about the name servers for a domain. You can use this utility to verify that your DNS server is returning the correct addresses for your own servers. You can also use it to verify that it is able to look up the addresses for external domains. The DNS Lookup form provides a gateway to the standard nslookup program. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **DNS Lookup Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The DNS Lookup Tool page includes the following elements:

GUI Element	Description
DNS Address	Enter the IP address of a DNS server. To check the local DNS server, enter LOCAL.
Host Name	Enter the domain name.
DNS Lookup	Click to initiate the test. The tool sends the request to the DNS server entered in the DNS Address text box and displays the IP address for the host name entered in the Host Name text box. The results of DNS Lookup are displayed beneath the button.

Database Connection Tool

Description	The Database Connection diagnostic tool is used to test and verify connectivity between SiteScope and an external ODBC or JDBC compatible database. This diagnostic tool checks to see if: ➤ the supplied database driver can be found and loaded ➤ a connection can be made to the database ➤ an optional SQL query can be run and the results displayed ➤ the database connection and resources can be closed This tool can be useful in verifying connection parameter values needed to set up database monitors, database alerts, and database logging. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **Database Connection Tool**.
Important Information	If exceptions or errors occur during the test, the information is printed along with suggested actions to help with troubleshooting.
Useful Links	“SiteScope Tools Overview” on page 171

The Database Connection Tool page includes the following elements:

GUI Element	Description
Database Connection URL	Enter the connection URL to the database you want to connect to. The syntax is jdbc:oracle:thin:@<server name or ip address>:<database server port>:<sid>. **Example:** To connect to the ORCL database on a machine using port 1521, enter jdbc:oracle:thin:@206.168.191.19:1521:ORCL. The colon (:) and @ symbols must be included as shown. **Note:** If you want to access the database using Windows authentication, enter jdbc:mercury:sqlserver://<server name or IP address>:1433DatabaseName=<database name>; AuthenticationMethod=type2 as the connection URL, and com.mercury.jdbc.sqlserver.SQLServerDriver as your database driver. Leave the **Database User Name** and **Database Password** boxes empty so that the credentials of the currently logged on Windows user (the account from which SiteScope service is running) are used to establish a connection to the database.
Database Driver	Enter the JDBC or ODBC driver that SiteScope should use. The .jar file or library containing the .class file must be installed in the **<SiteScope root directory>\java\lib\ext** directory. To use a database other than jdbc:odbc:orders, you must install the driver files into the proper directory before SiteScope can use them.
Database User Name	Enter the user name required to connect to the database.
Database Password	Enter the password required to connect to the database.
Query	(Optional) Enter a SQL query to run on the database. If you do not supply a SQL query string, the driver is loaded and the connection to the database is tested but no query is run.
Results Set Max Columns	If you have entered a SQL Query, enter the maximum number of columns to display in the query result set.

GUI Element	Description
Results Set Max Rows	If you have entered a SQL Query, enter the maximum number of rows to display in the query result set.
Connect and Execute Query	Click to run the connection test. Connection results are shown beneath the button.

The following is an example of the data returned from a successful database connection with a SQL query (limited to one row).

server Name	group ID	frame Index	frame ID	setting Name	setting Line	line Chunk	chunk Value
10.0.0.157	master.config	1	_config	_databaseMaxSummary	1	1	200

Database Information Tool

Description	The Database Information diagnostic tool is used to display database server metadata such as product and driver version, SQL compatibility level information, and supported SQL functions. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **Database Information Tool**.
Important Information	Different database drivers and user names can significantly change what information is displayed.
Useful Links	"SiteScope Tools Overview" on page 171

The Database Information Tool page includes the following elements:

GUI Element	Description
Database Connection URL	Enter the connection URL to the database you want to connect to. The syntax is jdbc:oracle:thin:@<server name or ip address>:<database server port>:<sid>. **Example:** To connect to the ORCL database on a machine using port 1521, enter jdbc:oracle:thin:@206.168.191.19:1521:ORCL. The colon (:) and @ symbols must be included as shown.
Database Driver	Enter the JDBC or ODBC driver that SiteScope should use. The .jar file or library containing the .class file must be installed in the **<SiteScope root directory>\java\lib\ext** directory. To use a database other than jdbc:odbc:orders, you must install the driver files into the proper directory before SiteScope can use them.
Database User Name	Enter the user name required to connect to the database.
Database Password	Enter the password required to connect to the database.
Get Database Info	Click to display database information. Connection results are shown beneath the button.

Event Log Tool

Description	Displays portions of the Windows event log locally or on a remote server. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **Event Log Tool**.
Important Information	Different database drivers and user names can significantly change what information is displayed. This tool is not supported on SiteScopes installed on UNIX platforms.
Useful Links	"SiteScope Tools Overview" on page 171

The Event Log Tool page includes the following elements:

GUI Element	Description
Server Name	Enter the name of that server for which you want to view event logs. **Default value:** The Event Log tool displays entries for the server on which SiteScope is installed.
Event Log	Choose which type of log file you want to view: ➤ System ➤ Application ➤ Security ➤ Directory Service ➤ DNS ➤ File Replication Service **Default value:** System
Entries To Show	The number of entries to list for this event log. The most recent entries in the log are displayed first. **Default value:** 10
Show Event Log Entries	Click to complete the action and refresh the log entry listing. Log entries are displayed beneath the button.

FTP Server Tool

Description	Use to access an FTP server and view the interaction between SiteScope (acting as an FTP client) and the FTP server. For example, if you receive an alert from SiteScope indicating that your FTP server is not working properly, the first step is to use this tool to help track down the problem. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **FTP Server Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The FTP Server Tool page includes the following elements:

GUI Element	Description
FTP server	Enter the IP address or the name of the FTP server that you want to test. **Example:** 206.168.191.22 or ftp.thiscompany.com
File name	Enter the file name to retrieve. **Example:** /pub/docs/mydoc.txt
User name	Enter the name used to log into the FTP server.
Password	Enter the password used to log into the FTP server.
Use Passive	Select this check box to have SiteScope use a passive FTP connection. This is commonly required to access FTP servers through a firewall.
Proxy	Enter the proxy name or IP address if you want to use a proxy server for the FTP test.
Proxy User Name	Enter the name used to log into the proxy server.
Proxy Password	Enter the password used to log into the proxy server.
Check FTP Server	Click to initiate the test. Check FTP server results are displayed beneath the button.

The following is a sample output from the Check FTP Server tool. In this case, the FTP server allowed us to log on without a problem, indicating that the server is running and accepting requests. The failure is caused when the server was unable to locate the file that was requested: file.txt. Correcting this particular problem may be as easy as replacing the missing file or verifying the file location.

```
Received: 220 public Microsoft FTP Service (Version 2.0).
Sent:     USER anonymous
Received: 331 Anonymous access allowed, send identity (e-mail name) as password.
Sent:     PASS anonymous
Received: 230 Anonymous user logged in.
Sent:     PASV
Received: 227 Entering Passive Mode (206,168,191,1,5,183).
Connecting to server 206.168.191.1 port 1463
Sent:     RETR file.txt
Received: 550 file.txt: The system cannot find the file specified.
Sent:     QUIT
Received: 221
```

Get URL Tool

Description	Use to retrieve an item from a Web server. The URL specifies the server to contact and the item to return. Because SiteScope displays the content of the requested URL, this tool also functions to check URL Content. You can use this utility to verify that a given URL can be accessed from a Web server. You can also use it to see how long it takes for the page to be returned. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **Get URL Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The Get URL Tool page includes the following elements:

GUI Element	Description
URL	Enter the URL that you want to test. **Example:** http://demo.company.com
URL Content Encoding	Encoding compresses the content before it is sent to the client. The content is decoded by the client. If you use more than one encoding, they must be separated by commas (,) and in the exact order in which they are to be performed on the URL content. **Example:** ISO8859-1
User name	If the URL specified above requires a name and password for access, enter the user name.
Password	If the URL specified requires a name and password for access, enter the password.
Domain (only on Windows platform)	Enter the domain name of the SiteScope server.
Use NTLM V2	Check this parameter if you want to use NTLM (Windows NT LAN Manager) version 2 to authenticate user logon.

GUI Element	Description
Proxy	Optionally, a proxy server can be used to access the URL. Enter the address or domain name and port of an HTTP Proxy Server.
Proxy User Name	Enter the name used to log into the proxy server.
Proxy Password	Enter the password used to log into the proxy server.
Proxy Use NTLM V2	Check this parameter if the proxy uses NTLM (Windows NT LAN Manager) version 2 to authenticate user logon.
Content Match	Enter a string of text to check for in the returned page or frame set. If the text is not contained in the page, the content match fails. The search is case sensitive. HTML tags are part of a text document, so you must include the HTML tags if they are part of the text you are searching for (for example, "< B> Hello< /B> World").
Error Content Match	Enter a string of text to check for in the returned page or frame set. If the text is contained in the page, the test indicates an error condition. The search is case sensitive.
Retrieve Frames	Check this option to have SiteScope display the HTML code of a frame linked to the URL being requested.
Retrieve Images	Check this option to have SiteScope list the images such as graphics, logos, and so on linked to the URL being requested.
Get URL	Click to initiate the test. URL results are displayed beneath the button. The results include statistics on the URL retrieval as well as a text representation of the URL content.

LDAP Authentication Tool

Description	Verifies that a Lightweight Directory Access Protocol (LDAP) server can authenticate a user by performing a simple authentication. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **LDAP Authentication Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The LDAP Authentication Tool page includes the following elements:

GUI Element	Description
Security Principal	Enter the constant that holds the name of the environment property for specifying the identity of the principal that authenticates the caller to the service. The format of the principal depends on the authentication scheme. If this property is unspecified, the behavior is determined by the service provider. This should be in the format: uid=testuser,ou=TEST,o=mydomain.com. **Note:** SiteScope does not support users that contain one or more of the following character inside the users name: equal ("="), semi-colon (";"), inverted commas ("").
Security Credential	Enter the constant that holds the name of the environment property for specifying the credentials of the principal for authenticating the caller to the service. The value of the property depends on the authentication scheme. For example, it could be a hashed password, clear-text password, key, certificate, and so on. If this property is unspecified, the behavior is determined by the service provider.

GUI Element	Description
URL Provider Address	Enter the constant that holds the name of the environment property for specifying configuration information for the service provider to use. The value of the property should contain a URL string. This property may be specified in the environment, an applet parameter, a system property, or a resource file. If it is not specified in any of these sources, the default configuration is determined by the service provider. **Example:** ldap://<somehost>:389
LDAP Query	Use this box to enter an object query to look at a LDAP object other than the default user **dn** object. You must enter a valid object query in this text box if you are using a LDAP filter. For details about the search filter, see the description below. **Example:** Enter the mail object to check for an e-mail address associated with the **dn** object entered above.
Search Filter	Enter a search filter in this text box to perform a search using a filter criteria. The LDAP filter syntax is a logical expression in prefix notation meaning that logical operator appears before its arguments. **Example:** The item sn=Freddie means that the **sn** attribute must exist with the attribute value equal to Freddie. Multiple items can be included in the filter string by enclosing them in parentheses, such as (sn=Freddie) and combined using logical operators such as the & (the conjunction operator) to create logical expressions. **Example:** The filter syntax (& (sn=Freddie) (mail=*)) requests LDAP entries that have both a sn attribute of Freddie and a mail attribute.
LDAP Authentication Test	Click to initiate the test. LDAP Authentication test results are displayed beneath the button.

Mail Round Trip Test Tool

Description	Checks a Mail Server by using the network and verifies that the mail server is accepting requests and that a message can be sent and retrieved. It does this by sending a standard mail message using SMTP and then retrieving that same message by using a POP user account. Each message that SiteScope sends includes a unique key which it checks for to insure that it does not retrieve the wrong message and return a false OK reading. **To access:** In the monitor or template view, click the **Tools**  button to display the SiteScope Tools dialog box, and then click **Mail Round Trip Test**.
Useful Links	"SiteScope Tools Overview" on page 171

The Mail Round Trip Test Tool page includes the following elements:

GUI Element	Description
Message	Select the action to take: ➤ **Send and Receive.** Allows you to send a test message to an SMTP server and then receive it back from the POP3 or IMAP4 server to check that the mail server is up and running. (Default) ➤ **Receive Only.** Checks the incoming POP3 or IMAP4 mail servers for a message that was sent previously. This check is done by matching the content of the previously-sent message. **Note:** If this option is selected, the Content Match text box must have a value to match against. ➤ **Send Only.** Checks that the receiving mail server has accepted the message.
Send To Address	Enter the mail address to which the test message should be sent. This should be the address for the POP account specified in the **Mail Server User Name** box. **Example:** If you specified support as the Mail Server User Name, the Send To Address might be support@mycompany.com.
Sending Mail Server (SMTP)	Enter the host name of the SMTP mail server to which the test mail message should be sent. **Example:** mail.thiscompany.com
Receiving Server Type	Select the protocol used by the receiving mail server. Use the POP3 option to check the POP3 mail server for a sent message. Use the IMAP4 option to check the IMAP mail server for a sent message. **Default value:** POP3
Receiving Mail Server	Enter the host name of the POP mail server that should receive the test message. This can be the same mail server to which the test message was sent. **Example:** mail.thiscompany.com

GUI Element	Description
Receiving Mail Server User Name	Enter a POP user account name. A test e-mail message is sent to this account and the Mail monitor logs in to the account to verify that the message was received. No other mail in the account is touched. You can use your own personal mail account or another existing account for this purpose. **Note:** If you use an e-mail reader that automatically retrieves and deletes messages from the server, there is a chance that the Mail Monitor never sees the mail message and reports an error.
Receiving Mail Server Password	Enter a password, if necessary, for the test mail account.
NTLM Authentication	If NTLM authentication is used by the e-mail server, select the NTLM version (version 1 or 2). **Default value:** none
Timeout	The number of seconds to wait for a mail message to be received before timing-out. **Default value:** 300
Retrieve Pause	After SiteScope sends the test message, it immediately logs into the mail account to verify that the message has been received. If the message has not been received, SiteScope automatically waits a specified number of seconds before it checks again. **Default value:** 10

GUI Element	Description
Content Match	Enter a string of text to match against the contents of the incoming message. If the text is not contained in the incoming message, the monitor is in error. This is for the receiving only option (for example, Subject:MySubject). The search is case sensitive. HTML tags are part of a text document, so include the HTML tags if they are part of the text you are searching for (for example, "< B> Hello< /B> World"). This works for XML pages as well. You can perform a regular expression match by enclosing the string in forward slashes, with an i after the trailing slash indicating case-insensitive matching. An example might be "/href=Doc\d+\.html/" or "/href=doc\d+\.html/i". If you want a particular piece of text to be saved and displayed as part of the status, use parentheses in a regular expression (for example, /Temperature: (\d+)/). This returns the temperature as it appears on the page and can be used when setting an Error if or Warning if threshold.
Show Details	Select this box if you want details of the round trip test to be displayed
Check Mail Server	Click to initiate the test. Check mail server test results are displayed beneath the button.

Network Tool

Description	The Network Tool reports the current network interface statistics and lists the active network connections. This information can be useful to determine the health of you network interface. You can also use this tool to track down problems where network connections are being left open or runaway conditions where an increasing number of connections are being opened without being closed. **To access:** In the monitor or template view, click the **Tools**  button to display the SiteScope Tools dialog box, and then click **Network Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The Network Tool page includes the following elements:

GUI Element	Description
Run Network	The Network Tool runs once when it is opened and reports the network information. Click to update the data returned by the network tool. The data is displayed beneath the button.

News Server Tool

Description	You can use the Check News Server as a tool to access a news server and view the NNTP interaction between SiteScope (acting as a news client) and the news server. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **News Server Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The News Server Tool page includes the following elements:

GUI Element	Description
News Server	Enter the name of the News server in the format news.sitescope.com or news.sitescope.com:7777.
News groups	(Optional) Enter one or more news groups. Separate multiple news group names by commas (",").
User name	If the News server specified above requires a name and password for access, enter the user name.
Password	If the News server specified above requires a name and password for access, enter the password.
Check News Group	Click to initiate the test. The results of the test are displayed beneath the button.

Performance Counters Tool

Description	The Performance Counter Test is a tool that you can use to check performance counters on a specific machine in a Windows NT/2000 network. It provides an interface to the **perfex.exe** executable supplied as part of SiteScope. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **Performance Counters Tool**.
Important Information	This tool is not supported on SiteScopes installed on UNIX platforms.
Useful Links	"SiteScope Tools Overview" on page 171

The Performance Counters Tool page includes the following elements:

GUI Element	Description
Machine Name	Enter a machine name to list all NT performance counter objects available on that machine. A double slash ("\\") is automatically prefixed to any machine name supplied. **Default value:** localhost
Admin User Account/ Password	Enter the administrative user name and password for the machine you want to query. This is only necessary if you running SiteScope under an account that does not have administrative privileges to access performance counters for the domain or workgroup to which you are trying to connect. If the test indicates you are required to supply a password, it means that the remote machine requires authorization to access the performance counter registry.

GUI Element	Description
Counter Object Name	Select the counters to list. This box displays one of the following values: ➤ **Choose a counter object.** Click the **List Objects and Enumerate Counters** button to display the individual NT performance counters and corresponding values for the selected counter object. ➤ **NO COUNTER OBJECTS AVAILABLE using this user name and password**. You must provide a user name and password to see the counter objects. The remote machine you are connecting to does not recognize the user that the SiteScope service is currently running as **VALID user with local admin rights**. If you have the correct user name and password, click the **List Objects and Enumerate Counters** button to update the display. ➤ **<One of the counter objects available on the machine named in the Machine Name box>**. A counter selection has already been made. The data for that counter is displayed in the table in the lower portion of the page. The table shows the counter name, the value, and a description of the counter provided by the counter registry.
List Objects and Enumerate Counters	Click to display the individual NT performance counters and corresponding values for the selected counter object. This information is displayed beneath the button.

Ping Tool

Description	Ping is a tool that sends a packet to another location and back to the sender. It shows you the round-trip time along the path. When there is a problem with the network, ping can tell you if another location can be reached. The Ping tool does a ping from the current server to another location. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **Ping Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The Ping Tool page includes the following elements:

GUI Element	Description
Domain Name or IP address	Enter the domain name or IP address of the location you want to ping in the text box. **Example:** demo.thiscompany.com or 206.168.112.53
Ping	Click to ping the domain name or IP address. The results of the test are displayed beneath the button.

Processes Tool

Description	The Processes tool displays processes running on the server where SiteScope is installed. This can be useful to confirm that critical processes are available. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **Processes Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The Processes Tool page includes the following elements:

GUI Element	Description
Server	By default, SiteScope displays the processes running on this server. To view the processes running on another NT server, enter the name of that server. For example, \\TEST. If there are remote UNIX machines defined they are displayed in a drop-down selection. You can select a Remote UNIX to see the processes running on the remote computer. You cannot enter a Remote UNIX in the entry box.
Show Processes	Click to initiate the test. The results of the test are displayed beneath the button.

Regular Expression Tool

Description	Enables you to perform a regular expression match. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **Regular Expression Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The Regular Expression Tool page includes the following elements:

GUI Element	Description
Your Text that will be matched	Cut and paste a portion of text containing the string or values on which you want to perform a regular expression match into this box. For efficiency in developing regular expressions, you should include all of the content that would precede the target data or pattern that you want to match. For example, when developing a regular expression for content matching on a Web page, you should use the Get URL Tool to retrieve the entire HTTP content including the HTTP header.
Your Regular Expression	Enter a regular expression between the slashes //, to match some part of the text you entered. **Note:** For content with multiple lines with carriage returns and line feeds, consider adding the **s** search modifier to the end of the expression to have the content treated as a single line of text. **Example:** /value:\W[\d]{2,6}/s
Test Your Match	Click to perform the test. The results of the match test are displayed beneath the button. If there is a problem with your regular expression, an error message is displayed.

Parsed Parentheses and Matches Table

This section includes a table that displays any matches requested as retained values or back references by pairs of parentheses inside the regular expression. If your expression does not include parentheses, this table is empty. The columns of the parsed parentheses table are:

GUI Element	Description
Parentheses counted from left	Displays any patterns in the regular expression delimited by parentheses as counted from the left-hand side of the expression.
Matching text	Displays the text that matched the parenthesis marked patterns listed in the column to the left.
Whole Match Between Slashes	This is the text area below the table. It echoes the entire content entered in the **Your Text that will be matched** box. The content that matched the pattern in your regular expression is highlighted within this content, normally using a blue font. This is useful for showing possible problems with wildcard expressions like the .* pattern that match too much content. It can also uncover problems of duplicate patterns within the content that require you to add other unique patterns to your expression to match the desired portion of the content.

Services Tool

Description	Displays services running on the server where SiteScope is installed. This can be useful to confirm that critical services are available. If Remote UNIX machines have been defined, they are listed in a drop-down menu. **To access:** In the monitor or template view, click the **Tools**  button to display the SiteScope Tools dialog box, and then click **Services Tool**.
Important Information	This tool is not supported on SiteScopes installed on UNIX platforms.
Useful Links	"SiteScope Tools Overview" on page 171

The Services Tool page includes the following elements:

GUI Element	Description
Server	By default, SiteScope displays the services running on this server. To view the services running on another NT server, enter the name of that server in the **Other Server** box. For example, \\TEST. If there are remote UNIX machines defined they are displayed in a drop-down selection. You can select a Remote UNIX to see the services running on the remote computer. You cannot enter a Remote UNIX in the entry box.
Show Services	Click to initiate the test. The results of the test are displayed beneath the button.

SNMP Browser Tool

Description	The SNMP Browser Tool provides a browsable tree representation of an SNMP agent's MIB. It can be used to verify the connection properties of an SNMP agent and to gain more information about the MIBs which that agent implements. This tool operates by traversing all of the OIDs on a given agent and then using the MIB information in the **<SiteScope root directory>\templates.mib** directory to build a tree-structured XML representation of the OIDs. Included in the XML tree are the textual and numeric names of the OIDs, their descriptions (if available), and their values at the time of traversal. The XML is displayed in a separate browser window, using the browser's default display for XML data. For IE and Netscape/Mozilla browsers, this default display is in the form of a collapsible, hierarchical tree. If errors occur during the MIB traversal, an error message describing the problem is printed in the new window (instead of XML). The SNMP by MIB Tool is intended to help in configuring any of the SNMP-based monitors, including, SNMP by MIB Monitor, SNMP Monitor, Cisco Works Monitor, and F5 SNMP Monitor. **To access:** In the monitor or template view, click the **Tools**  button to display the SiteScope Tools dialog box, and then click **SNMP Browser Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The SNMP Browser Tool page includes the following elements:

GUI Element	Description
Host or IP Address	Enter the host name or IP address of the device on which the SNMP agent is running.
Port	Enter the port on which the SNMP agent is listening. **Default value:** 161

GUI Element	Description
MIB	Choose the MIB that you want to view. If you select **All MIBs**, then all data obtained during the MIB traversal is displayed. If you select a specific MIB, then only the OIDs within that MIB are displayed. This list of MIBs can be updated or extended by placing new MIB files in the **<SiteScope root directory>\templates.mib** directory. **Default value:** All MIBs
Starting OID	Use this option when selecting counters for this monitor. When the monitor attempts to retrieve the SNMP agent's tree, it starts with the OID value that is entered in this box. The default value is 1, which is commonly used and applicable to most applications. You should edit this box only when attempting to retrieve values from an application that does not handle OIDs starting with 1. If the default value of 1 did not enable retrieving any counters, then you may have to enter a different value in this box.
Version	Select the version of SNMP which the tool should use when connecting to the agent. **Default value:** V1
V1/V2 Community	For version 1 or 2 connections, enter the community string to use when connecting to the SNMP agent. **Default value:** public
V3 Authentication Type	Select the type of authentication to use for a version 3 connection. **Default value:** MD5
V3 Username	Enter the user name for a version 3 connection.
V3 Authentication Password	Enter the password to use for authentication in a version 3 connection.
V3 Privacy Password	Enter the password to use for DES privacy encryption in a version 3 connection. Leave this box blank if no privacy is desired.

GUI Element	Description
V3 Context Engine ID	Enter a hexidecimal string representing the Context Engine ID to use for this connection. This is applicable for SNMP V3 only.
V3 Context Name	Enter the Context Name to use for this connection. This is applicable for SNMP V3 only.
Browse	Click to open a new window containing a browsable view of the MIB (in XML).

SNMP Tool

Description	The SNMP tool lets you query a SNMP Management Information Base (MIB) and retrieve a set of OIDs. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **SNMP Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The SNMP Tool page includes the following elements:

GUI Element	Description
IP Address	Enter the IP Address of the server that hosts the SNMP MIB you want to query.
Next OID	Enter the OID of the next OID that should be retrieved.

GUI Element	Description
Index	Enter the index of the SNMP object. Values for an OID come as either scalar or indexed (array) values. For a scalar OID, the index value must be set to 0. For an indexed value, you must provide the index (a positive integer starting with 1) to the element that contains the value you want. **Example:** OID 1.3.6.1.2.1.2.2.1.17 is an indexed value that contains four elements. To access this second element of this OID, enter an index of 2 in this text box. **Default value:** 0
Community	Enter the Community string for the SNMP device. **Default value:** public
Version (V1 or V2)	Select the SNMP version used by the SNMP host you want to test. SiteScope supports both SNMP version 1 and version 2. **Default value:** V1
Number of Records to get	Enter the number of OID records to retrieve. **Default value:** 1
Next Block of OIDs	Click to perform the query. The results of the test are displayed beneath the button.

SNMP Trap Tool

Description	Lets you view SNMP Traps received by SiteScope's SNMP listener. The tool is only enabled if you have already created one or more SNMP Trap Monitors. Creating an SNMP Trap Monitor enables the SiteScope SNMP Trap Log. **To access:** In the monitor or template view, click the **Tools**  button to display the SiteScope Tools dialog box, and then click **SNMP Trap Tool**.

Important Information	The message **Receiving SNMP Traps is not active** is displayed at the top of the tool page if the SNMP Trap Log is not currently active.
Useful Links	"SiteScope Tools Overview" on page 171

The SNMP Trap Tool page includes the following elements:

GUI Element	Description
Traps To Show	Enter the number of SNMP Traps to list. The most recent SNMP Traps received by SiteScope are displayed first. **Default value:** 10
Content Match	Enter an optional text string or regular expression to be used to match entries in the SNMP Trap Log. Content matching can be done for data from any of the columns of the log such as OID, Community, Agent, and so on. The SNMP traps in the SiteScope SNMP Trap Log are displayed in the SNMP Trap Log table. The number of traps matching the search criteria are displayed in the SNMP Trap Log table title displayed in the lower part of the page.
Show SNMP Trap Log Entries	Click to view the log based on the search criteria you have entered. The results of the test are displayed beneath the button.

Trace Route Tool

Description	Trace Route is a tool that shows you the network path between two locations and how long it takes to get to each hop in the path. When there is a problem with the network, traceroute can often be used to narrow down where the problem is occurring. This tool performs a traceroute from your server to another location. You can use this utility to verify connectivity of a host and to determine how the host is connected to the Internet. You can also determine the path taken from your server to the specified host. This helps you to determine where packet loss may be occurring when you attempt to connect to hosts elsewhere on the Internet. **To access:** In the monitor or template view, click the **Tools**  button to display the SiteScope Tools dialog box, and then click **Trace Route Tool**.
Important Information	You can use this tool to perform a traceroute on Windows platforms only. For UNIX, you must stop the SiteScope process, add the path of the traceroute utility (for example /usr/sbin/traceroute) to the **Traceroute command** box in Infrastructure Settings Preferences, and then restart SiteScope.
Useful Links	"SiteScope Tools Overview" on page 171

The Trace Route Tool page includes the following elements:

GUI Element	Description
Domain Name or IP address	Enter the domain name or IP address of the other location. **Example:** demo.thiscompany.com or 206.168.112.53
Trace Route	Click to initiate the action. The results of the test are displayed beneath the button.

URL Sequence Tool

Description	Simulates a user's session across several pages. An example of this would be entering an account name by using a Web form, checking an account status for the page that is returned, and then following a sequence of links through several more pages. A URL Sequence is specified by giving a URL to start at and then specifying either additional URLs, or more commonly, links or buttons to follow. For each step you may specify a match or error string to search for, a user name and password to type, and POST data for that step. The URL Sequence tool returns the status and time taken for each step in the sequence. It also embeds a copy of the page returned at each step of the sequence in it is output so that a more graphical view of the sequence can be viewed. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **URL Sequence Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The URL Sequence Tool page includes the following elements:

GUI Element	Description
Step 1 - Reference	Select the type of object or target from the drop-down list in the first column. This represents the either a Web page, a hyper link, form element, and so on, that defines the sequence path. The type for Step 1 should always be a URL. Enter the specific URL of the first page in the sequence that you want SiteScope to complete. **Example:** If you want SiteScope to test your order process, you might enter a URL such as https://www.securecompany.com/order.html.
Step (2 thru N) - Reference	From Step 2 on, you must tell SiteScope what you want it to do next. In the Type column, tell SiteScope what type of item to look for in this step. For example, if SiteScope is to do the equivalent of selecting a submit button, you would choose the **Form - match the displayed name of a Submit button**. SiteScope uses this information to scan the HTML for the proper text matches. Enter the URL, link, or Submit button to be followed in the second column for this step. For example, if SiteScope should follow the Submit button on the page and the name on the button (its value) is Place My Order, enter Place My Order in this text box. To instruct SiteScope to follow a link on the page, enter the text of the link. For example, if the link says Next, enter the word Next in this text box. You can also enter in a full URL. If an image is used as the Submit button, you must enter the name value for the image. You find this name value by looking at the HTML for the form. The URL Sequence Monitor Settings panel gives you the ability to customize error and warning thresholds, or complete other optional settings.

GUI Element	Description
POST Data	If this step contains a URL for a POST request, enter the post variables, one per line as name=value pairs. This option is used to verify that a form is working correctly by performing the same request that occurs when a user submits a form. See also the Match Content box for a way to verify that the correct form response was received. If this item is blank, a GET request is performed.
Match Content	Enter an expression describing the values to match in the returned page. If the expression is not contained in the page, the message **no match on content** is displayed. A regular expression can be used to define the values to match.
Error If Match	Enter an expression describing the values that, if found on the page returned, indicate an error in the sequence process. For example, if the phrase **Login Error** appears, there may be a problem with user profile data. If the **Error If Match** expression is found in the page, the monitor signals an error. A regular expression can be used to define the values to match.
User Name	Enter the user name, if any, required for this step.
Password	Enter the password, if any, required for this step.
Delay	Enter an optional delay period that SiteScope waits before executing the next step.
Title	Enter an optional title to be associated with this step of the sequence. It is best to select a title that describes what is being accomplished in this step.
Check URL Sequence	Click to test the transaction. The results of the test are displayed beneath the button.

Web Service Tool

Description	Checks Simple Object Access Protocol (SOAP) enabled Web services for availability, stability, or to see what an actual SOAP response looks like. It is also useful for diagnosing a Web service request failure, or for picking out match strings for use with a specific Web Service Monitor. The Web Service Test sends a SOAP request to the server and checks the HTTP response codes to verify that the service is responding. The actual SOAP response is displayed, but no further verification is done on this returned message. SOAP is a way for a program running under one operating system to communicate with another program running under the same or different operating system (such as a Windows 2000 program talking to a Linux-based program). SOAP uses the Hypertext Transfer Protocol (HTTP) and Extensible Markup Language (XML) for information exchange with services in a distributed environment. **To access:** In the monitor or template view, click the **Tools** button to display the SiteScope Tools dialog box, and then click **Web Service Tool**.
Important Information	➤ The following specification features are currently supported: WSDL 1.2, SOAP 1.1, Simple and Complex Types based on XML Schema 2001, SOAP binding with the HTTP(s) protocol only. SOAP with Attachments is not supported. ➤ SOAP and WSDL technologies are evolving. As a result, some WSDL documents may not parse accurately and some SOAP requests may not interact with all Web service providers.
Useful Links	"SiteScope Tools Overview" on page 171

The Web Service Tool page includes the following elements:

GUI Element	Description
WSDL Path or URL	Enter the URL or the file path of the WSDL file to be used for this monitor. If a WSDL file path is specified it must be relative to **<SiteScope root directory>\templates.wsdl**. In addition, your WSDL files must have an extension of .wsdl.
Web Service URL	Enter the URL of the Web service to be tested.
Method Name	Enter the name of the method to be run.

GUI Element	Description
Arguments	Enter the arguments to the method specified above and their types. Specify simple type parameters in the format parm-name(parm-type) = value, where the <param-name> and <param-type> must match the service method specifications of its WSDL file exactly. The <value> must agree with the <param-type>, otherwise the request fails. Strings with embedded spaces should be enclosed in double quotes (" "). Each parameter must be on a separate line by adding a carriage return at the end of each value. **Example:** stockSymbol (string) = MERQ numShares (int) = 10 A complex type parameter must be represented as one long string (line breaks are for readability purposes only): stocksymbol[COMPLEX] = <stocksymbol xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:fw100="urn:ws-stock" xsi:type="fw100:getQuote"> <ticker xsi:type="xsd:string">MERQ </ticker> </stocksymbol> **Note:** SiteScope does not perform any validation on your input parameter lists, so make sure that the complex type values are valid and well-formed XML strings. Do not add any carriage returns within a complex type parameter—only at the end. If the Web service method does not take any parameters, the text box should be left empty.
SOAP Action URI	The SOAP Action URI in the header of the SOAP request to the Web Service. During initial setup this is extracted from the WSDL file.
User-Agent	Enter the user agent that sends the request (Mozilla, Internet Explorer, and so on).

GUI Element	Description
Method Namespace	The XML name space for the method in the SOAP request. During initial setup this value is extracted from the WSDL file.
User Name	If the URL specified requires a name and password for access, enter the name.
Password	If the URL specified requires a name and password for access, enter the password.
NTLM Domain	Enter the domain for NT LAN Manager (NTLM) authorization if it is required to access the URL.
Proxy	Optionally, a proxy server can be used to access the URL. Enter the domain name and port of the HTTP Proxy Server.
Proxy User / Proxy Password	If the proxy server requires a name and password to access the URL, enter the user name and password. Your proxy server must support Proxy-Authenticate for this options to function.
Check if testing MS .NET web service	Select this check box if the Web service is based on Microsoft .NET.

GUI Element	Description
Web Service Request	Click to test the Web Service request. The results of the test are displayed beneath the button.
Status	The possible status values returned by the test are: ➤ OK ➤ unknown host name ➤ unable to reach server ➤ unable to connect to server ➤ timed out reading ➤ content match error ➤ document moved ➤ unauthorized ➤ forbidden ➤ not found ➤ proxy authentication required ➤ server error ➤ not implemented ➤ server busy

XSL Transform Tool

Description	Use this tool to test a user defined XSL file that can be used to transform an XML file or output. This might be a file from a Web application that contains performance metrics data. The use of an XSL transform may be necessary to process the XML data into an acceptable format for use by the Browsable XML Monitor type. **To access:** In the monitor or template view, click the **Tools**  button to display the SiteScope Tools dialog box, and then click **XML Transform Tool**.
Useful Links	"SiteScope Tools Overview" on page 171

The XML Transform Tool page includes the following elements:

GUI Element	Description
XML URL	Enter the URL of the XML file that is the input for the transformation.
XSL File	Enter the path to the XSL file you want to test.
User Name	If access to the target XML file requires authentication, enter the user name needed to access the content.
Password	If access to the target XML file requires authentication, enter the password needed to access the content.
Proxy	If you are using a proxy to access the target XML content, enter the address of the proxy.
Proxy User Name / Proxy Password	If you are using a proxy to access the target XML content, enter the user name and password needed to use the proxy in this box.

8

Using Regular Expressions

SiteScope makes use of regular expressions to match text content. Several SiteScope monitors enable for content matching on the text returned from a monitor's request or action. This chapter includes concepts and reference information on using regular expressions to match text content in SiteScope monitors.

This chapter includes:

Concepts

Reference

Regular Expressions Overview

Regular expressions is a name given to a text parsing tool that was developed for use with scripting languages such as Awk and Perl as well as several programming environments such as Emacs, Visual C++, and Java. Regular expressions themselves are not a programming language. They do, however, make use of many special combinations of characters and symbols that often make them more difficult to interpret than some programming languages. The many different combinations of these special characters, known as metacharacters, make regular expressions a very powerful and flexible tool for parsing and isolating specific text within a larger body of text.

Including a regular expression in the **Match content** text box of a monitor instructs SiteScope to parse the text returned to the monitor when it is run and look for content that satisfies the pattern defined by the regular expression. This document presents an overview of the syntax and metacharacters used in regular expressions for use in matching content for SiteScope monitors.

Defining a Regular Expression

The element of a match content expression in SiteScope is the forward slash (/) character. Entries in the **Match content** text box of a SiteScope monitor must start and end with a forward slash to be recognized as regular expressions. For example, entering the expression /website/ into the **Match content** box of a monitor instructs SiteScope to search the text content received by the monitor for the literal text string: website. If a match is not found, the monitor reports an error status. When a match is found, the monitor reports a good status as long as all other monitor status threshold conditions are also met. If you enter text or other characters into the **Match content** box without delimiting the entry with forward slashes, the entry is either ignored or reported as a content match error by SiteScope.

Adding parentheses ( ) within the forward slashes surrounding the regular expression is another very useful function for regular expressions in SiteScope. The parentheses are used to create a "back reference." As a back reference, SiteScope retains what was matched between the parentheses and displays the text in the **Status** field of the monitor detail page. This is very useful for troubleshooting match content. This is also a way to pass a matched value from one monitor to another or from one step of a URL Sequence Monitor to the next step of the same transaction. Parentheses are also used to limit alternations, as discussed below.

Generally, it is best to use an iterative approach when building regular expressions for content matching with SiteScope. The following are some general steps and guidelines for developing regular expressions for content matches:

- Create a regular expression using literal characters to match a single sample of the data you want to monitor. For example, /value: 1022.5/.
- Iteratively replace literal characters with character classes and metacharacters to generalize the literal into a pattern. For example, the literal in the example above could be changed to: /value:\s\d\d\d\d\.\d/ to match any four digits, a decimal point, and one more digit.

- Consider that the pattern of the data you want to match may vary. Adjust your pattern to match expected or possible variations in the target data. Continuing with the example used above, the expression /value:\s\d\d\d\d\.\d/ might become /value:\s[\d]{1, 8}\.[\d]{1,2}/. This pattern allows for variation in the number of digits to the left of the decimal point and the number of digits to the right of the decimal point. It expects that there is a decimal point. See the following sections for more information about the character classes used here.
- Consider that the literal string or pattern you want to match may appear more than once in the content. Identify unique content that precedes the content you want to match, and add regular expression patterns to make sure that the expression matches that unique content before it tries to match the content you are trying to monitor. In the example used here, the pattern may match the first of several entries that have a similar /value: numbers/ pattern. By adding a literal to the pattern that matches some static content that delimits the particular data can be used to be sure the match is made for the target data. For example, if the data you want to match is preceded by the text Open Queries, this literal can be added to the pattern, along with a pattern for any intervening content: /Open Queries[\s\W]{1,5} value:\s[\d]{1, 8}\.[\d]{1,2}/.

  The following sections describe many of the different elements and patterns that can be used for creating regular expressions for content matching.

Matching String Literals

Finding and matching an exact or literal string is the simplest form of pattern matching with regular expressions. In matching literals, regular expressions behave much as they do in search/replace in word processing applications. The example above matched the text Web site. The regular expression /Buy Now/ succeeds if the text returned to the monitor contains the characters Buy Now, including the space, in that order.

Note that regular expressions are, by default, case sensitive and literal. This means that the content must match the expression in case and order, including non-alphanumeric characters. For example, a regular expression of /Website/, without any modifiers, succeeds only if the content contains the string Website exactly but fails even if the content on the page is website, WEBSITE, or Web site. (In the last case the match fails because there is space between the two words but not in the regular expression.)

There are cases where you may want to literally match certain non-alphanumeric characters which are special "reserved" metacharacters used in regular expressions. Some of these metacharacters may conflict with important literals that you are trying to match with your regular expression. For example, the period or dot symbol (.), the asterisk (*), the dollar sign ($), and back slash (\) have special meanings within regular expressions. Because one of these characters may be a key part of a particular text pattern you are looking for, you must "escape" these characters in your regular expression so that the regular expression processing treats them as literal characters rather than interpreting them as special metacharacters. To force any character to be interpreted as a literal rather than a metacharacter, add a back slash in front of that character.

For example, if you wanted to find the string 4.99 on a Web page you might create a regular expression of /4.99/. While this matches the string 4.99, it would also match strings like 4599 and 4Q99 because of the special meaning of the period character. To have the regular expression interpret the period as a literal, escape the period with a forward slash as follows: /4\.99/. You can add the back slash escape character in front of any character to force the regular expression processing to interpret the character following the back slash as a literal. In general, use this syntax whenever you want to match any punctuation mark or other non-alphanumeric character.

Using Alternation

Alternation allows you to construct either/or matches where you know that one of two or more strings should appear in the content. The alternation character is the vertical pipe symbol ("|").

The vertical pipe is used to separate the alternate strings in the expression. For example, the regular expression /(e-mail|e-mail|contact us)/ succeeds if the content contains any one of the three strings separated by the vertical pipes. The parentheses are used here to delimit alternations. In this example, there are no patterns outside of the alternation that must be matched. In contrast, a regular expression might be written as /(e-mail|e-mail|contact) us/. In this case, the match succeeds only when any of the three alternates enclosed in the parentheses is followed immediately by a single white space and the word us. This is more restrictive than the previous example, but also shows how the parentheses limit the alternation to the three words contained inside them. The match fails even if one or more of the alternates are found but the word "us" is not the next word.

Matching Patterns with Metacharacters

Often you may not know the exact text you need to match, or the text pattern may vary from one session or from one day to another. Regular expressions have a number of special metacharacters used to define patterns and match whole categories of characters. While matching literal alphanumeric characters seems trivial, part of the power of regular expressions is the ability to match non-alphanumeric characters as well. Because of this, it is important to keep in mind that your regular expressions need to account for the presence of non-alphanumeric characters in the content you are searching. This means that characters such as periods, commas, hyphens, quotation marks and even white spaces, must be considered when constructing regular expressions.

This section contains the following topics:

Metacharacters Used in Regular Expressions

Metacharacter	Description
\s	Matches generic white space (that is, the Spacebar key). This metacharacter is particularly useful when combined with a quantifier to match varying numbers of white space positions that may occur between words that you are looking to match.
\S	Matches characters that are NOT white space. Note that the \S is capitalized versus the small \s used to match white space.
.	This is the period or dot character. Generally, it matches all characters. SiteScope considers the dot as a form of character class on its own and therefore it should not be included inside the square brackets of a character class.
\n	Matches the linefeed or newline character.
\r	Matches the carriage return character.

Metacharacter	Description
\w	Matches non-white space word characters, the same as what is matched by character class [A-Za-z0-9_]. It is important to note that the \w metacharacter matches the underscore character but not other punctuation marks such as hyphens, commas, periods, and so forth.
\W	Matches characters other than those matched by \w (lower case). This is particularly useful for matching punctuation marks and non-alphabetic characters such as ~!@#$%^&*()+={[}]:;and including the linefeed character, carriage return, and white space. It does not match the underscore character which is considered a word constituent matched by \w.
\d	Matches digits only. This is equivalent to the [0-9] character class.
\D	Matches non-numeric characters (what \d does not match) plus other characters. Similar to \W but also matches on alphabetic characters. In SiteScope, this generally matches everything, including multiple lines, until it encounters a digit.
\b	Requires that the match have a word boundary (usually a white space) at the position indicated by the \b.
\B	Requires that the match not have a word boundary at the position indicated.

Defining Character Classes

An important and very useful regular expression construct is the character class. Character classes provide a set of characters that may be found in a particular position within a regular expression. Character classes may be used to define a range of characters to match a single position or, with the addition of a quantifier, may be used to universally match multiple characters and even complete lines of text.

Character classes are formed by enclosing any combination of characters and metacharacters in square brackets: [ ]. Character classes create an "any-or-all-of-these" group of characters that may be matched. Unlike literals and metacharacters outside character classes, the physical sequence of characters and metacharacters within a character class has no effect on the search or match sequence. For example, the class [ABC0123abc] matches the same content as [0123abcABC].

The hyphen is used to further streamline character classes to indicate a range of letters or numbers. For example, the class [0-9] includes all digits from zero to nine inclusive. The class [a-z] includes all lower case letters from a to z. You can also create more restrictive classes with the hyphen such as [e-tE-T] to match upper or lower case letters from E to T or [0-5] to match digits from zero to five only.

The caret character (^) can be used within a character class as a negation or to exclude certain characters from a content match.

Example Character Classes

Example	Description
[a-zA-Z]	This matches any alphabetic character, both upper case and lower case, from the letter a to the letter z. To match more than one character, append a quantifier after the character class as described below.
[0-9]	This matches any digit from 0 to 9. To match more than one digit, append a quantifier after the character class as described below.
[\w\s]	This matches any alphanumeric character and/or any white space.
[\w^_]	This matches any alphanumeric character, excluding the underscore.

Using Quantifiers

Another set of metacharacters used in regular expressions provides character counting options. This adds a great deal of power and flexibility in content matching. Quantifiers are appended after the metacharacters and character classes described above to specify against which positions the preceding match character or metacharacter should be matched. For example, in the regular expression /(contact|about)\s+us/, the metacharacter \s matches on a white space. The plus sign quantifier following the \s means that there must be at least one white space between the words contact (or about) and us.

The following table describes the quantifiers available for use in regular expressions. The Quantifier applies to the single character immediately preceding it. When used with character classes, the quantifier is placed outside the closing square bracket of the character class. For example: [a-z]+ or [0-9]*.

Quantifier	Description
?	The question mark means the preceding character or character class may appear once but is optional and not required to appear in the position indicated.
*****	The asterisk requires that any number of the preceding character or character class appear in the designated position. This includes zero or more matches. **Note:** Care must be used in combining this quantifier with the dot (.) metacharacter or a character class including the \W metacharacter, as these are likely to "grab" more content than anticipated and cause the regular expression engine to use up all of the available CPU time on the SiteScope server.

Quantifier	Description
+	The plus sign requires that the preceding character or character class appear at least once.
{min,max}	Using curly braces creates a quantifier range. The range enumerator digits are separated by commas. This construct requires that the preceding character or character class appear at least as many times as specified by the **min** enumerator up to but no more than the value of the **max** enumerator. The match succeeds as long as there are at least as many matches as specified by the **min** enumerator. However, the matching continues up to the number of times specified by the **max** enumerator or until no more matches are found.

Match content in SiteScope is run against the entire HTTP response, including the HTTP header, which is not normally viewable by using the browser. The HTTP header usually contains several lines of text including words coupled with sequences of numbers. This may cause failure of some otherwise simple content matching on short sets of numbers and letters. To avoid this, identify a unique sequence of characters near the text you are trying to match and include them as literals, where applicable, in the regular expression.

Search Mode Modifiers

Regular expressions used in SiteScope may include optional modifiers outside of the slashes used to delimit the expression. Modifiers after the ending slash affect the way the matching is performed. For example, regular expression of /website/i with the i search modifier added makes the match content search insensitive to upper and lower case letters. This would match either website, Website, WEBSite, or even WEBSITE.

With the exception of the i modifier, some metacharacters and character classes can override search mode modifiers. In particular, the dot (.) and the \W metacharacters can override the m and s modifiers, matching content across multiple lines despite the modifier.

More than one modifier can be added by concatenating them together after the closing slash of the regular expression. For example: /matchpattern/ic combines both the i and c modifiers.

Regular Expression Match Mode Modifiers

Mode Modifier	Description
/i	Ignore case mode. This makes the search insensitive to upper case and lower case letters. This is a useful option especially when searching for matches in the text content of Web pages.
/c	The matched pattern must NOT appear anywhere in content that is being searched. This is a "complement" match, returning an error if the pattern IS found, and succeeding if the pattern is NOT found.
/m	Match across multiple lines WITHOUT ignoring intervening carriage returns and linefeeds. With this modifier you may still need to account for possible linefeeds and carriage returns with a character class such as [\w\W]* or [\s\S\n\r]*. The .* does not match carriage returns or linefeed characters with this modifier.
/s	Consider the content as being on a single line, ignoring intervening carriage returns and linefeed characters. With this modifier, both the [\w\W]* character class and the .* pattern match across linefeeds and carriage returns.

Retaining Content Match Values

Some monitors, like the URL Monitor and URL Sequence Monitor, have a content match value that is logged and can be used to set error status thresholds. Another purpose of the parentheses /(match pattern)/ used in regular expression syntax is to determine which text is retained for the Content Match Value. You use this function to use content match values directly as thresholds for determining the error threshold of a URL monitor or URL Sequence monitor.

For example, if the content match expression was

```
/Copyright (\d*)/
```

and the content returned to the monitor by the URL request included the string:

```
... Copyright 2007 by HP
```

then the match is made and the retained content match value would be:

```
2007
```

Under the error-if option at the bottom of the monitor set up page, you could then change the error-if condition from the default of status != 200 to content match, then specify the relational operator as !=, and then specify the value 1998. This sets the error threshold for this monitor so that whenever the year in the string Copyright is other than 1998, the monitor reports an error. This mechanism could be used to watch for unauthorized content changes on Web pages.

Checking a Web page for links to other URLs can be an important part of constructing URL Sequence Monitors. The following regular expression can be used to match the URL text of a link on a Web page:

```
/a href="?([:\/\w\s\d\.]*)"?/i
```

This expression matches the href="protocol://path/URLname.htm" for many URLs. The question mark modifiers enable the quotation marks around the HREF= attribute to be optional. The i modifier allows the match pattern to be case-insensitive.

Retained or remembered values from content matches can be referenced and used as input for subsequent steps in a URL Sequence Monitor. See the **Match content** section of the URL Sequence Monitor for the syntax used for Retaining and Passing Values Between Sequence Steps.

SiteScope Date Variables

SiteScope uses specially defined variables to create expressions that match the current date or time. These variables can be used in content match fields to find date-coded content. The General Date Variables are useful for matching portions of various date formats. The Language/Country Specific Date Variables enable you to automatically extend the language used for month names and weekday names to specific countries, based on ISO codes.

This section contains the following topics:

- "General Date Variables" on page 230
- "Language/Country Specific Date Variables" on page 232
- "Special Substitution for Monitor URL or File Path" on page 233

General Date Variables

The following table lists the general variables:

Variable	Range of Values
$hour$	0 - 23
$minute$	0 - 59
$month$	1 - 12
day	1 - 31
$year$	1000 - 9999
$shortYear$	00 - 99
$weekdayName$	Sun - Sat
$fullWeekdayName$	Sunday - Saturday

Variable	Range of Values
$0hour$	00 - 23
$0minute$	00 - 59
$0day$	01 - 31 (two-digit day format)
$0month$	01 - 12 (two-digit month format)
$monthName$	Jan - Dec (three-letter month format in English)
$fullMonthName$	January - December
$ticks$	milliseconds since midnight, January 1, 1970

For example, if the content match search expression was defined as:

/Updated on $0month$\/$0day$\/$shortYear$/

and the content returned by the request includes the string:

Updated on 06/01/98

then the expression would match when the monitor is run on June 1, 1998. The match fails if the content returned does not contain a string matching the current system date or if the date format is different than the format specified.

If you want the time to be before or after the current time, you can add a **$offsetMinutes=mmmm$** to the expression, and this offsets the current time by **mmmm** minutes (negative numbers are allowed for going backwards in time) before doing the substitutions.

For example, if the current day is June 1, 1998, and the search expression is:

/$offsetMinutes=1440$Updated on $0month$\/$0day$\/$shortYear$/

the content string that would match would be:

Updated on 06/02/98

Note that the date is one day ahead of the system date.

Language/Country Specific Date Variables

The following table lists the SiteScope special variables for use with international day and month name matching. The characters LL and CC are placeholders for two-letter ISO 639 language code characters and two-letter ISO 3166 country code characters (see the notes below the table for more details).

Variable	Range of Values
$weekdayName_LL_CC$	Abbreviated weekday names for the language (LL) and country (CC) specified (see notes below).
$fullWeekdayName_LL_CC$	Full weekday names for the language (LL) and country (CC) specified.
$monthName_LL_CC$	Abbreviated month names for the language (LL) and country (CC) specified.
$fullMonthName_LL_CC$	Full month names for the language (LL) and country (CC) specified.

CC - an uppercase 2-character ISO-3166 country code. Examples are: DE for Germany, FR for France, CN for China, JP for Japan, BR for Brazil. You can find a full list of these codes at a number of Internet sites, such as: http://www.iso.org/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/list-en1.html.

LL - a lowercase 2-character ISO-639 language code. Examples are: de for German, fr for French, zh for Chinese, ja for Japanese, pt for Portuguese. You can find a full list of these codes at a number of Internet sites, such as: http://www.ics.uci.edu/pub/ietf/http/related/iso639.txt or http://www.dsv.su.se/~jpalme/ietf/language-codes.html.

For example, if the content match expression was defined as:

/$fullWeekdayName_fr_FR$/i

and the content returned by the request includes the string:

mercredi

then this expression would match when the monitor was run on Wednesday.

If you are not concerned with the country-specific language variations, it is possible to use any of the above variables without including the country code. For example:

/$fullWeekdayName_fr$/

could be used to match the same content as /$fullWeekdayName_fr_FR$/.

Special Substitution for Monitor URL or File Path

SiteScope Date Variables are useful for matching content as part of a regular expression. The date variables can also be used as a special substitution to dynamically create URLs or file paths for specific monitors. This is useful for monitoring date-coded files and directories where the URL or file path is updated automatically based on system date information. SiteScope is an example of an application that creates date-coded log files. The log file names include some form of the year, month, and day as part of the file name, such as File2001_05_01.log, where the year, month, and date are included.

Based on this example, a new file is created each day. Monitoring the creation, size, or content of the current days file would normally require the file path or URL of the monitor to be manually changed each day. Using the SiteScope date variables and special substitution, SiteScope can automatically update the file path to the current day's log file. By knowing the pattern used in naming the files, you can construct a special substitution string similar to a regular expression that substitutes portions of the system date properties into the file path or URL.

For example if the absolute file path to the current day's log file in a file monitor is:

```
D:/Production/Webapps/Logs/File2001_05_01.log
```

the log file for the following day would be:

```
D:/Production/Webapps/Logs/File2001_05_02.log
```

You can construct a special substitution expression to automatically update the file path used by the monitor, with the following syntax:

```
s/D:\/Production\/Webapps\/Logs\/File$year$_$0month$_$0day$.log/
```

The substitution requires that the expression start with a lower-case s and that the expression is enclosed by forward slashes /.../. Forward slashes that are part of the file path must be escaped by adding the back slash (\) character as shown. The SiteScope date variables are separated by the underscore character literals. SiteScope checks the system time properties each time the monitor runs and substitutes with applicable values into the file path or URL before accessing the file.

SiteScope monitor types that support the special substitution are:

- e-Business chain
- File Monitor
- Log Monitor
- URL Monitor
- URL Sequence Monitor
- Web server monitor

While the special substitution syntax is similar in syntax to the substitution syntax used in regular expressions, they are not the same. While all of the SiteScope date variables can be used in match content regular expressions, the special substitution discussed here can not be used as part of a match content expression.

Examples for Log File Monitoring

SiteScope's Log File Monitor and File Monitor check for entries in files created by other applications. These files may be data files created by a third-party application or they may be logs created by a custom system specially designed for your environment. Where the logs or files are written with a known, predictable format, SiteScope can be configured to regularly check the files for new entries and match on specific content strings. The following are several examples of log file entries and simple regular expression patterns that can be used to check the entries. You can use these examples or modify them to work with a specific case.

Note: All regular expressions must be entered on a single line in SiteScope. Some of the examples below may break across more than one line to fit on this page.

This section contains the following topics:

Searching Paths for Log Files

UNIX and Windows operating systems treat the case ("N" versus "n") of file names in incompatible ways. Windows operating systems are case insenstive which means that when a file is being searched, its case is ignored. UNIX operating systems are case sensitive which means that the case of a name is significant at all times. To avoid log file errors when using regular expressions to search for path names on UNIX operating systems, you should use markers to change the character case in the path expression.

Marker	Description
$L	Allows changing characters between the $L marker and the $E marker to lower case.
$U	Allows changing characters between the $U marker and the $E marker to upper case.
$E	The end marker used for changing character case.

Example

If you define the following path expression:

```
s/\/tmp\/logs\/arcv.log.$weekdayName$/
```

for the /tmp/logs/arcv.log.tue log file on a Linux machine, you will get a log file error because SiteScope tries to find tmp/logs/arcv.log.Tue, and Linux is case sensitive.

To resolve this problem, define the path expression as follows:

```
s/\/tmp\/logs\/arcv.log.$L$weekdayName$$E/
```

The monitor converts the characters between $L and $E to lower case, /tmp/logs/arcv.log.tue.

Conversely, use $U and $E to allow SiteScope to change the characters between the markers to upper case. For example, if you define the path expression:

```
s/\/tmp\/logs\/arcv.log.$L$weekdayName$$E/
```

the monitor converts the path to /tmp/logs/arcv.log.TUE.

You can use $L and $U multiple times in a path expression, and you can use them both in the same expression.

For example:

```
s/\/tmp\/logs-$L$weekdayName$$E\/arcv.log.$U$weekdayName$$E/
```

converts the path to /tmp/logs-tue/arcv.log.TUE

```
s/\/tmp.$L$monthName$$E\/logs-
$L$weekdayName$$E\/arcv.log.$U$weekdayName$$E/
```

converts the path to /tmp.mar/logs-tue/arcv.log.TUE

Matching Comma-Separated Values

The following is an example of log file entries that are comma-separated strings of digits and letters:

```
new,open,changed,12,alerts
new,open,changed,13,alerts
new,open,changed,13,alerts
new,open,changed,14,alerts
```

A regular expression to match on log file entries that are comma-separated strings of digits and letters.

```
/([\w\d]+,[\w\d]+,[\w\d]+,[\w\d]+)[\n\r]?/
```

Note: If the file entries include punctuation marks such as an underscore or a colon, add that character explicitly to the [\w\d] class pattern. For example, to include a colon character, change each of the [\w\d] patterns to [\w\d:].

Matching Whitespace Separated Values

The following is an example of log file entries that are a sequence of strings and digits separated by spaces:

```
requests 12 succeeded 12 failed
requests 12 succeeded 12 failed
requests 11 succeeded 11 failed
requests 12 succeeded 12 failed
requests 10 succeeded 10 failed
```

The following is a regular expression to match on log file entries that are a sequence of strings and digits separated by spaces.

```
/([\w\d]+\s+[\w\d]+\s+[\w\d]+\s+[\w\d]+\s+[\w\d]+)[\n\r]?/
```

Note: The use of the + character forces the match to include the number of sequences per line included in the match pattern: in this example, five word or number sequences per line of the log file. If the sequences include punctuation marks such as an underscore or colon, add that character explicitly to the [\w\d] class pattern. For example, to include a colon character, change each of the [\w\d] patterns to [\w\d:].

Matching and Retaining the Numbers in a Line of Text and Numbers

The following is an example of log file entries that are comma separated strings that combine digits and letters:

```
request handle number 12.56, series 17.5, sequence reported 97.45, 15.95 and 19.51
request handle number 15.96, series 27.5, sequence reported 107.45, 25.95 and 19.52
request handle number 11.06, series 36.5, system codes 9.45, 35.95 and 19.53
log reference number 12.30, series 17.5, channel reset values 100.45, 45.95 and 19.54
```

The following is a regular expression to match on log file entries that are comma-separated strings that combine digits and letters and retain the decimal numeric data:

```
/[,\w\s]+(\d+\.\d+)[,\w\s]+(\d+\.\d+)[,\w\s]+(\d+\.\d+)[,\w\s]+(\d+\.\d+)[,\w\s]+(\d+\.\d+)[\n\r]
?/.
```

Note: If the file entries include punctuation marks such as an underscore or colon, add that character explicitly to the [,\w\s] class pattern. For example, to include a colon character that appears embedded in the text sequences, change each of the [,\w\s] patterns to [,:\w\s].

Matching Integers and Floating-point Numbers (Positive or Negative)

The following is an example of log file entries that are a sequence of integers and floating point numbers that may be negative or positive:

```
12.1987 -71 -199.1 145 -1.00716
13.2987 -72 -199.2 245 -1.00726
14.3987 -73 -199.3 345 -1.00736
15.4987 -74 -199.4 445 -1.00746
```

The following is a regular expression to match on log file entries that are a sequence of 5 integers and floating point numbers that may be negative or positive. The numbers in each entry must be separated by one or more spaces.

```
/(-?\d+\.?\d{0,})[\s]+(-?\d+\.?\d{0,})[\s]+(-?\d+\.?\d{0,})[\s]+(-?\d+\.?\d{0,})[\s]+(-
?\d+\.?\d{0,})[\n\r]?/
```

Matching Date and Time Coded Log Entries

Many log files include some form of date and time data with each entry. The following is an example of log file entries that include date and time information together with string data separated by commas:

```
20/04/2003 14:29:22,ERROR,request failed
20/04/2003 14:31:09,INFO,system check complete
20/04/2003 14:35:46,INFO,new record created
```

The following is a regular expression to match on log file entries that are date- and time-coded followed by comma-separated strings of letters and digits. This example uses the SiteScope date variables to match only on entries that were created on the same day, month, and year as indicated by the system clock of the server where SiteScope is running.

```
/$0day$\/$0month$\/$year$\s+\d+:\d+:\d+,[\w\d]+,[\w\d]+/
```

The following example uses the SiteScope date variables to match on a more restricted set of entries that were created on the same day, month, year, and within the same hour as indicated by the system clock of the server on which SiteScope is running.

```
/$0day$\/$0month$\/$year$\s+$0hour$:\d+:\d+,[\w\d]+,[\w\d]+)/
```

Problems Working with Regular Expressions

This section contains problems encounterd when working with regular expressions.

➤ **Using the .* construct presents a very large number of possible matches on any page of content.** The use of the .* construct is known to cause the regular expression-matching engine used by SiteScope to take over all available CPU cycles on the SiteScope server. If this occurs, SiteScope is unable to function and must be restarted each time the monitor with the offending regular expression is run, until the expression has been corrected.

Note: Regular expression matching is run against the entire text content returned to the SiteScope monitor request. This includes HTTP headers that are normally not viewable in the browser window (for example, not visible using the **View** > **Source** option). This also means that you must account for other information that may not be displayed in the browser view. This includes text in META tags used by Internet search engines as well as client side-scripts.

➤ **Text matching is done against the code lines of the script and not against the browser's output from the script for URLs that contain client side-scripts, such as Javascript.** This means that if the script dynamically writes or replaces text on the Web page with values calculated by the script, it may not be possible to match this content with regular expressions. If the script is only changing text, you may be able to match the corresponding text strings that appear in the script code. A further pitfall would be that you are trying to check that a certain condition was met in the browser but the matching text string appears in the script content regardless of any user action.

- **A regular expression match succeeds as soon as the minimum match requested is satisfied.** After a match is made, no further matching is performed. Therefore, regular expressions are not well suited to count the number of occurrences of a repeating text pattern. For example, if you want to check a Web page with a catalog list of items and each item has a link next to it saying Buy Now! and you want to make sure that at least five items are listed, a regular expression of /Buy Now!/ would succeed in matching only the first Buy Now!. Likewise, if your regular expression searches the word catalog on the main browser screen, the match may succeed if the word appears as a META tag in the HTML header section or if it appears as a hyperlink in a site navigation menu that appears in the content before the occurrence you intend to match.
- **Forgetting to account for non-alphanumeric content.** Regular expressions need to be written to account for all of the characters that are and may be present. This includes white space, linefeed, and carriage returns. This is not normally a problem when matching a single-word literal. It can be a challenge when you need to create a match of several words separated by unknown amounts of white space and other non-alphanumeric characters and possibly span more than one line. The [\s\n\r]+ character class can be useful between words used in the expression. Always check the format of the content you are trying to match to look for patterns and special characters, such as periods, commas, and hyphens, that may cause a seemingly simple match to fail.
- **Use of excessive metacharacters can be problematic.** In some cases, overly generous quantifiers combined with the . or \W metacharacters can grab content that you were intending to match with a literal string elsewhere in your regular expression resulting in a match failure. For example, the following might be used to match the URL content of the hyperlink anchor reference: /a href="([\W\w\s]*)"/. When the monitor performs the check for this regular expression, however, the match grabs the first occurrence of the pattern /a href="... and continues matching multiple lines of text up to the last quotation mark found on the page. Without some other unique ending delimiter, the [\W\w\s]* class and quantifier combination is too excessive. A more successful syntax that narrows the class of expected characters would be: /a href="?([:\/\w\s\d\.]*)"?/

Example Regular Expression Syntax

The following are some examples of syntax for use in regular expressions:

Example Expression	Description
/CUSTID\s?=\s?([A-Z0-9]{20,48})/	This example matches an ID string that is made of 20 or more digits and upper-case letters with no spaces or other non-alphanumeric characters. The \s? construct allows a white space on either side of the equals sign. Using the parentheses around the character class instructs SiteScope to retain this value (up to the maximum of 48 characters) as a content match value and the matched value is displayed in the monitor detail status column.
/a href="?([:\/\w\s\d\.]*)"?/i	This example matches the URL string in an HTML hyperlink. The "? construct makes a quotation mark on either end of the URL string optional. Using the parentheses instructs SiteScope to retain this value as a content match value and the value is displayed in the monitor status. The i modifier tells the search to treat upper- and lower-case letters equally.
/"[^"]*"/	This example matches text sequences that are contained between quotation marks. Note the use of the negation caret (^) to define a character class of all characters other than the quotation mark.

As with programming and scripting languages, there is almost always more than one way to construct a regular expression to accomplish a particular match. There is not one right way to build regular expressions. You should plan to test and modify regular expressions as necessary until you get the results you need.

Part III

Monitors

9

Working with SiteScope Groups

This chapter includes the main concepts, tasks, and reference information for working with SiteScope groups.

This chapter includes:

Concepts

Tasks

Reference

SiteScope Groups Overview

You create group containers to make deployment of monitors and associated alerts manageable and effective for your environment and organization. Each SiteScope monitor instance that you create must belong to a SiteScope group, either a top level group or a subgroup nested within other group containers.

For example, if you intend to monitor a large number of processes running on your system, you may want all of them to be in a single group named **Processes**. If you are monitoring processes on several machines using remote monitors, you could create a primary group called **Processes** with several subgroups named after each of the remote machines that you are monitoring.

When you add a new monitor you either add it to an existing group, or you must first create a group for it. You can add groups individually to SiteScope, or you can deploy groups along with multiple monitors by using templates.

This section contains the following topics:

➤ "Copying or Moving Existing Groups" on page 248

➤ "Creating Group Alerts and Reports" on page 249

Copying or Moving Existing Groups

In addition to creating groups, you can copy or move existing groups to a new location within the SiteScope tree. Copying or moving a group duplicates the configuration settings for the group and all monitors within the group. After copying or moving a group, you normally need to edit the group and the configuration properties for each individual monitor within the group to direct the monitors to a unique system or application. Otherwise, the monitors in the group duplicate the monitoring actions of the original group.

Notes:

- Instead of copying groups which can lead to redundant monitoring, we recommend that you use templates to more efficiently replicate common group and monitor configuration patterns. For more information about working with templates, see "SiteScope Templates".
- To avoid group identity problems within SiteScope, object names must be unique within the parent container. If you copy or move a monitor group to a container in which there is another group with exactly the same name, SiteScope automatically adds a suffix (number) to the end of the monitor group's name.
- You cannot move or copy a monitor group to its subgroup.

Creating Group Alerts and Reports

After creating a group, you can create alerts and reports for the group. By default, group alerts and reports are associated with all monitors within the group.

You create an alert by adding an alert definition to a group container. This means that when any one monitor in the group reports the status category defined for the alert (for example, error or warning), the group alert is triggered. You can configure a group alert to exclude one or more of the monitors in the group by using the **Alert targets** selection tree. For details on this topic, see "SiteScope Alerts Overview" on page 1580.

You create a group report by adding a report definition to a group container. You can configure a group report to exclude one or more of the monitors in the group by using the **Monitors and groups to report on** selection tree. For details on this topic, see "SiteScope Reports Overview" on page 1647.

If you delete a group, SiteScope removes the applicable monitor actions and disables any alert actions associated with the group.

Manage a Group – Workflow

This task describes the steps involved in managing a group.

This task includes the following steps:

1 Create SiteScope Groups and Subgroups

Create SiteScope groups and subgroups according to the monitor hierarchy which you want to implement in the monitor view. For example, you can create groups of locations, server types, network resources, and so forth.

- **Create a new group.** Right-click the SiteScope or group container in which to create the group, and select **New** > **Group**. For details on the user interface, see "New SiteScope Group Page" on page 253.
- **Create a group by copying or moving an existing group.** Right-click the group you want to copy or move, and click **Copy** or **Cut**. Right-click the location in the monitor tree where you want to copy or move the group container, and click **Paste**.

Note: You can also move or copy multiple monitors and groups to a target group by clicking the **Manage Monitors and Groups** button  in the monitor tree toolbar. For details on the user interface, see "Manage Monitors and Groups Dialog Box" on page 58.

---

2 Create Monitor Instances

Select the monitor instances you want to add to the group.

For details on how to perform this task, see "Deploy a Monitor – Workflow" on page 278.

3 Add URL Links to Group Description - Optional

You can add additional information to describe a group, and include HTML tags for hyperlinks to enable you to access URLs from the Dashboard.

a To add a hyperlink, open the Properties tab for the selected group.

b Expand the **General Settings** panel and enter the URL in the **Group description** field. For example, My Link.

c Click the **Dashboard** tab. A URL is displayed in the **Description** field for the selected group. To open the URL, click the group's **Description** field, and then click the link.

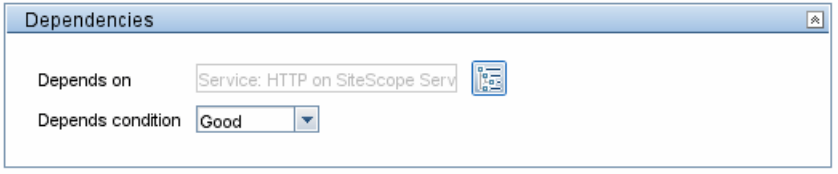
4 Set Group Dependencies - Optional

You can set group dependencies to make the running of monitors in this group dependent on the status of another monitor.

For details on this topic, see "Monitoring Group Dependencies" on page 263.

Example

The monitors in the group being configured run normally as long as the monitor selected in the **Depends on** box reports the condition selected in the **Depends condition** box. In this example, the group being configured is enabled only when the **Service** monitor reports a status of **Good**.



5 Set Up Group Alerts - Optional

To create an alert for the group, right-click the group and select **New** > **Alert**. For each alert scheme, you can create one or more alert actions. In the New Alert page, click **Add Action** to start the Alert Action wizard.

For details on how to perform this task, see "Configure an Alert" on page 1604.

6 Set Up Group Reports - Optional

To create a report for the group, right-click the group and click **Reports**. Select a report type and configure the report settings.

For details on how to perform this task, see "Create a Report" on page 1653.

7 Results

The monitor group, including its monitors, alerts, and reports, is added to the monitor tree.

SiteScope Groups User Interface

This section describes:

New SiteScope Group Page

Description	Enables you to define a new group for SiteScope, or a subgroup for an existing monitor group. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope container or an existing monitor group and select **New** > **Group**.
Important Information	You cannot delete a monitor group if it has dependent alerts or reports at the container level. To delete a monitor group with dependencies, you must remove the monitor group from **Alert Targets** and **Report Targets** for each dependency, and then delete the monitor group. You can delete monitor groups that have dependencies at the child level.
Included in Tasks	"Manage a Group – Workflow" on page 250
Useful Links	"SiteScope Groups Overview" on page 248

The following elements are found throughout the New Group page:

General Settings

GUI Element	Description
Group name	Enter a name that describes the content of the group, or the purpose of the monitors added to the group. For example, <host_name> or <business_unitresource_name> or <resource_type>. **Note:** ➤ The group name cannot be **sitescope** or contain any of the following characters: ' ; & | < > / \ + = ➤ The group name is case sensitive. This means that you can have more than one group with the same name provided they each have a different case structure.

GUI Element	Description
Group description	Enter additional information to describe a group. This can include the most common HTML tags for text styling, such as , <HR>, and <B>, and hyperlinks. The description is displayed only when viewing or editing the group's properties in the Dashboard. For details on adding a hyperlink, see "Add URL Links to Group Description - Optional" on page 251. **Note:** This field does not support Javascript/iframes/frames or other advanced features. HTML code entered in this box is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected. The following is prohibited HTML content: ➤ Tags: **script**, **object**, **param**, **frame**, **iframe**. ➤ Any tag that contains an attribute starting with **on** is declined. For example, onhover. ➤ Any attribute with **javascript** as its value.
Source template	Displays the path of the source template if the group was created from a template. If you are using deployed templates created in older versions of SiteScope, enables you to manually associate the root groups with the source template by entering the path of the source template.

Dependencies

GUI Element	Description
Depends on	Click the **Depends on**  button to open the Dependency dialog box, and select the monitor on which you want to make the running of this monitor group dependent. For details on the Dependency dialog box, see "Dependency Dialog Box" on page 323. For details on this topic, see "Monitoring Group Dependencies" on page 263. **Default**: No dependency is set for a monitor group.
Depends condition	Select the **Depends condition** that the **Depends on** monitor should have for the current monitor group to run normally. If the selected condition is not satisfied then the monitor selected in the **Depends on** box is automatically disabled. The conditions are: ➤ Good ➤ Error ➤ Available

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

10

Working with SiteScope Monitors

This chapter includes the main concepts, tasks, and reference information for working with SiteScope monitors.

This chapter includes:

Concepts

Tasks

Reference

SiteScope Monitors Overview

SiteScope monitors are tools for automatically connecting to and querying different kinds of systems and applications used in enterprise business systems. The different monitor types provide the generic capabilities for performing actions specific to different systems. You create one or more instances of a monitor type to instruct SiteScope how to monitor specific elements in your IT infrastructure.

For example, you can create 100 monitor instances that instruct the SiteScope CPU Monitor type to connect to and measure CPU utilization on remote servers. Each monitor instance contains a different setting defining which remote server is to be monitored and how often. SiteScope is then configured to automatically monitor the CPU utilization on 100 servers at regular intervals.

Monitor instances that you create must be added within a SiteScope monitor group container. You use group containers to help you organize the monitor instances that you create.

Note: For a list of counters or metrics that can be configured for SiteScope monitors, as well as versions of applications or operating systems that are supported, see the HP SiteScope Monitors and Metrics document located in **<SiteScope>\sisdocs\pdfs\SiteScope_Monitors_Metrics.doc**.

SiteScope Monitor Categories

SiteScope monitor categories are grouped according to classes that indicates their availability and category that reflect their function. When you select to add a new monitor to a SiteScope agent, the list of available monitor types for that agent are displayed both alphabetically and divided by category in the product interface. The availability of the monitor category is dependent on the class of monitor. This section describes the monitor classes and the category listing formats.

This section contains the following topics:

Solution Template Monitors

Solution template monitor types are a special class of monitors that enable new monitoring capabilities for specific applications and environments. As part of a solution template, these monitor types are deployed automatically together with other, standard monitor types to provide a monitoring solution that incorporates best practice configurations. These monitor types are controlled by option licensing and can only be added by deploying the applicable solution template. Once they have been deployed, you can edit or delete them using the same steps as with other monitor types. For more information, see "SiteScope Solution Templates" on page 1341.

The monitor types using solution templates include:

- Active Directory (with and without Global Catalog)
- Microsoft Exchange 5.5, 2000, 2003, 2007
- Microsoft IIS Server
- Microsoft SQL Server
- Microsoft Windows Resources

- Oracle Database 9i and 10g
- SAP Application Server (NetWeaver and R3)
- Siebel Application/Gateway/Web Server (for UNIX and Windows)
- UNIX Resources
- WebLogic Application Server
- WebSphere Application Server

Standard Monitors

Standard monitor categories represent the monitor categories available with a general SiteScope license. These monitor categories include many of the general purpose monitor categories. For information about the usage and configuring each monitor type, see the section for the particular monitor category.

- **Application Monitors**. Monitors in this category monitor 3rd party applications. These monitors enable SiteScope to access and retrieve data from the monitored applications. For more information about Application Monitor capabilities, see the section on "Application Monitors" on page 349.
- **Database Monitors.** Monitors in this category monitor different types of database applications. There are monitors that access data from specific database applications and generic monitors that can be configured to monitor any database application. For more information about Database Monitor capabilities, see the section on "Database Monitors" on page 521.
- **Generic Monitors.** Monitors in this category monitor various type of environment. These monitors can monitor networks, applications, and databases depending on how they are configured. For more information about Generic Monitor capabilities, see the section on "Generic Monitors" on page 569.
- **Network Monitors.** Monitors in this category monitor network health and availability. For more information about Network Monitor capabilities, see the section on "Network Monitors" on page 633.

- **Server Monitors.** Monitors in this category monitor server health and availability. For more information about Server Monitor capabilities, see the section on "Server Monitors" on page 697.
- **Stream Monitors.** Monitors in this category monitor applications that play media files and stream data. For more information about Stream Monitor capabilities, see the section on "Stream Monitors" on page 755.
- **Web Transaction Monitors.** Monitors in this category monitor web-based applications. For more information about Web Transaction Monitor capabilities, see the section on "Web Transaction Monitors" on page 773.

Integration Monitors

This group of optional monitor types are used to integrate HP products with other commonly used Enterprise Management systems and applications.

These monitor types require additional licensing and may only be available as part of another HP product. For more information about Integration Monitor capabilities, see the section on "Working with SiteScope Integration Monitors" on page 867.

Monitoring Remote Servers

Some SiteScope monitors use Internet protocols to test Web systems and applications. Other SiteScope monitors use network file system services and commands to monitor information on remote servers.

Monitoring remote Windows servers requires:

- SiteScope for Windows XP/2000/2003. In general, SiteScope for UNIX cannot monitor remote Windows servers.
- The SiteScope service must run in a user or administrative account that has permission to access the Windows Performance registry on the remote servers to be monitored. For details on how to change the SiteScope account user, see "Change the User Account of the SiteScope Service" on page 1018.

To monitor certain server level parameters on a remote server using the network files system services, you must create a remote server profile. A table of server profiles is listed on the Microsoft Windows/UNIX Remote Server page in the remote server view. The remote server profiles contain the address and connection information that SiteScope needs to make a remote connection. After creating remote server profiles, set up monitors to use the remote connection profile. For details on creating remote profiles and remotely monitoring either Windows or UNIX servers, see "Remote Servers Overview" on page 1014.

The requirements for monitoring services and applications that are running on remote servers vary according to the application and network policies in your environment. For information about how SiteScope monitors connect to remote systems, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015 and "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021.

You can also check for other information relating to monitoring remote servers in the HP Software Self-solve knowledge base (http://h20230.www2.hp.com/selfsolve/documents). To enter the knowledge base, you must log in with your HP Passport ID.

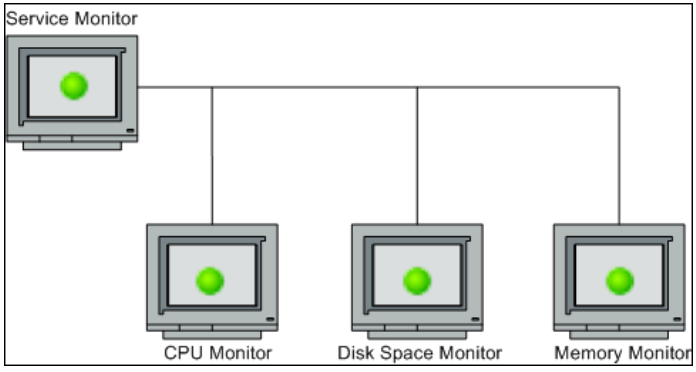
Monitoring Group Dependencies

To prevent redundant alerting from multiple monitors that are monitoring different aspects of a single system, select one monitor to check the basic availability of the system and then create other monitors that perform more detailed tests of that system. This creates a dependency relationship that enables you to make the running of a monitor group dependent on the status of a selected monitor.

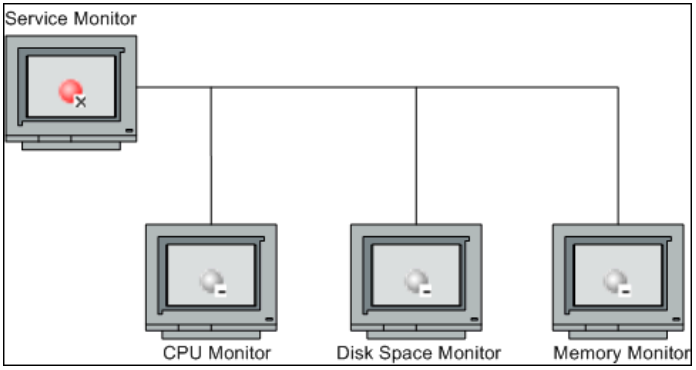
This section contains the following topics:

Depends On

You use this option to make the running of this monitor dependent on the status of another monitor. This can be used to prevent redundant alerting from multiple monitors that are monitoring different aspects of a single system. You can create a simple system monitor to check the basic availability or heartbeat of a system and then create other monitors that perform more detailed tests of that system. The figure below shows an example dependency relationship where three system monitors have been made dependent on a Service Monitor instance.



The detailed test monitors can be made dependent on the status of the heartbeat monitor by selecting that monitor. This means the dependent monitors run as long as the dependency condition is satisfied. If the heartbeat monitor detects that the target system has become unavailable, the dependency relationship automatically disables the other monitors. This has the effect of disabling any alerts that would have been generated by those monitors. The figure below shows the example monitors are disabled because the monitor on which they depend is reporting an error condition.



By default, no dependency is set for a monitor instance. To make the running of the monitor dependent on the status of another monitor, expand the node in the SiteScope tree containing the monitor to which to you want to create dependence, and select the check box next to the required monitor. To remove dependence on a monitor, clear the required check box.

Depends Condition

If you choose to make a monitor dependent on the status of another monitor (by using the **Depends on** setting), you use this option to select the status category or condition that the **Depends on** monitor should have for the current monitor to run normally.

The status categories include:

- Good
- Error
- Available
- Unavailable

The monitor being configured is run normally as long as the monitor selected in the **Depends on** box reports the condition selected in this box. If you have selected **Unavailable** and the **Depends on** monitor reports this status, the current monitors are not disabled.

For example, by selecting Good, this monitor is only enabled as long as the monitor selected in the **Depends on** box reports a status of Good. The current monitor is automatically disabled if the monitor selected in the **Depends on** box reports a category or condition other than the condition selected for this setting. See the examples for the Depends On setting.

For information about configuring dependency settings, see “Depends on” and “Depends condition” on page 308.

Setting Status Thresholds

You use the Threshold Settings section to set logic conditions that determine the reported status of each monitor instance. The status is based on the results or measurements returned by the monitor action on the target system as compared to the thresholds set for the monitor.

You can set status threshold criteria for each monitor instance to determine an **Error** status, a **Warning** status, and a **Good** status. Each status threshold consists of a measurement parameter, a logic comparison operation, and a measurement value that you may specify. The parameter and the value depend on the monitor type. For example, the measurement parameter for a CPU monitor is CPU utilization (%).

You can set up one or more status threshold criteria for each status condition. Most monitor types include one default setting for each of the three status conditions. By default, only one threshold is displayed when you first configure the monitor.

This section contains the following topics:

Scheduling

You can also select a schedule to determine the status of the monitor instance if you want to define when to check the monitor run result against the threshold. This is useful if you want to restrict checking the monitor run results against the threshold to certain days or hours only. For example, you may want the monitor status to be based on results gathered during business hours only. At times outside the threshold schedule period, the monitor is assigned the predefined status in the **Default status** box. By default, monitor run results are checked against the threshold on an **every day, all day** schedule.

Availability

When the monitor is not available, it is assigned a status that is based on the user definition in the **If Unavailable** drop-down list. A monitor can have a state of **Unavailable** as well as a status of **Good**, **Warning**, or **Error**. Alerts are triggered according to availability, status, or both availability and status.

Baseline Thresholds

Instead of setting logic conditions manually in the threshold settings for each monitor instance, you can have SiteScope calculate thresholds for one or more monitor instances using a baseline. For information about this topic, see "Setting Status Thresholds Using a Baseline" on page 269.

Threshold Status Impact

A change of status signals an event and acts as a trigger for alerts associated with the monitor or the group to which the monitor belongs. For example, if the monitor detects that the system has become unavailable, the status change from **Good** to **Error** is used to trigger an alert on error.

A change of status may also affect the state of a dependency between monitors. For example, a monitor that detects a change that results in an **Error** status may be a trigger to disable one or more other monitors that are dependent on the system. For information about dependency settings, see "Monitoring Group Dependencies" on page 263.

The threshold setting also affects the status of the monitor in the SiteScope Dashboard. When viewing SiteScope data in the Current Status tab of Dashboard, you can drill down in the monitor tree to view monitor and measurement status and availability. The status is displayed by color and a status icon in the SiteScope Dashboard. For information on measurement status and availability in the Dashboard user interface, see "Status and Availability Levels" on page 1510.

Multiple Thresholds

The individual threshold criteria results are combined as logical **OR** relationships when more than one threshold condition is defined for any of the three settings. When one or more of the conditions (for example when two conditions for **Error if** setting) are met for a status setting the monitor status is set to the corresponding status condition. If status conditions are met for more than one status condition setting the status of the monitor is set to the highest valued status condition.

For example, if one condition selected as **Error if** and another condition selected as **Warning if** are both met, the status would be reported as an **Error**, with **Error** being the highest value, **Warning** the next highest and **Good** the lowest value.

For details on configuring monitor status thresholds, see “Set Monitor Thresholds - Optional” on page 281.

Setting Status Thresholds Using a Baseline

Baseline data is gathered from monitor performance metrics over a period of time and is used to provide a comparison for establishing acceptable or expected threshold ranges. When the monitor's performance exceeds that range by some value (or does not reach that range, for example, in the case of Free Disk Space), the monitor can signal an error or warning. The acceptable threshold range of a monitor is determined by how far the current performance is from the baseline. Baselines enable you to understand how your applications typically perform and determine whether a performance problem is an isolated incident or a sign of a significant downward performance trend.

This section contains the following topics:

Calculating the Baseline

To enable SiteScope to begin calculating baselines, you select the groups and/or monitors to be used for collecting baseline data. You can also select the schedule ranges used for collecting baseline threshold data. This enables you to restrict to certain days or hours of the week the periods during which SiteScope collects data for the baseline calculation. For example, you may want the monitor status to be based on results gathered during peak business hours only.

You can also select the adherence level used for determining the extent to which values for the baseline calculation affect the threshold values and set threshold boundaries for all monitor measurements. For details, see "Setting the Baseline Adherence Level" on page 273 and "Understanding the Good and Error Boundaries" on page 273.

The baseline engine calculates the baseline for each schedule using measurements collected from the monitors during the data collection period. SiteScope uses a percentile algorithm in the baseline calculation, in which a percentile value is used to determine the value of the baseline. For details on how baseline thresholds are calculated, see "Understanding Baseline Threshold Values" on page 275.

Activating the Baseline

After the baseline is calculated, you can review a summary of calculated monitors and analyze the baseline data in the Activate Baseline dialog box. The dialog box lists all the monitor instances for which a baseline was calculated, the date of the baseline calculation, and the reduction in the number of error and warning statuses that would have been generated for a monitor if the baseline thresholds were applied. If SiteScope is unable to calculate a baseline for a monitor, it lists a reason for calculation failure.

You can also view a graph that displays the current thresholds, the baseline thresholds, and historic data of all baseline-related monitor measurements over a 24-hour time period for each monitor measurement. The graph includes an annotation tool that enables you to annotate a snapshot of the graph you are viewing, to highlight important areas. You can save, print, or e-mail an annotation graph. For details on the user interface, see "Annotation Tool" on page 1697.

After reviewing the baseline data, you can activate baseline threshold configuration. This applies the baseline values to the thresholds for the selected monitors. You can also activate the baseline for monitors that failed for the reason **Insufficient data** by using the limited measurement samples that were collected.

Before activating the baseline threshold, you should consider the option to save the current monitor configuration, because you cannot undo threshold configuration changes after the baseline has been activated.

When the baseline is activated, the baseline thresholds are displayed in the Threshold Settings area for each monitor. Each day when SiteScope restarts, the baseline value is recalculated according to the history samples collected for the measurement and the current day's readings, and the baseline threshold values are recalculated and updated accordingly.

At any time, you can create a baseline summary report showing the baseline status and baseline status description for each monitor in the selected context.

Notes and Limitations

- Only an administrator in SiteScope, or a user granted **Edit monitors** permissions can use the baseline feature to set monitor thresholds, and only for the monitors that are in the users allowed groups list. Any user can view the Baseline Status Report regardless of edit permissions.
- You cannot add or delete thresholds or measurements, or copy or move monitors during the baseline calculation process (up until the point that the monitor baseline is activated).
- Before the baseline is calculated, the monitors should be enabled and allowed to run for a period long enough for SiteScope to accumulate sufficient data to calculate the baseline. This period depends on the **Minimum number of days required for baselining** and **Minimum number of samples required for baselining** settings in the Infrastructure Settings Preferences. For details, see "Baseline Settings" on page 1158. The baseline can still be calculated and activated even if the monitor has insufficient data, although the calculation may not be accurate.
- After you define a set of counters for a browsable monitor and the monitor runs with these counters for some time, if you later change the counters (for example, remove existing counters and/or add new counters), and then you attempt to calculate baseline, the calculation results may be incorrect. This can occur because old data, possibly for counters that no longer exist, interferes with the new data. The calculation may also be incorrect for counters that have not changed since the monitor was created. To avoid this problem, you should not make any changes to a monitor's browsable counters during the minimum number of days period required for calculating the baseline.
- You can change threshold related properties using Global Search and Replace, regardless of whether the threshold was created using a baseline or manually. However, you cannot activate a baseline threshold for a monitor using Global Search and Replace.

- During the baseline calculation and after the baseline is activated, only certain baseline threshold changes are supported. The same restrictions apply when you change threshold related properties using Global Search and Replace. For details on the threshold changes that are allowed, see "Changing Threshold Settings" on page 314.
- If SiteScope restarts before the baseline calculation or activation process is complete, it automatically continues the process after the restart. Monitors with any other baseline status (**Calculated, not activated**; **Activation failed**; **Calculation failed**; **Baseline activated**) are not affected by the restart.
- If you make changes directly to the SiteScope group .MG files in the **<SiteScope root directory>\groups** directory, only the threshold changes permitted in the user interface are supported (any other changes are ignored). Changes to the baseline status can also be made in the .MG files, but they are not supported.
- Baseline thresholds are not copied or moved along with the other group or monitor objects when copying or moving a group or monitor with an activated baseline.
- If you click the **Help** button in any of the baseline dialog boxes, you may be prompted to enter your user login credentials.
- Memory consumption increases for each monitor threshold set using a baseline. To reduce memory consumption, you can set the **Interval for saving accumulated baseline data to disk** settings in the Baseline Settings. For details, see "Baseline Settings" on page 1158.

  For details on setting thresholds using a baseline, see "Set Monitor Thresholds Using a Baseline" on page 282.

Setting the Baseline Adherence Level

You can select the baseline adherence level used for determining the threshold value. This is the extent to which values for the baseline calculation affect the threshold values for all monitor measurements. You can select **High adherence**, **Medium adherence**, or **Low adherence**. The higher the adherence level, the closer the threshold range is to the monitor measurement baseline values. Conversely, the lower the adherence level, the further the threshold range is from the monitor measurement baseline values.

In addition to selecting the adherence level, you can also fine-tune the adherence level for individual monitor measurements by configuring adherence percentiles separately for each monitor measurement. Adherence levels are based on adherence percentiles—a measurement value that determines when a measurement is in error or warning. For browsable monitor measurements, you can configure only one set of adherence percentiles that is used by all browsable monitors.

To manually fine-tune the adherence level, you should understand how the threshold values are created. For details on this topic, see "Understanding Baseline Threshold Values" on page 275.

Understanding the Good and Error Boundaries

Configuring good and error boundaries is useful to avoid setting off errors and warnings unnecessarily when using baseline thresholds. You can manually set a good boundary for each monitor measurement and the browsable monitor counters. SiteScope automatically configures the error boundary for each monitor measurement.

Note: To set good boundaries, it is important to understand how baseline threshold values are created. For details on this topic, see "Understanding Baseline Threshold Values" on page 275.

Good Boundary

This is the value of a measurement that is not considered to be in error status, even though according to existing baseline percentiles it should report an error. For example, consider a low load system where CPU utilization measurements are constantly below 3%. Based on these measurements, SiteScope might calculate a baseline threshold with a 5% error threshold. Because this is not an accurate measure of CPU load error, you may want to define 70% CPU utilization as the good boundary to avoid generating false errors. Provided CPU utilization remains below this limit (even though it is above the baseline error threshold), the monitor is not in error status.

You manually set the Good Boundary in the Fine Tune Adherence Levels /Set Boundary dialog box. For details on the user interface, see "Fine-Tune Adherence Levels/Set Boundary Dialog Box" on page 333.

Error Boundary

This is the value of a measurement that is considered to be in error status, even though according to existing baseline percentiles it should not report an error. This can occur when a measurement value grows slowly over a period of time, for example, due to a slow memory leak. Because the baseline threshold is recalculated and updated every day as the measurement average increases, the measurement value does not cross the new threshold.

To overcome this problem, SiteScope automatically sets the error boundary for each monitor measurement. It does this by setting a limit that triggers errors when monitor measurements exceed a specified value, regardless of the baseline. For example, if SiteScope sets an error boundary of 80% CPU utilization, values over 80% CPU utilization are in error status even if the calculated baseline error threshold is not exceeded.

For information on how the error boundary is calculated, see "How SiteScope Calculates the Error Boundary" on page 276.

Understanding Baseline Threshold Values

To help you fine-tune the percentile value used in the baseline calculation at each adherence level and to set the error and good boundaries (for details, see "Understanding the Good and Error Boundaries" on page 273), it is important to understand:

- the types of threshold values
- how they are applied to measurements
- how measurements are used to calculate baseline thresholds and boundaries

Baseline thresholds are added or updated dynamically to the monitor configuration for each measurement the monitor had before the baseline was calculated. Baseline thresholds are added for each schedule selected for collecting baseline data.

In general, there are two types of thresholds: baseline thresholds and static thresholds. Baseline thresholds have a percentile value that is used to determine when a measurement is in error or warning status, while static thresholds have an actual fixed value. Baseline threshold measurements have a condition of either >= or <= depending on the direction of the measurement.

Baseline thresholds are changed, added, or deleted on measurements provided the following two conditions are met:

- The measurement can be used in the baseline calculation. To be used in the baseline calculation, a measurement must be numeric and it must have a direction. An example of a measurement that cannot be used in the baseline calculation is a URL 404 error code (it is numeric, but it has no direction).
- The measurement has a static threshold defined for any schedule and any status category (Good, Warning, Error) prior to the baseline calculation.

Measurements that do not adhere to these conditions are not affected (in terms of the thresholds defined on them), and a baseline is not calculated for these measurements.

How SiteScope Calculates Thresholds

When SiteScope calculates the baseline, it creates a percentile value for each baselinable threshold measurement for each schedule. SiteScope makes an adjustment for extreme measurements by discarding, by default, 2% of the most extreme samples (considered "noise" measurements), and calculates the percentiles on the remaining measurements. For example, if most monitor run results on a server show CPU utilization of no more than 20% and one peak value of 50%, the peak value is not used to determine the baseline. You can change the percentage of discarded measurement samples in the Baseline Settings.

The baseline engine uses a sliding-window approach to calculate thresholds. This means that newer data samples have more influence on the baseline calculation than older samples, and that after a period of time (by default 30 days), the historic data becomes obsolete. You can set the number of days to include in the calculation in the Baseline Settings.

For information about configuring Baseline Settings in the Infrastructure Settings Preferences, see “Baseline Settings” on page 1158.

How SiteScope Calculates the Error Boundary

SiteScope uses the percentile value to create an error boundary for each measurement. This is the value of a measurement that is considered to be in error status, even though according to existing baseline percentiles it should not report an error. For details, see “Error Boundary” on page 274.

SiteScope calculates the error boundary in one of the following ways:

- If the measurement has a static error threshold for the specific schedule, the percentile value of the baseline threshold is calculated into an actual value and this value is then compared to the value of the static threshold as follows:
  - If the static error threshold value is more extreme than the baseline threshold value, the static error threshold value is used as the error threshold boundary for that measurement.

    Example: If the static error threshold is 100% CPU utilization and the computed baseline threshold is 67% CPU utilization, the static error threshold value (100% CPU utilization) is used as the error boundary.
  - If the baseline threshold value is more extreme than the static error threshold value, then the offset value is used. The offset is a percentage value that SiteScope adds to the baseline threshold value (or subtracts from, depending on the direction of the measurement), and the resulting value is used as the error boundary for that measurement. You can determine the offset value in the Baseline Settings area of Infrastructure Settings Preferences.

    Example: If the static error threshold for a schedule is 60% CPU utilization and the computed baseline threshold value is 65% CPU utilization, the error boundary is calculated as:
    65% CPU utilization * 130% (using the default offset value of 0.3) = 84.5% CPU utilization.
- If there is no error threshold value for the measurement with the specific schedule prior to calculating the baseline (the measurement has a warning or good threshold value but no error threshold value), and the **Automatically create an error boundary if no error thresholds are defined** option is selected in the Baseline Settings, the percentile value of the baseline threshold is calculated into an actual value and the offset value is added to/subtracted from the baseline threshold value (depending on the direction of the measurement). The resulting value is used as the error boundary for the measurement.

Note: An error boundary is not created if:

- There is no error threshold value for the measurement with the specific schedule prior to calculating the baseline (for example, the measurement has a warning or good threshold value but no error threshold value), and
- The **Automatically create an error boundary if no error thresholds are defined** option is not selected.

For details on defining the offset value and automating error boundary creation, see "Baseline Settings" on page 1158.

Deploy a Monitor – Workflow

This task describes the steps involved in deploying a monitor.

1 Prerequisites

- Monitors can be created in a SiteScope group only. For details on how to create a group, see "Create SiteScope Groups and Subgroups" on page 250.
- To enable SiteScope to monitor data on remote servers, you must configure remote servers.
  - For details on enabling SiteScope to monitor data on remote Windows servers, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
  - For details on enabling SiteScope to monitor data on remote UNIX servers, see "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021.

2 Create Monitor Instances

You can create new monitor instances, or copy or move existing monitor instances to the group in the monitor view.

- **Create a new monitor.** Right-click the group into which you want to add the monitor instance, and select **New** > **Monitor**. Select the monitor you want to add from the New Monitor Page, and complete the monitor properties form. For details on the user interface, see "New Monitor Page" on page 300.
- **Create a monitor by copying or moving an existing monitor.** Right-click the monitor you want to copy or move, and click **Copy** or **Cut**. Right-click the location in the monitor tree where you want to copy or move the monitor, and click **Paste**. After copying a monitor, you normally need to change the system or application that the monitor is targeting, otherwise the copied monitor duplicates the monitoring actions of the original monitor instance.

Note: You can also move or copy multiple monitors and groups to a target group by clicking the **Manage Monitors and Groups** button  in the monitor tree toolbar. For details on the user interface, see "Manage Monitors and Groups Dialog Box" on page 58.

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3 Add URL Links to Monitor Description - Optional

You can add additional information to describe a monitor, and include HTML tags for hyperlinks to enable you to access URLs from the Dashboard.

a To add a hyperlink, open the **Properties** tab for the selected monitor.

b Expand the **General Settings** panel and enter the URL in the **Monitor description** field. For example, My Link.

c Click the **Dashboard** tab. A URL is displayed in the **Description** field for the selected monitor. To open the URL, click the monitor's **Description** field, and then click the link.

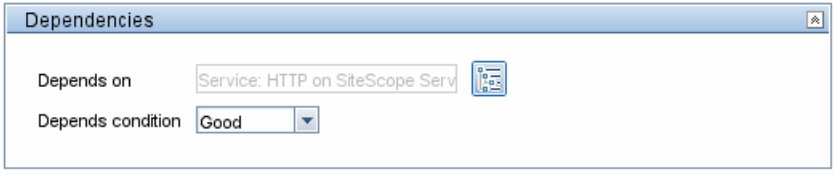
4 Set Monitor Dependencies - Optional

You can set monitor dependencies to make the running of this monitor dependent on the status of another monitor.

For details on how to set monitor dependencies, see "Dependencies" on page 307.

Example

The monitor being configured is run normally as long as the monitor selected in the **Depends on** box reports the condition selected in the **Depends condition** box. In this example, the monitor being configured is enabled only when the **Service** monitor reports a status of **Good**.



5 Set Monitor Thresholds - Optional

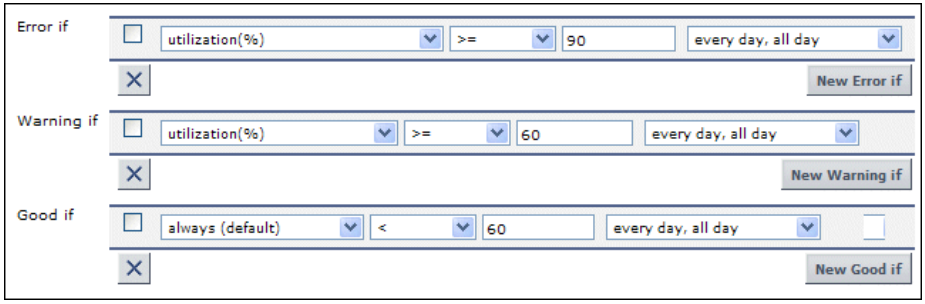
You can manually set logic conditions that determine the reported status of each monitor instance, or you can set thresholds for one or multiple monitors using a baseline.

➤ For details on the user interface for setting monitor thresholds manually, see "Threshold Settings" on page 309.

➤ For details on how to set monitor thresholds using a baseline, see "Set Monitor Thresholds Using a Baseline" on page 282.

Example

If you are monitoring a CPU and acceptable thresholds are 60%-90%, set the threshold settings as follows:



CPU utilization of less than 60% results in a good status; CPU utilization equal to or greater than 60% but lower than 90% results in a warning status; CPU utilization equal to or greater than 90% results in an error status.

6 Set Up Monitor Alerts - Optional

To create an alert for the monitor, right-click the monitor and select **New** > **Alert**. For each alert scheme, you can create one or more alert actions. In the New Alert page, click **Add Action** to start the Alert Action wizard.

For details on how to perform this task, see "Configure an Alert" on page 1604.

7 Set Up Monitor Reports - Optional

To create a report for the monitor, right-click the monitor and select **New** > **Report**. Select a report type from the New SiteScope Report page and configure the report settings.

For details on how to perform this task, see "Create a Report" on page 1653.

8 Results

The monitor is added to the specified monitor group in the monitor tree.

Set Monitor Thresholds Using a Baseline

This task describes the steps involved in setting monitor thresholds using a baseline.

This task includes the following steps:

1 Prerequisites

Before calculating a baseline for a monitor, make sure that the monitor is enabled and has run for a period long enough for SiteScope to accumulate sufficient data to calculate the baseline. This period depends on the minimum number of days and samples required to calculate the baseline which you configure in the Baseline Settings. For details on the user interface, see "Baseline Settings" on page 1158.

Note: The baseline can still be calculated and activated even if the monitor has insufficient data, although the calculation may not be accurate.

---

2 Configure Baseline Settings Preferences - Optional

You can view and define the values of global SiteScope baseline settings in Infrastructure Settings Preferences. This includes calculation and activation priority settings, the number of days of historical data to include in baseline calculations, and the offset for calculating the error boundary.

For details on the user interface, see "Baseline Settings" on page 1158.

3 Calculate the Baseline

Define thresholds on the monitor measurements for which the baseline should be calculated.

a Select the monitor instances you want to baseline. For details on the user interface, see "Select Monitors for Baseline Calculation" on page 330.

b Select one or more schedule ranges to be used for collecting baseline data, or accept the default schedule (every day, all day). For details on the user interface, see "Schedule" on page 331.

c Select the global baseline adherence level that is used for determining the extent to which values for the baseline calculation affect the threshold values for all monitor measurements. For details on the user interface, see "Adherence Level" on page 331.

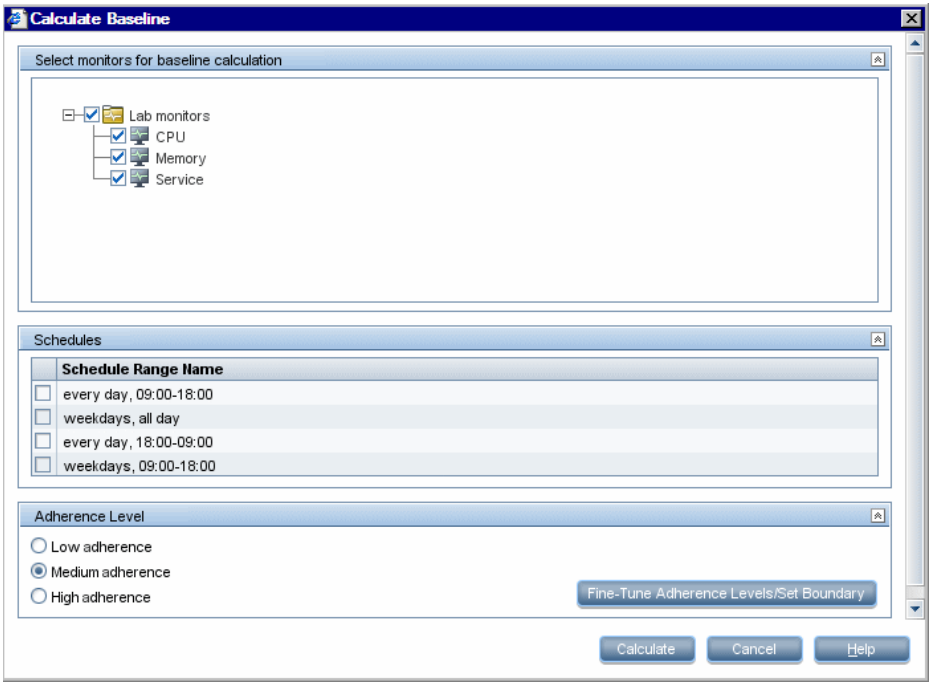
d Additionally, you can click the **Fine-Tune Adherence Levels/Set Boundary** button to:

- Individually fine-tune the baseline adherence level for any monitor measurement.
- Define a good boundary for each monitor measurement. A measurement within this boundary is not in error status, even though it should report an error according to existing baseline percentiles.

For details on the user interface, see "Configure Adherence Percentiles" on page 333.

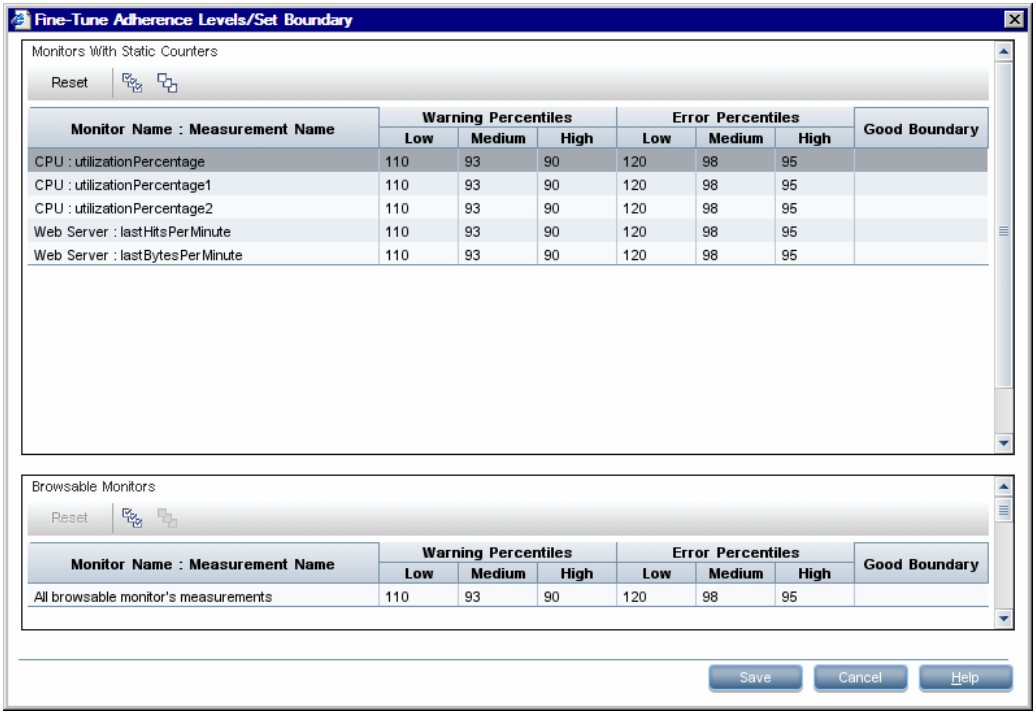
e Click the **Calculate** button to perform the baseline threshold calculation.

Example - Calculate Baseline Dialog Box



Note: Only those monitors that the user is eligible to see according to their user permissions are displayed.

Example - Fine-Tune Adherence Levels/Set Boundary Dialog Box

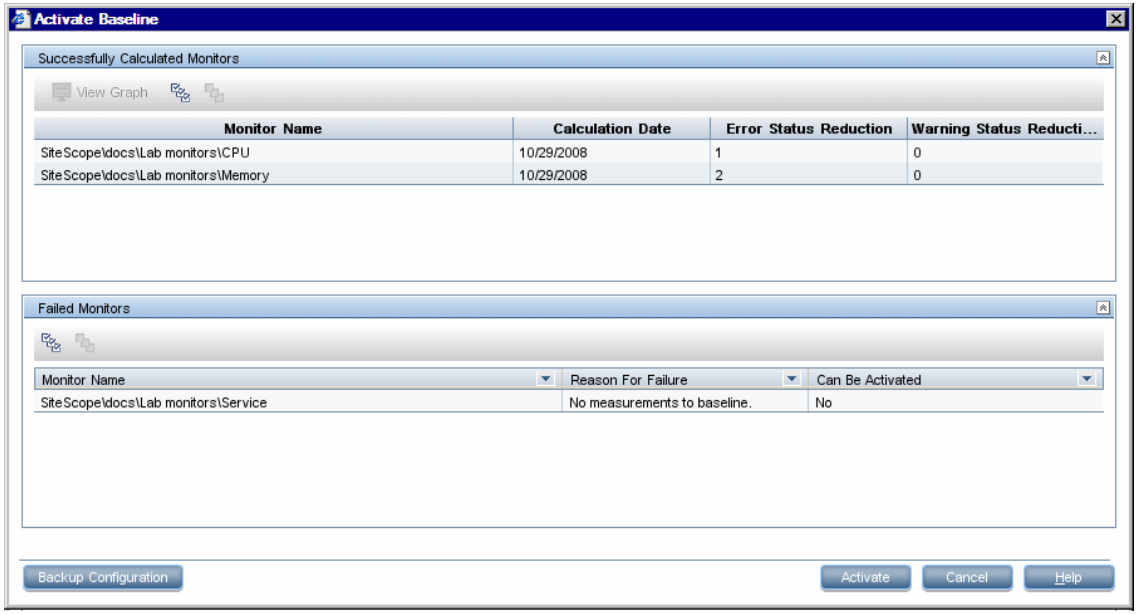


4 Review the Baseline Settings

Review the summary of calculated monitors and baseline data in the Activate Baseline dialog box. Only the monitors that the user is eligible to see according to their user permissions are displayed.

For details on the user interface, see "Activate Baseline Dialog Box" on page 335.

Example



Note: Only those monitors that the user is eligible to see according to their user permissions are displayed.

---

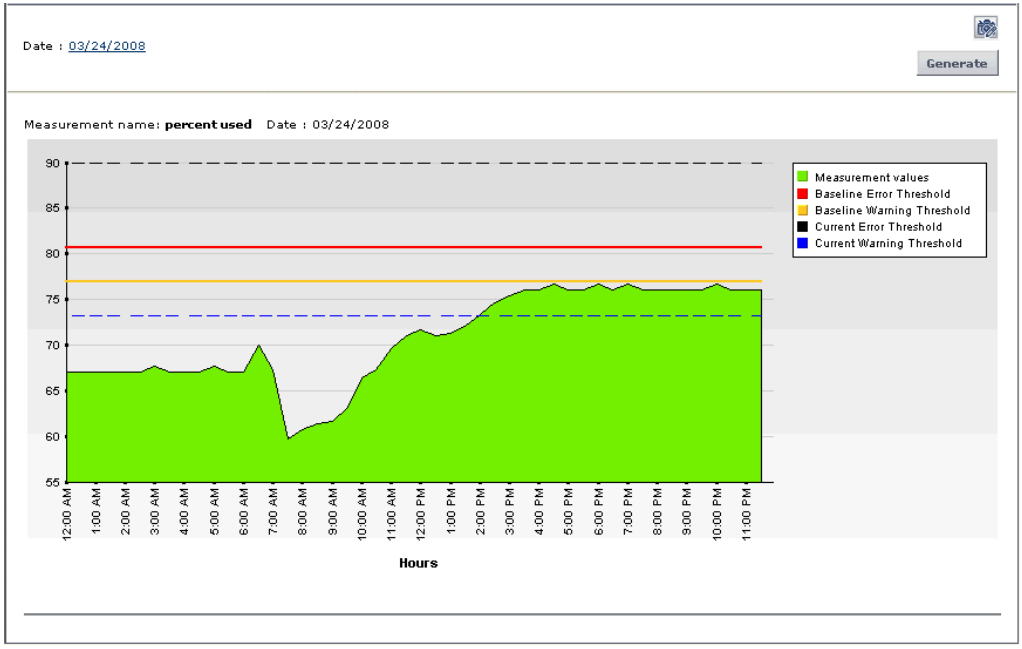
5 View the Baseline Monitor Measurements Graphs

You can view a graphical display of each monitor's baselined measurements to analyze the baseline data for a selected day. You can also use the annotation tool to create a snapshot of the graph you are viewing and highlight important areas.

For details on the user interface, see "Baseline Monitor Measurement Graphs Dialog Box" on page 340.

Note: The data displayed in the graphs is an aggregate of the measurement data and as such, the time periods may not accurately reflect the time the data was actually collected.

Example



6 Activate the Baseline Settings

Select the monitors for which you want to set thresholds using a baseline, and click **Activate**. You can select all monitors with a successfully calculated baseline, and those that failed with the reason **Insufficient data** (indicated by **Yes** in the **Can Be Activated** column). The monitor thresholds are configured according to the baseline calculation, and are set to change status when the thresholds settings are exceeded.

For details on the user interface, see "Activate Baseline Dialog Box" on page 335.

Note: If you want to revert to the current monitor threshold configuration, select the option to save the current monitor configuration before activating the baseline configuration.

---

7 View Baseline Properties in the Baseline Status Report

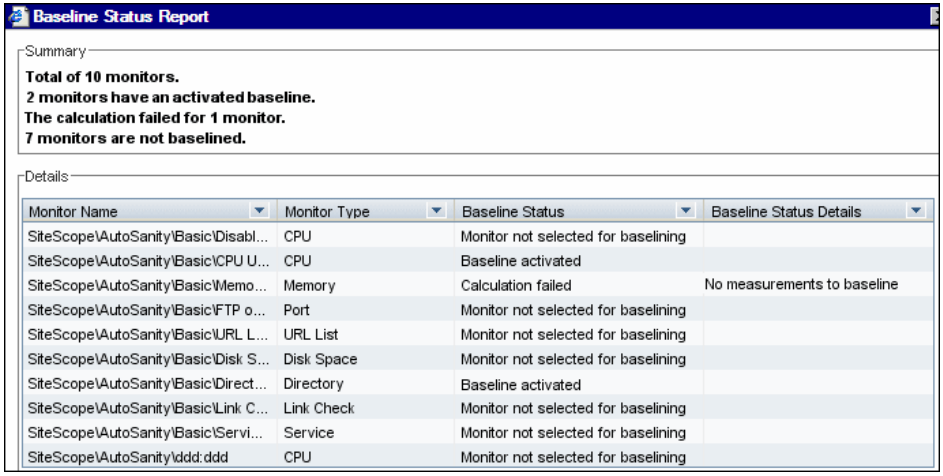
You can create an ad hoc report showing information about each monitor in the selected context, including each monitor's baseline status and baseline status description.

For details on the user interface, see "Baseline Status Report" on page 345.

You can also track the baseline status for a monitor in the monitor's Baseline Settings.

For details on the user interface, see "Baseline Settings" on page 322.

Example - Baseline Status Report



Baseline Status Report

Summary

Total of 10 monitors.
2 monitors have an activated baseline.
The calculation failed for 1 monitor.
7 monitors are not baselined.

Details

Monitor Name	Monitor Type	Baseline Status	Baseline Status Details
SiteScope\AutoSanity\Basic\Disabl...	CPU	Monitor not selected for baselining	
SiteScope\AutoSanity\Basic\CPU U...	CPU	Baseline activated	
SiteScope\AutoSanity\Basic\Memo...	Memory	Calculation failed	No measurements to baseline
SiteScope\AutoSanity\Basic\FTP o...	Port	Monitor not selected for baselining	
SiteScope\AutoSanity\Basic\URL L...	URL List	Monitor not selected for baselining	
SiteScope\AutoSanity\Basic\Disk S...	Disk Space	Monitor not selected for baselining	
SiteScope\AutoSanity\Basic\Direct...	Directory	Baseline activated	
SiteScope\AutoSanity\Basic\Link C...	Link Check	Monitor not selected for baselining	
SiteScope\AutoSanity\Basic\Servi...	Service	Monitor not selected for baselining	
SiteScope\AutoSanity\ddd:ddd	CPU	Monitor not selected for baselining	

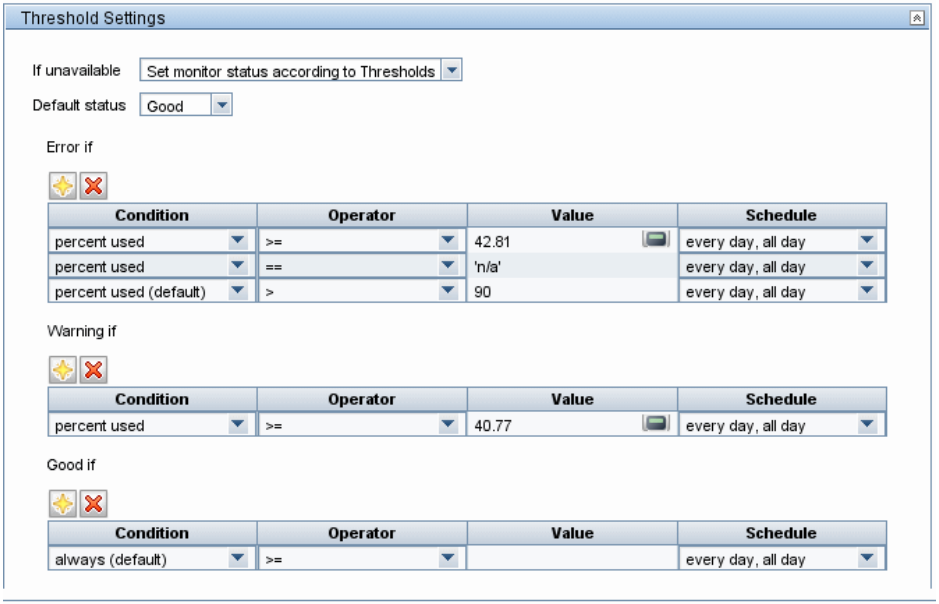
8 View and Modify Baseline Thresholds

In the Threshold Settings, you can view the baseline thresholds and manually fine-tune the thresholds by changing the percentile value from which the threshold value is derived.

For details on the user interface, see "Threshold Settings" on page 309.

Example

In the example, the Error if percent used threshold value is >= 42.81 and the Warning if percent used threshold value is >= 40.77 (both these values are non-editable). To change the threshold values, you must change the percentile value from which the threshold values are derived. To help you understand what the new threshold value will be after you change the percentile value, click the **Percentiles Table** button to open the percentile table that shows the threshold value that is mapped to each percentile range.



Note: The **Error if percent used (default)** > 90 threshold is the error boundary. This is the value of a measurement considered to be in error status, even though according to existing baseline percentiles it should not report an error. For example, if the baseline threshold were updated to **Error if percent used (%)** >= 96, all measurements greater than 90 are in error status, even if the calculated baseline error threshold of 96 is not exceeded. For details on this topic, see "Error Boundary" on page 274.

Monitors Supported in Windows Environments Only

The following table lists the monitors that are supported in SiteScopes that are running on Windows versions only. Where relevant, the monitors can monitor remote servers running on any platform/operating system.

Monitor Type
ASP Server
Browsable Windows Performance Counter
Citrix Server
ColdFusion Server
IIS Server
MAPI
Microsoft Exchange 2003 Mailbox
Microsoft Exchange 2003 Message Traffic
Microsoft Exchange 2007 Message Traffic
Microsoft Exchange 2003 Public Folder
Microsoft Exchange 5.5 Message Traffic
Microsoft SQL Server

Monitor Type
Microsoft Windows Dialup
Microsoft Windows Event Log
Microsoft Windows Media Player
Microsoft Windows Media Server
Microsoft Windows Performance Counter
Microsoft Windows Resources
Microsoft Windows Services State
Network
Real Media Player
Real Media Server
SAP CCMS
SiteScope Server Health
Sybase
Tuxedo
Web Script

Ports Used for SiteScope Monitoring

The following table lists the network ports that are generally used for SiteScope monitoring. In many cases, alternate ports may be configured depending on the security requirements of your environment.

Monitor Type	Ports Used
Apache Server Monitor	Port which Apache Server Admin pages located. Configurable by using server configuration file.
ASP Server	Windows Performance Counters over ports 137, 138, and 139 (NetBIOS).
BroadVision Application Server	Uses the Object Request Broker (ORB) port number for the BroadVision server you are trying to monitor.
Checkpoint Firewall -1	SNMP monitor. Default is port 161.This is configurable.
Cisco Works	Cisco Works resources are usually available by using port 161 or 162 (SNMP), depending on the configuration of the server.
Citrix Server	Ports 137, 138, and 139 (NetBIOS).
ColdFusion Server	Ports 137, 138, and 139 (NetBIOS).
CPU Utilization	For local CPU, no ports required. For CPUs on remote servers (Windows-based systems): ports 137, 138, and 139 (NetBIOS). For CPUs on remote servers (Solaris/Linux-based systems): ports 22 (SSH), 23 (telnet), or 513 (rlogin).
Database Query	This is configurable and depends on ODBC or JDBC driver and DB configuration.
DB2	Default is port 50000. This is configurable.
DHCP	Default is port 68.

Monitor Type	Ports Used
Directory	For local directory, no ports required. For directories on remote servers (Windows-based systems): ports 137, 138, and 139 (NetBIOS). For directories on remote servers (Solaris/Linux-based systems): ports 22 (SSH), 23 (telnet), or 513 (rlogin).
Disk Space	For local disk space, no ports required. For disk space on remote servers (Windows-based systems): ports 137, 138, and 139 (NetBIOS). For disk space on remote servers (Solaris/Linux-based systems): ports 22 (SSH), 23 (telnet), or 513 (rlogin).
DNS	Default is port 53.
F5 Big IP	Uses SNMP. This is configurable.
File	Local disk. No ports required. For files on remote servers (Windows-based systems): ports 137, 138, and 139 (NetBIOS). For files on remote servers (Solaris/Linux-based systems): ports 22 (SSH), 23 (telnet), or 513 (rlogin).
FTP	Default is port 21.This is configurable.
IIS Server	Windows Performance Counters over ports 137, 138, and 139 (NetBIOS).
LDAP	The default is port 389. This is configurable.
Link Check	The default is port 80. This is configurable.
Log File	Ports 137, 138, and 139 (NetBIOS) for Windows based systems. Ports 22 (SSH), 23 (telnet), or 513 (rlogin) for Solaris/Linux based systems.
Mail	Port 110 for POP3, port 25 for SMTP, port 143 for IMAP.

Monitor Type	Ports Used
MAPI	MAPI uses the Name Service Provider Interface (NSPI) on a dynamically assigned port higher than 1024 to perform client-directory lookup.
Memory	Ports 137, 138, and 139 (NetBIOS) for Windows based systems, ports 22 (SSH), 23 (telnet), or 513 (rlogin) for Solaris/Linux based systems.
Microsoft Windows Event Log	Ports 137, 138, and 139 (NetBIOS).
Microsoft SQL Server	Ports 137, 138, and 139 (NetBIOS).
Microsoft Windows Media Player	Same port as media content to be monitored.
Microsoft Windows Media Server	Ports 137, 138, and 139 (NetBIOS).
Microsoft Windows Performance Counter	Ports 137, 138, and 139 (NetBIOS).
Network	No ports required; monitors only the local machine.
News	Default is port 144. This is configurable.
Oracle Database (JDBC)	This is configurable. Depends on target DB. Default is port 1521.
Oracle9i App Server	This is configurable. Port which Webcaching admin page located.
Ping	Default is port 7.
Port	Monitors any port.
Radius	Currently supports Password Authentication Procedure (PAP) authentication but not the Challenge Handshake Authentication Protocol (CHAP) or Microsoft Challenge Handshake Authentication Protocol (MS-CHAP). The RADIUS servers must be configured to accept PAP requests. Default is port 1645. In recent changes to the RADIUS spec, this may be changed to 1812. The monitor is configurable.

Monitor Type	Ports Used
Real Media Player	Uses Real Media client on SiteScope box. Uses the port from which the media content is streamed (based on the URL).
Real Media Server	Ports 137, 138, and 139 (NetBIOS).
SAP	Uses SAP Client software (SAP Front End) to run certain SAP transactions. Therefore, same ports as SAP.
Script	Ports 137, 138, and 139 (NetBIOS) for Windows based systems. Ports 22 (SSH), 23 (telnet), or 513 (rlogin) for Solaris/Linux based systems.
Service	Ports 137, 138, and 139 (NetBIOS) for Windows based systems. Ports 22 (SSH), 23 (telnet), or 513 (rlogin) for Solaris/Linux based systems.
SNMP	Default is port 161. This is configurable.
SNMP Trap	Uses port 162 for receiving traps. This is configurable.
SunONE Web Server	URL to the stats-xml file on the target SunONE server. The port is configurable.
Sybase	Monitor requires Sybase Central client on the machine where SiteScope is running to connect to the Adaptive Server Enterprise Monitor Server. Port number the same as Sybase client.
Tuxedo	The default port for the TUXEDO workstation listener is port 65535. This is configurable.
URL	Generally port number 80. This is configurable.
Web Server	Ports 137, 138, and 139 (NetBIOS) for Windows based systems. Ports 22 (SSH), 23 (telnet), or 513 (rlogin) for Solaris/Linux based systems.
Web Service	This is configurable.

Monitor Type	Ports Used
WebLogic Application Server	BEA WebLogic Application Server monitor uses the Java JMX interface. Port is configurable.
WebSphere Application Server	Same port as the IBM WebSphere Administrator's Console.
WebSphere Performance Servlet	WebSphere Performance Servlet. Port is configurable.

List of Deprecated SiteScope Monitors

In recent versions of SiteScope, a number of monitors were deprecated and are no longer supported. The following table lists the deprecated monitors, and where available, the respective monitors that can replace them. :

Deprecated Monitor	Recommended Alternative Monitor
Active Directory Performance	N/A
Asset	N/A
Astra Load Test	Web Script
DB2	DB2 8.x
Dynamo	N/A
IPlanet Application Server	SunONE Web Server
IPlanet Server	SunONE Web Server
IPlanet Web Server	SunONE Web Server
Network	Network Bandwidth
Quick Test Pro	Web Script
RTSP	Real Media Player
SAP	SAP Performance
SAP Portal	SAP CCMS
SilverStream Server	N/A
WebLogic 5.x Application Server	N/A

For SiteScope upgrade purposes, you can check if the current configuration has any deprecated monitors using the End of Life Monitor Viewer. For details on using the End of Life Monitor Viewer, see "Using the End of Life Monitor Viewer" in the *HP SiteScope Deployment Guide* PDF.

For a list of deprecated Technology Integration monitors, see "List of Deprecated Integration Monitors" on page 880.

SiteScope Monitors User Interface

This section describes:

New Monitor Page

Description	Enables you to define a new monitor in a monitor group. **To access:** Open the **Monitors** context. In the monitor tree, right-click a group and select **New** > **Monitor**.
Important Information	Monitors can be created only in a SiteScope group. You cannot delete a monitor if it has dependent alerts or reports at the container level. To delete a monitor with dependencies, you must remove the monitor from **Alert Targets** and **Report Targets** for each dependency, and then delete the monitor. You can delete monitors that have dependencies at the child level. The Monitor description field supports HTML tags (HTML version 3.2) including the most common tags for text styling, such as , <HR>, and <B>, and hyperlinks. It does not support Javascript/iframes/frames or other advanced features. HTML code entered in monitor description fields is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Quick Search	Enter a monitor name in the **Quick Search** box. You can select the following settings to help you with your search: ➤ **All.** Search for matches in all columns. ➤ **Monitor.** Search for matches in the Monitor column only. ➤ **Category.** Search for matches in the Category column only. ➤ **Case sensitive.** Search for matches that are case sensitive. ➤ **Case insensitive.** Search for matches that are not case sensitive. ➤ **Use wild cards.** Enables you to use wild card characters in your search. For example, use an asterisk wildcard (*) to represent a string of characters, or a question mark wild card (?) to represent one character only. ➤ **Match from start.** Search for monitors/monitor categories that match the search text from the start. ➤ **Match anywhere.** Search for monitors/monitor categories that contain the search text somewhere in the name.
Recently Used Monitors	Select a monitor from a display of monitors that were recently added to SiteScope monitor groups. **Note:** ➤ The five most recently selected monitors are listed here. ➤ The displayed monitors may change as more selections are made.

GUI Element	Description
Available Monitors	Select a monitor to deploy by selecting it from the list of available monitors or by category. To select by category, click the arrow to the right of the **Category** heading, and select a monitor category from the list detailed below. You can change the alphabetical order (ascending or descending) of the listed monitors or categories, by clicking the arrow in the header of the **Monitor** or **Category** column.
Category	You can add a monitor by selecting one of the following categories, and clicking a monitor in that category: ➤ All (default) ➤ Application ➤ Database ➤ Generic ➤ Integration ➤ Network ➤ Server ➤ Stream ➤ Web Transaction

Common Monitor Settings

The following setting panels in the monitor Properties tab are common to all monitors. For details on the monitor specific settings, see the user interface page for the specific SiteScope monitor.

This section includes:

- "HP BAC Integration Settings" on page 316
- "Enable/Disable Monitor" on page 319
- "Enable/Disable Associated Alerts" on page 320
- "Search/Filter Tags" on page 321
- "Baseline Settings" on page 322

Note: HTML code entered in the monitor description fields is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected.

General Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a name that describes the element or system being monitored. Use a useful naming convention for all monitors to make creating view filters and category assignments more effective. **Example:** <hostname:resource_type> or <business_unit resource_name monitored_element> **Default value:** SiteScope creates a default name based on the host, system, and/or URL being monitored or the default name defined for the monitor type.

GUI Element	Description
Monitor description	Enter additional information to describe a monitor. This can include the most common HTML tags for text styling, such as , <HR>, and <B>, and hyperlinks. The description is displayed only when viewing or editing the monitor's properties in the Dashboard. For details on adding a hyperlink, see "Add URL Links to Monitor Description - Optional" on page 280. **Note:** This field does not support Javascript/iframes/frames or other advanced features. HTML code entered in this box is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected. The following is prohibited HTML content: ➤ Tags: **script**, **object**, **param**, **frame**, **iframe**. ➤ Any tag that contains an attribute starting with **on** is declined. For example, onhover. ➤ Any attribute with **javascript** as its value.
Report Description	Enter an optional description for this monitor to make it easier to understand what the monitor does. This description is displayed on each bar chart and graph in Management Reports. **Example:** Network traffic or main server response time. **Note:** HTML code entered in this box is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected. The following is prohibited HTML content: ➤ Tags: **script**, **object**, **param**, **frame**, **iframe**. ➤ Any tag that contains an attribute starting with **on** is declined. For example, onhover. ➤ Any attribute with **javascript** as its value.

Monitor Run Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Frequency	Set how often SiteScope attempts to run the action defined for the monitor instance. Each monitor run updates the status of the monitor. Use the drop-down list to specify increments of seconds, minutes, hours, or days. **Default value:** 10 minutes **Minimum value:** 15 seconds **Note:** When configuring this setting in a template, the variable value can only be in time units of seconds.
Error frequency	Set a new monitoring interval for monitors that have reported an error condition. **Example:** You may want to run the monitor every 10 minutes normally, but as often as every 2 minutes if an error has been detected. When the monitor's status is no longer in error, the monitor reverts to the run interval specified in the **Frequency** setting. **Note:** ➤ Increasing the run frequency of a monitor affects the number of alerts generated by the monitor. ➤ When configuring this setting in a template, the variable value can only be in time units of seconds.

GUI Element	Description
Verify error	Select to automatically run the monitor again if it detects an error. **Note:** We recommend using this option in small monitoring environments only. Significant monitoring delays may result if multiple monitors are rescheduled to verify errors at the same time. The status returned by the Verify error run of the monitor replaces the status of the originally scheduled run that detected an error. The data from the verify run may be different than the initial error status, causing the loss of important performance data.
Monitor schedule	Select a range schedule if you want the monitor to run only on certain days or on a fixed schedule. The range schedules created in **Schedule Preferences** appear in the drop-down list. For more information about creating monitor schedules, see "Schedule Preferences" on page 1115. **Default value:** every day, all day **Note:** If you select a threshold schedule in the Threshold Settings, at least one threshold schedule must coincide with the monitor run schedule (at least one minute of the monitor run schedule must be covered by one of the threshold schedules).
Show run results on update	Whenever a change is made to a monitor's configuration settings, the monitor is run. Select this option to display the results of that monitor run in a popup dialog box. **Note:** The updated run results are always displayed in the applicable dashboard views for the monitor.

Dependencies

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Depends on	Click the **Depends on**  button to open the Dependency dialog box, and select the monitor on which you want to make the running of this monitor dependent. For details on the Dependency dialog box, see "Dependency Dialog Box" on page 323. Use this option to prevent redundant alerting from multiple monitors that are monitoring different aspects of a single system. **Example:** Create a system monitor to check the basic availability of a system and then create other monitors that perform more detailed tests of that system. Set the detailed test monitors to be dependent on the status of the monitor checking basic availability. If the system monitor detects that the target system has become unavailable, the dependency relationship automatically disables the other monitors. This also disables any alerts that would have been generated by the dependent monitors. **Default value**: No dependency is set for a monitor instance.

GUI Element	Description
Depends condition	If you make this monitor dependent on the status of another monitor (by using the **Depends on** setting), use this option to select the status condition of the **Depends on** monitor for the current monitor to run normally. The status categories include: ➤ **Good** ➤ **Error** ➤ **Available** ➤ **Unavailable** The monitor being configured is run normally as long as the monitor selected in the **Depends on** box reports the condition selected in this box. **Example:** Select Good and this monitor is enabled only when the monitor selected in the **Depends on** box reports a status of Good. The current monitor is automatically disabled if the monitor selected in the **Depends on** box reports a category or condition other than Good. You can also enable dependent monitors specifically for when a monitor detects an error. **Default value:** Good

Threshold Settings

Description	Use to set conditions that determine the reported status of each monitor instance. The status result is based on the results or measurements returned by the monitor action on the target system during a specified period of time. Status threshold criteria for each monitor instance can be set for the following status conditions: ➤ **Error if** ➤ **Warning if** ➤ **Good if** **Note:** You can also set monitor thresholds using a baseline. For details, see "Setting Status Thresholds Using a Baseline" on page 269.
Important Information	➤ You can apply multiple status threshold criteria for each status condition per monitor instance. A single monitor instance may have one or more criteria used to determine **Error** status, one or more conditions to determine **Warning** status, and one or more conditions to indicate **Good** status. Most monitor types include one default setting for each of the three status conditions. ➤ When setting a baseline threshold, you can only change certain threshold conditions during the baseline calculation and after the baseline is activated. For details on the threshold changes that are allowed, see "Changing Threshold Settings" on page 314. ➤ When working with Global Search and Replace, if you select to replace threshold settings, the **Override Category** option appears. When selected, all the threshold settings for the selected monitor instances are overridden with the settings you entered for the replace operation. If this option is cleared and you selected to replace threshold settings, the settings you entered are added to the existing threshold settings for the monitor instances.

Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Setting Status Thresholds" on page 266 "Setting Status Thresholds Using a Baseline" on page 269

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click this button to configure additional thresholds that determine the Error/Warning/Good status. For each threshold, select the measurement and operator, and enter a value for the measurement. By default, two thresholds are displayed for the Error status when you first configure the monitor, and one threshold for the Warning and Good status.
	Click this button to delete the selected threshold.

GUI Element	Description
If unavailable	Select a status assignment for when the monitor is not available from the following options: ➤ **Set monitor status according to thresholds.** The monitor gets a new status according to the thresholds. ➤ **Set monitor status to Good.** The monitor's status is set to Good when it is unavailable without thresholds being checked. ➤ **Set monitor status to Warning.** The monitor's status is set to Warning when it is unavailable without thresholds being checked. ➤ **Set monitor status to Error.** The monitor's status is set to Error when it is unavailable without thresholds being checked. **Note:** A monitor instance can have a status of Unavailable as well as a status of Good, Warning, or Error. Alerts are triggered according to availability, status, or both availability and status, depending on how the alert is configured. For details, see "SiteScope Alerts Overview" on page 1580.
Default status	The status of the monitor (Good, Warning, or Error) if the threshold criteria for the monitor instance are not met. **Default value:** Good
Error if	Set the conditions for the monitor instance to report an **Error** status.
Condition	Select the measurement parameter from the drop-down list to determine the status of this monitor instance. The list of measurements is dynamically updated based on the type of monitor you are configuring. **Default value:** Default measurements exist for many monitor types and differ per monitor type. For many default measurements, there are corresponding defaults for the operator and value boxes that are not editable.

GUI Element	Description
Operator	Select an operator for the measurement from the drop-down list. The following operators are available: ➤ >= Greater than or equal to ➤ > Greater than ➤ == Equals ➤ **!=** Not the same as ➤ <= Less than or equal to ➤ < Less than ➤ **contains** Contains the value entered ➤ **!contains** Does not contain the value entered
Value	Enter a value applicable to the measurement parameter. **Note:** ➤ If a monitor has an activated baseline, its measurement values are non-editable and the **Percentiles Table** button is displayed. You can change baseline threshold values by clicking the button and changing the current percentile value from the Percentiles Table. For details on the user interface, see "Percentile Range Mapping Table" on page 327. ➤ You cannot change the measurement value, operator or schedule for a baseline threshold condition.

GUI Element	Description
Schedule	Select a range schedule to determine the status of this monitor instance if you want to define when to check the monitor run result against the threshold. This is useful, for example, if you want to check the monitor run result against the threshold only on certain days or during peak hours. The range schedules created in **Schedule Preferences** appear in the drop-down list. For more information about creating monitor schedules, see "Schedule Preferences" on page 1115. **Default value:** every day, all day **Note:** When selecting threshold schedules, at least one threshold schedule must coincide with the **Monitor schedule** in the Monitor Run Settings (at least one minute of the monitor run schedule must be covered by one of the threshold schedules).
Warning if	Set the conditions for the monitor instance to report a **Warning** status. For each threshold, select the measurement and operator, and enter a value for the measurement.
Good if	Set the conditions for the monitor instance to report a **Good** status. For each threshold, select the measurement and operator, and enter a value for the measurement.

Changing Threshold Settings

You can make changes to threshold conditions according to the baseline status of the monitor instance.

Monitor Baseline Status	Change Threshold Condition	Add/Delete Threshold Condition
Not baselined	You can change any condition of any threshold.	Allowed
In calculating/ activating process	You can only change the measurement value for static thresholds. For example, Error if CPU >= 70 every day, all day, you can only change the value 70 to another value.	Not allowed
Baselined	➤ You can change any condition for static thresholds. ➤ You can only change the percentile value for baseline thresholds.	Allowed for static thresholds only

Link Monitor to CI

Note: The Link Monitor to CI settings panel is displayed only when SiteScope is accessed from HP Business Availability Center's System Availability Management Administration page. Technology monitors do not have this setting because the monitors' topologies are reported through their topology settings scripts.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Select CIs button	You can link between this monitor instance and any existing, logical configuration item (CI) in HP Business Availability Center's Universal configuration management database. This link or relationship enables the monitor to pass KPI status to the CI to which it is linked. This is in addition to the monitor's corresponding CI that is created automatically when the monitor instance is created. The Select CIs button opens the dialog box in which you select an existing CI from a CMDB view to link to this monitor instance. For details on selecting and working with views, see "Working with View Explorer" in *Reference Information*. **Note:** The Link Monitor to CI Settings are available only when editing a SiteScope monitor from System Availability Management Administration and cannot be set while adding a monitor or when working in SiteScope standalone.

HP BAC Integration Settings

Note: The HP BAC Integration Settings panel is displayed only when SiteScope is reporting to HP Business Availability Center.

Description	Use the HP BAC Integration Settings area to control what data a monitor forwards to the HP Business Availability Center database.
Important Information	Your selection should be based on how much data is relevant to report to BAC for this monitor and how much space the BAC database has for this data.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
BAC Logging Options	
Disable reporting to BAC	Select when you do not want any of the status information or measurements for this monitor to be transferred to HP Business Availability Center or to temporarily disable reporting this monitor to Business Availability Center.
Enable reporting monitor status and measurements	Select to send all monitor data to HP Business Availability Center for each time that the monitor runs. This option enables the largest data transfer load. **Default value:** Selected
Enable reporting monitor status (no measurements)	Select this option to send only monitor category (error, warning, good), status string, and other basic data for each time that the monitor runs. No information on specific performance counters is included.

GUI Element	Description
Enable reporting monitor status and measurements with thresholds	Select to send monitor category (error, warning, good), status string, as well as performance counter data for only those measurement counters that have thresholds configured thresholds (for example, Error If, Warning If, Good if). The data is sent for each time that the monitor is run.
Enable reporting changes in status	Select to send only monitor category (error, warning, good), status string, and other basic data only when the monitor reports a change in status. No information on specific performance counters is included. This option enables the smallest data transfer load.

GUI Element	Description
Topology Settings	
Include topology data when reporting to BAC	Selecting this option enables SiteScope to report topology data to Business Availability Center's CMDB. The data that SiteScope forwards depends on the monitor type. This option enables SiteScope to: ➤ Discover topologies and forward specific CI data for the monitors that monitor applications from among a group of supported environments. For details and a list of these supported environments, see "Reporting Discovered Topologies to HP Business Availability Center" on page 141. ➤ Report host CI data for those monitors that monitor hosts. If this option is selected, the monitor creates a topology that includes the host as a CI in Business Availability Center's CMDB. If cleared, the monitor creates the standard topology of monitor CI (SiteScope monitor) and measurement CI (for only SAP and Siebel environments). For details on how SiteScope reports data to the CMDB, see "Integrating SiteScope Data with HP Business Availability Center's Configuration Items" on page 136. **Note**: ➤ This setting does not appear when creating or editing Technology Integration monitors. Those monitors report topologies based on their topology settings scripts. ➤ This setting does not appear for those monitors that do not monitor hosts. For a list of these monitors, see "Monitors Without Host Data" on page 148.

Enable/Disable Monitor

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Enable monitor	If the monitor has previously been disabled, select to enable the monitor. **Default value:** Selected
Disable monitor	When a monitor has been disabled, SiteScope continues to schedule the monitor to run based on the **Frequency** setting for the monitor but the monitor action is not run. SiteScope records a monitor data log entry for the monitor when it was scheduled to be run but reports the monitor status as disabled in the place of measurement data.
Disable monitor for the next <time period>	Enter a time period that the monitor should remain disabled. Select **Seconds**, **Minutes**, **Hours**, or **Days** to define the disable time period as applicable.
Disable monitor on a one time schedule from <time> to <time>	Use this option to temporarily disable the monitor for a time period in the future. The time period can span more than one day. Enter or select the start time and end time for the disable period using the format: hh:mm:ss mm/dd/yyyy.
Disable description	Enter optional descriptive text. This description appears as part of the monitor status in the monitor group display. The disable status text also includes a string indicating which disable option is in force for the monitor, for example Disabled manually indicates that the monitor was disabled using the **Disable monitor** option.

Enable/Disable Associated Alerts

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Enable all associated alerts	If the alerts associated with this monitor have previously been disabled, select to enable the alerts. **Default value:** Selected
Disable all associated alerts for the next <time period>	Enter a time period that the associated alerts should remain disabled. Select **Seconds**, **Minutes**, **Hours**, or **Days** to define the disable time period as applicable.
Disable all associated alerts on a one time schedule from <time> to <time>	Use this option to temporarily disable the associated alerts for a time period in the future. The time period can span more than one day. Enter the start time and end time for the disable period using the format: hh:mm:ss mm/dd/yyyy.
Disable description	Enter optional descriptive text.

Search/Filter Tags

Description	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. Enables you to add a new search/filter tag, and assign the tag to objects in the context tree and preference profiles.
Important Information	You can edit existing tags in the Preferences context (**Preferences > Search/Filter Tags**). For details on this topic, see "Search/Filter Tag Preferences" on page 1123.
Included in Tasks	"Create and Define a New Search/Filter Tag" on page 88
Useful Links	"Working with Search/Filter Tags" on page 87

The following elements are included (unlabeled GUI elements are shown in

GUI Element	Description
<tag name and values>	Displays the tag names and tag values if tags have been created. Select the tags or tag values that you want to assign to the object. If no tags have been created for the SiteScope, this section appears but is empty.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

Baseline Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Baseline status	Indicates the monitor's baseline status. The following statuses are available: ➤ **Monitor not selected for baselining.** The monitor has not been selected for baselining. ➤ **Calculating baseline.** SiteScope is in the process of calculating the baseline. ➤ **Calculation failed.** SiteScope was unable to calculate a baseline. ➤ **Calculated, not activated.** A baseline was calculated for the monitor, but it has not yet been activated. ➤ **Activating baseline.** SiteScope is in the process of activating the baseline. ➤ **Activation failed.** SiteScope was unable to activate the baseline. ➤ **Baseline activated.** The baseline has been activated for the monitor. The **Baseline mode** check box is selected if the baseline status is anything other than **Monitor not selected for baselining**. For details on using the baseline threshold, see "Setting Status Thresholds Using a Baseline" on page 269.
Remove Baseline	Click the **Remove Baseline** button to remove the baseline threshold. The baseline thresholds are removed and the static threshold value is used to create a threshold. You must remove the baseline before you can calculate the baseline after a baseline has been calculated (even if the calculation failed). For details on this topic, see "Setting Status Thresholds Using a Baseline" on page 269.

Dependency Dialog Box

Description	Enables you to make the running of this monitor or monitor group dependent on the status of another monitor. **To access:** Open the **Monitors** context. In the monitor tree, select a monitor, and click the **Properties** tab. Expand the **Dependencies** tab, and click the **Depends on** button. Select the monitor on which to you want to create a dependency.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278
Useful Links	"Monitoring Group Dependencies" on page 263

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SiteScope	Represents an individual SiteScope server.
	Represents a SiteScope monitor group or subgroup (with enabled monitors/with no monitors or no enabled monitors). If a group alert has been set up for the monitor group or subgroup, the alert symbol is displayed next to the group icon.
	Represents a SiteScope monitor (enabled/disabled). If an alert has been set up for the monitor, the alert symbol is displayed next to the monitor icon.
	Represents the collection of available health monitors that are deployed to check proper functioning of SiteScope monitors. **Parent:** SiteScope.

Select Template Dialog Box

Description	Enables you to select the templates you want to deploy to the monitor group. **To access:** Open the **Monitors** context. In the monitor tree, right-click the group into which you want to deploy a template, and select **Deploy Template**. In the Select Template dialog box, select the templates that you want to deploy.
Important Information	Templates that do not contain any child objects (subgroups, monitors, variables, or a remote server) are not displayed in the template tree.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266 "Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Updating Template Deployments" on page 1264 "SiteScope Solution Templates" on page 1341

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Represents the SiteScope root group.
	Represents a template container. A template container is used to organize configuration deployment templates. Expand to display the templates.
	Represents a template configuration for deploying SiteScope objects. Select the templates that you want to deploy. You can select multiple templates using the CTRL or SHIFT keys.
	Represents a solution template container, and indicates the availability of the template (available/unavailable). Only licensed solution templates (displayed as available) are configurable solution templates.

Copy to Template Dialog Box

Description	Enables you to copy a SiteScope object (group, monitor, or remote server) and its contents (monitors, alerts, and reports) to a template or template group. **To access:** In the monitor or remote server tree, right-click the object you want to copy to a template, and select **Copy to Template**. In the Copy to Template dialog box, select the template or template group into which you want to copy the object.
Important Information	You can copy a group and its contents to a template provided the template does not already contain a group. When coping a server monitor to a template, SiteScope replaces the server name with the $$SERVER_LIST$$ variable. In this instance, we recommend creating a remote server in the template after copying the monitor to the template, and replacing the $$SERVER_LIST$$ variable with this remote server. The Web Script Monitor is not supported in template mode.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
 SiteScope	Represents an individual SiteScope server.
	Represents a template container. A template container is used to organize configuration deployment templates. Template containers can hold templates only.

GUI Element	Description
	Represents a template configuration for deploying SiteScope objects. You can copy a template group (provided the template does not already contain a group), or a remote server to a template group.
	Represents a SiteScope monitor group or subgroup (with enabled monitors/with no monitors or no enabled monitors). You can copy a template group or monitor to a template group. If a group alert has been set up for the monitor group or subgroup, the alert symbol is displayed next to the group icon.

Percentile Range Mapping Table

Description	Displays the actual value that is mapped to each percentile range. SiteScope uses the percentile value to define the baseline error and warning thresholds. Use this table to view the actual value that corresponds to the percentile value, and to manually change the percentile value. **To access:** Open the **Monitors** context. In the monitor tree, select a monitor with an activated baseline (you can check whether a monitor has an activated baseline by right-clicking a group or monitor, and selecting **Baselining** > **Status Report**). Expand the monitor's **Threshold Settings**, and click the **Percentiles Table** button.
Important Information	This table is available for monitors with an activated baseline only. You can set the current percentile to a value over 100%. This enables you to raise the threshold level above the level that would have been set, based on the sample measurements collected. For example, if measurements collected for CPU Utilization are between 10%-60%, and you only want to get errors above 80% CPU Utilization, set the percentile value to a percentile that raises the error threshold level to the desired level. In this instance, set the percentile to 134% (60% CPU Utilization * 134% = 80.4% CPU Utilization).
Included in Tasks	"Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Setting Status Thresholds Using a Baseline" on page 269 "Threshold Settings" on page 309

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Percentiles Range	The percentile range that correlates to the actual value used for defining the baseline error and warning thresholds. You can set the number of percentile ranges displayed in the table from the SiteScope Preferences (**Preferences** > **Infrastructure Settings** > **Baseline Settings**). **Note:** The left-hand value is exclusive and the right-hand value is inclusive. This means that for a percentile range of 33-100, all values above 33 (but not 33 itself) up to 100 are included in the range. The value 33 falls into the previous range and 100.01 falls into the next range.
Actual Value	The actual value that is mapped to the percentile range.
Current Percentile	Select a percentile value that correlates to the actual value that is used to define the baseline thresholds.

Calculate Baseline Dialog Box

Description	Use to do the following: ➤ Select the groups and/or monitors to include in the baseline calculation. ➤ Select the time range schedule for collecting baseline data. ➤ Select and fine-tune the adherence level to determine the extent that monitor measurement sample values have on the threshold values. ➤ Calculate the baseline threshold. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope container, a group, or a monitor, and select **Baselining** > **Calculate**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit monitors** permissions can use the baseline feature to set monitor thresholds, and only for the monitors that are in the users allowed groups list. Monitors in groups for which the user does not have permissions are not displayed in the dialog box. The amount of time required to calculate the baseline thresholds depends on the speed of the SiteScope server and the number of monitors selected for baselining. If SiteScope needs to restart before the calculation process is complete, SiteScope automatically continues the process after the restart. You should enable the monitors to run for a period that is long enough for SiteScope to accumulate sufficient data to calculate the baseline. This period depends on the **Minimum number of days required for baselining** and **Minimum number of samples required for baselining** settings in Infrastructure Settings Preferences. For details, see “Baseline Settings” on page 1158. The baseline can still be calculated and activated even if the monitor has insufficient data, although the calculation is unlikely to be accurate.
Included in Tasks	“Set Monitor Thresholds Using a Baseline” on page 282
Useful Links	“Setting Status Thresholds Using a Baseline” on page 269

Select Monitors for Baseline Calculation

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<List of available groups and/or monitors>	Select the groups and/or monitors to include in calculating the baseline threshold. The list includes the currently selected container and all of the child containers that are in the users allowed groups list. **Default value:** The current container and all child elements are selected. **Note:** You cannot select a monitor instance if: ➤ Its baseline has already been activated. In such cases, the selection check box is not displayed. ➤ There is another monitor in SiteScope with the same name (the file path, group name, and monitor name are identical). In such cases, **Duplicate name** is displayed next to the monitor name.

Schedule

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Schedule Range Name	Select the schedule ranges used for collecting baseline threshold data. This enables you to restrict to certain days or hours of the week the periods during which monitor data is collected for the baseline calculation. The baseline thresholds that are created are only effective for the same schedule range period. The range schedules displayed are created in **Schedule Preferences**. For more information about creating range schedules, see "Schedule Preferences" on page 1115. **Note:** You can select multiple ranges using the CTRL or SHIFT keys. **Default value:** If no schedule range is selected, baseline threshold data is collected all day, every day.

Adherence Level

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Description	Enables you to select the adherence level that determines the extent to which monitor measurement sample values used in calculating the baseline affect the threshold values. The adherence level is based on a percentile value that is applied to all monitor measurements to determine when a measurement is in error or warning. You can also fine-tune the adherence level for individual monitor measurements, and set the Good Boundary. **To access:** In the monitor tree, right-click the SiteScope container, a group, or a monitor, and select **Baselining** > **Calculate**. Expand the **Adherence Level** panel.
Included in Tasks	"Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Setting the Baseline Adherence Level" on page 273

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Low adherence	The further the values used to update the thresholds are from the values calculated by the baseline. Select this option if you are more tolerant to extreme measurement values having an effect on the baseline.
Medium adherence	The values used to update the thresholds are at a mid-range from the values calculated by the baseline (default setting).
High adherence	The closer the values used to update the thresholds are to the values calculated by the baseline. Select this option if you are less tolerant to extreme measurement values having an effect on the baseline.
Fine-Tune Adherence Levels/Set Boundary	Click to open the Fine-Tune Adherence Levels/Set Boundary dialog box. This enables you to fine-tune the baseline adherence level and define a good boundary for any measurement of any monitor type within the selected context. For details on the user interface, see "Fine-Tune Adherence Levels/Set Boundary Dialog Box" on page 333.

Fine-Tune Adherence Levels/Set Boundary Dialog Box

Description	Displays the percentile value used in the baseline calculation at each adherence level and the good boundary (if configured), for each monitor measurement in the selected context. This enables you to fine-tune the baseline adherence level and set good boundaries for any measurement of any monitor type. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope container, a group, or a monitor, and select **Baselining** > **Calculate**. Expand the **Adherence Level** panel, and click the **Fine-Tune Adherence Levels/Set Boundary** button.
Important Information	You can set adherence level percentile values to over 100%. This enables you to raise the threshold level above the level that would have been set, based on the sample measurements collected. For example, if measurements collected for CPU Utilization are between 10%-60%, and you only want to get errors above 80% CPU Utilization, set the **Error Percentiles Low** value to a percentile that raises the error threshold level to the desired level. In this instance, set the percentile to 134% (60% CPU Utilization * 134% = 80.4% CPU Utilization).
Included in Tasks	"Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Setting Status Thresholds Using a Baseline" on page 269

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Reset	Click to restore the default error and warning threshold adherence level values for the monitor measurement and to remove the Good Boundary.
	Click the **Select All** button to select all listed monitor measurements.

GUI Element	Description
	Click the **Unselect All** button to clear the selection.
Monitor Name: Measurement Name	For each monitor in the selected context, displays the measurements that are used in the baseline calculation. It also displays one measurement that represents the measurements for all browsable monitors (at the bottom of the list).
Warning Percentiles	Displays the **Low**, **Medium**, and **High** adherence level percentile value that is used to calculate the warning baseline threshold. For more details on this topic, see "Setting the Baseline Adherence Level" on page 273. **Default value:** Low 110; Medium 93; High 90
Error Percentiles	Displays the **Low**, **Medium**, and **High** adherence level percentile value that is used to calculate the error baseline threshold. For more details on this topic, see "Setting the Baseline Adherence Level" on page 273. **Default value:** Low 120; Medium 98; High 95
Good Boundary	Displays the actual value for the Good Boundary for each monitor measurement type. This is the value of a measurement that is not considered to be in error status, even though according to existing baseline percentiles it should report an error. For more details on this topic, see "Understanding the Good and Error Boundaries" on page 273. **Default value:** No value
All browsable monitor measurements	Displays the **Low**, **Medium**, and **High** adherence level percentile value that is used to calculate the warning and error baseline threshold for all browsable monitor measurements. **Default Warning values:** Low 110; Medium 93; High 90 **Default Error values:** Low 120; Medium 98; High 95

Activate Baseline Dialog Box

Description	Displays a summary of the calculated monitor's baseline data. For monitors that SiteScope is unable to calculate a baseline, it includes the reason for the failure. This dialog box enables you to: ➤ Save the current monitor configuration. ➤ View failed operations. ➤ View baseline measurement graphs. ➤ Activate baseline threshold configuration. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a group, or a monitor and select **Baselining** > **Review & Activate**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit monitors** permissions can use the baseline feature to set monitor thresholds, and only for the monitors that are in the users allowed groups list. Monitors in groups for which the user does not have permissions are not displayed in the dialog box. To revert to the current monitor configuration, you must create a backup configuration before activating the baseline configuration. The amount of time required to activate the baseline threshold depends on the speed of the SiteScope server and the number of monitors selected for baselining. If SiteScope needs to restart before the activation process is complete, SiteScope automatically continues the process after the restart.
Included in Tasks	"Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Setting Status Thresholds Using a Baseline" on page 269

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Successfully Calculated Monitors	
	Click the **View Graph** button to display a graphical representation of baseline data for all the measurements of the monitor. For details, see "Baseline Monitor Measurement Graphs Dialog Box" on page 340.
	Click the **Select All** button to select all listed monitors.
	Click the **Unselect All** button to clear the selection.
Monitor Name	The name of the SiteScope monitor selected for baselining.
Calculation Date	The date on which the baseline was calculated.
Error Status Reduction	The reduction in the number of error statuses for a monitor if the baseline threshold were applied. A negative number indicates an increase in the number of error statuses for a monitor if the proposed baseline thresholds were applied. **Example:** Suppose you manually configure the threshold status for CPU Utilization to Error if >= 65% and there are 5 error statuses for the CPU monitor (of which 3 errors are for data samples between 65%-70%, and 2 errors for above 70%). If you have SiteScope calculate the threshold using a baseline and the threshold is set to Error if >= 70%, Error Status Reduction would be 3. **Note:** The Error Status Reduction value is based on data collected on the calculation date. If more than three days have elapsed since the calculation date, we recommend that you recalculate the baseline.

GUI Element	Description
Warning Status Reduction	The reduction in the number of warning statuses for a monitor if the baseline threshold were applied. A negative number indicates an increase in the number of warning statuses for a monitor if the proposed baseline thresholds were applied. **Example:** Suppose you manually configure the threshold status for CPU Utilization to Warning if >= 55% and there are 3 warning statuses for the CPU monitor (of which 2 warnings are for data samples between 55%-60%, and 1 warnings for above 60%). If you have SiteScope calculate the threshold using a baseline and the threshold is set to Warning if >= 60%, Warning Status Reduction would be 2. **Note:** The Warning Status Reduction value is based on data collected on the calculation date. If more than three days have elapsed since the calculation date, we recommend that you recalculate the baseline.
Failed Monitors	
	Click the **Select All** button to select all listed failed monitors.
	Click the **Unselect All** button to clear the selection.
Monitor Name	The name of the monitor for which SiteScope was unable to calculate a baseline.

GUI Element	Description
Reason for Failure	The reason that SiteScope was unable to calculate a baseline value for the monitor. They include: ➤ **Insufficient data.** The monitor has not run for a sufficient period of time to collect data to produce a meaningful baseline threshold. This period depends on the **Minimum number of days required for baselining** and **Minimum number of samples required for baselining** settings in Infrastructure Settings Preferences. For details on configuring the Baseline Settings, see "Baseline Settings" on page 1158. ➤ **No measurements to baseline.** The monitor has no measurements that can be used in the baseline calculation. You cannot select the monitor for baseline activation. ➤ **No samples for the requested schedule.** No data samples were collected for the range schedule specified. You cannot select the monitor for baseline activation. ➤ **Unknown.** The reason for baseline calculation failure is unknown. You cannot select the monitor for baseline activation.
Can Be Activated	Indicates whether a baseline can be activated even if the monitor baseline calculation failed. Displays **No** if the baseline calculation failed for any reason other than **Insufficient data**. Displays **Yes** if the baseline calculation failed with the reason **Insufficient data**. SiteScope uses the limited measurement samples that were collected to calculate the baseline.

Backup Configuration Dialog Box

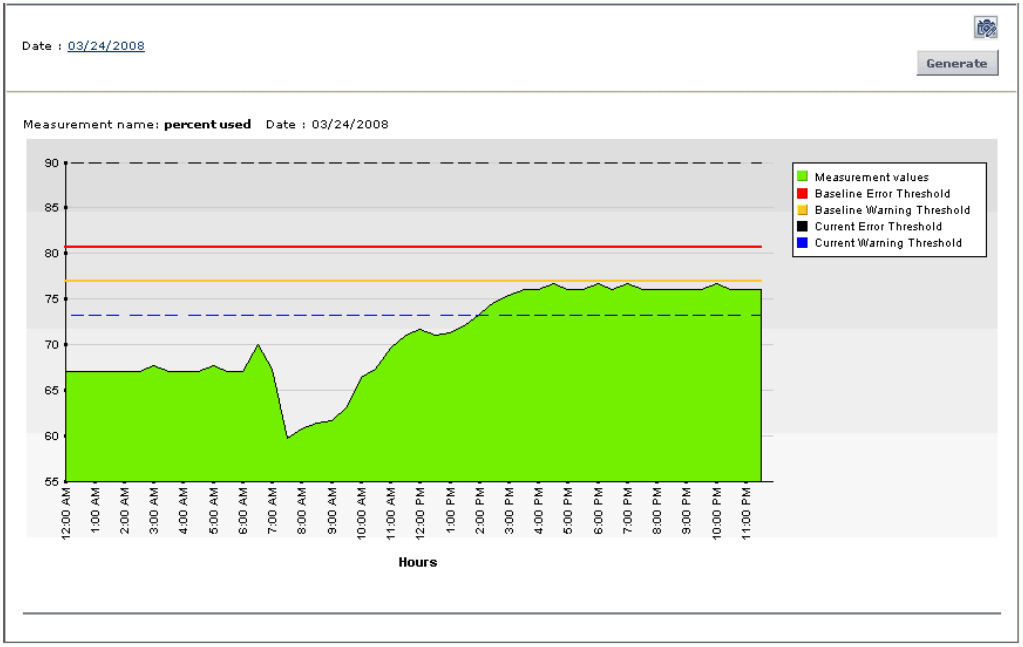
Description	Enables you to save the current monitor threshold configuration before activating the baseline threshold. You use the Configuration Tool to restore the configuration settings. For details on the Configuration Tool, refer to the *HP SiteScope Deployment Guide* PDF. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a group, or a monitor and select **Baselining** > **Review & Activate**. Click the **Backup Configuration** button.
Important Information	Create a backup configuration before activating the baseline configuration, since you cannot undo threshold configuration changes after the baseline has been activated.
Included in Tasks	"Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Setting Status Thresholds Using a Baseline" on page 269

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Enter target directory	Enter the target directory where the backup configuration file will be saved or use the default SiteScope installation directory. **Default value:** C:\SiteScope
Enter the backup file name	Enter a name for the configuration backup file. By default, the file is named using the format: SiteScope_<MM_DD_YYYY>_<HH_MM_SS>. SiteScope saves a backup file in zip format to the specified location. **Example:** SiteScope__11_05_2008_08_24_06

Baseline Monitor Measurement Graphs Dialog Box

The following is an example of a Baseline Monitor Measurement graph.



Description	Displays a graph per measurement, for all the measurements of the monitor. The default date selected for displaying the graph is the day with the maximum error reduction. Each graph shows: ➤ The current warning and error thresholds. ➤ The baseline warning and error thresholds. ➤ Historic data of all baseline-related monitor measurements over a 24-hour time period (from 00:00-23:59). **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a group or a monitor container, and select **Baselining** > **Review & Activate**. In the **Select Monitors for Baseline Activation** panel, select a monitor with calculated baseline data, and click the **View Graph** button.
Important Information	The data displayed in the monitor measurement graphs is an aggregate of the measurement data and as such, the time periods may not accurately reflect the time the data was actually collected.
Included in Tasks	"Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Setting Status Thresholds Using a Baseline" on page 269

Graph Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click to create a snapshot of the graph you are viewing and highlight important areas of the graph by drawing shapes, lines, and adding text to the snapshot. For details on the user interface, see "Annotation Tool" on page 1697.
Historic date <date link>	Click the date link to open the calendar, and select the date for which you want to create monitor measurement graphs. The calendar contains the following buttons: ➤ **Revert.** Returns to the previously selected report date. ➤ **Current.** Selects today's date in the calendar. ➤ **OK.** Updates the date link for the selected date and closes the calendar. ➤ **Cancel.** Closes the calendar without making any changes.
Generate	Click to create a report for the date displayed in the date link.

Graph Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<Legend>	Describes the color coding used in the graph.
Measurement name	The name of the measurement appears above the graph.
Date	The time and date on which the graph was generated.
<Data points>	Displays for each 2 hour period of time on the **Time** axis, the value for the selected monitor measurement. **Tooltip:** The measurement value.
<Measurement Type> <y-axis>	Displays the monitor measurement type.
Time <x-axis>	The time division units for the date specified when generating the report (from 0-24 hours).
Baseline Error Threshold	Shows the baseline threshold line that determines **Error** status. Measurements beyond this line exceed the error baseline status threshold for the monitor. This is displayed on the graph as a solid red line.
Baseline Warning Threshold	Shows the baseline threshold line that determines **Warning** status. Measurements beyond this line exceed the warning baseline status threshold for the monitor. This is displayed on the graph as a solid orange line.
Current Error Threshold	Shows the threshold line that determines **Error** status. Measurements beyond this line exceed the error status threshold for the monitor. This is displayed on the graph as a dashed black line.
Current Warning Threshold	Shows the threshold line that determines **Warning** status. Measurements beyond this line exceed the warning status threshold for the monitor. This is displayed on the graph as a dashed blue line.

Remove Baseline Dialog Box

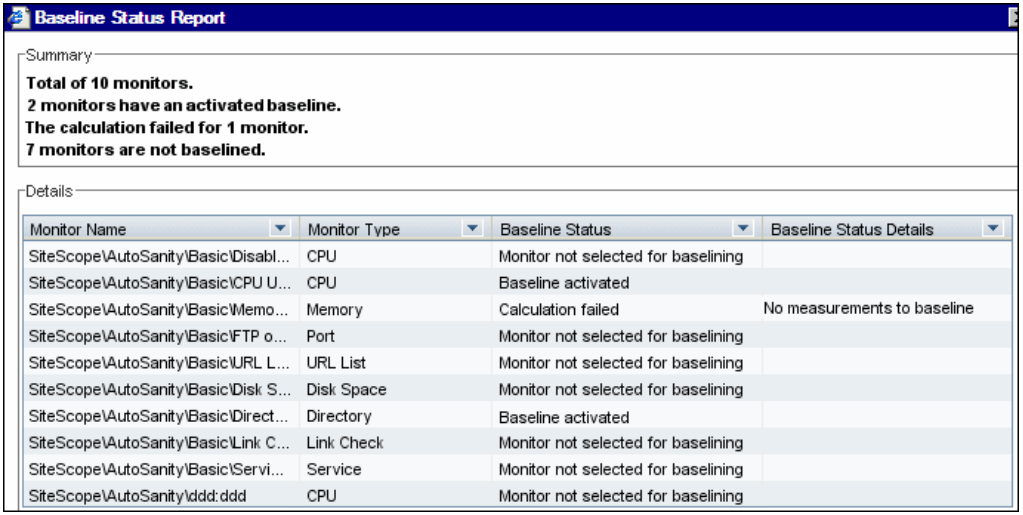
Description	Enables you to select the groups and/or monitors from which to remove the baseline. You must remove a monitor's existing baseline calculation before you can recalculate the monitor's threshold baseline. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a group, or a monitor and select **Baselining** > **Remove**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit monitors** permissions can remove a baseline, and only for the monitors that are in the users allowed groups list. Monitors in groups for which the user does not have permissions are not displayed in the dialog box.
Included in Tasks	"Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Setting Status Thresholds Using a Baseline" on page 269

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<List of groups and/or monitors>	Select the groups and/or monitors from which you want to remove baseline threshold calculation. The list includes all groups and/or monitors in the currently selected container and all of the child containers that are in the users allowed groups list. **Default value:** The current container and all child elements are selected.

Baseline Status Report

The following is an example of the Baseline Status Report.



Description	Displays information about the baseline status for all monitors in the selected context. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a group, or a monitor and select **Baselining** > **Status Report**.
Important Information	This is an ad hoc report that is not saved to the SiteScope configuration data for later use. You can sort monitor types in ascending or descending order by clicking the column header. An arrow is displayed showing the sort order direction. You can filter the display for Monitor Type and Baseline Status by clicking the down arrow and selecting a monitor type or baseline status by which to filter. To clear the filter, select **(All)**.
Included in Tasks	"Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Setting Status Thresholds Using a Baseline" on page 269

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Monitor Name	The name and path of the SiteScope monitor depending on the context. **Note:** Only monitors in groups or subgroups that a user has permissions to access are displayed in the report.
Monitor Type	The type of SiteScope monitor.
Baseline Status	The monitor's baseline status. The following statuses are available: ➤ **Monitor not selected for baselining.** The monitor has not been selected for baselining. ➤ **Calculating baseline.** SiteScope is in the process of calculating the baseline. ➤ **Calculation failed.** SiteScope was unable to calculate a baseline. ➤ **Calculated, not activated.** A baseline was calculated for the monitor, but it has not yet been activated. ➤ **Activating baseline.** SiteScope is in the process of activating the baseline. ➤ **Activation failed.** SiteScope was unable to activate the baseline. ➤ **Baseline activated.** The baseline has been activated for the monitor.

GUI Element	Description
Baseline Status Details	Displays additional details for monitors with the following status: ➤ **Calculating baseline.** Displays the baseline calculation stage for the monitor. ➤ **Calculation failed**. Displays the reason that the baseline calculation failed (**Insufficient data**, **No measurements to baseline)**. Monitors that failed due to insufficient data are selected by default for automatic baseline calculation after the monitors have run for a period that is sufficient for SiteScope to accumulate data for the baseline period. For details, see "Activate Baseline Dialog Box" on page 335.
Refresh	Click the **Refresh** button during the calculation process to update the data in the status report.

11

Application Monitors

This chapter includes the main concepts and reference information for monitoring third-party applications. The monitors described enable SiteScope to access and retrieve data from the monitored applications.

This chapter includes:

Concepts

Reference

Active Directory Replication Monitor Overview

Use the Active Directory Replication Monitor to monitor the time that it takes a change made on one Domain Controller to replicate to up to as many as ten other Domain Controller. This allows you to verify that replication, a key part of the Active Directory System, is occurring within set thresholds. Create a separate Active Directory Replication Monitor for each Domain Controller that is being replicated throughout your system.

Note:

- The Active Directory Replication Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- This monitor can only be added by deploying an Active Directory Solution template. For information about using templates to deploy monitors, see "SiteScope Templates" on page 1245.

No additional setup is required other than to enable access to a Domain Admin account.

The Active Directory Replication Monitor works by making a small change to part of the Directory Service tree of the configured Domain Controller. It then checks each of the configured Replicating Domain Controllers for this small change. As the change is detected the difference between when the change was made and when it was replicated is calculated.

For details on configuring this monitor, see "Active Directory Replication Monitor Settings" on page 428.

Apache Server Monitor Overview

Use the Apache Server Monitor to monitor the content of server administration pages for Apache servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate monitor instance for each Apache server you are running.

Setup Requirements

Before you can use the Apache Server Monitor, you must do the following:

- Configure the Apache server you want to monitor so that status reports (server-status) are enabled for the server. The steps needed to do this may vary depending on the version of Apache you are using.
- Enable extended status (ExtendedStatus On) in the configuration file.
- Know the URL of the server statistics page for the server you want to monitor.
- The SiteScope Apache Server Monitor currently supports the server status page available at http://<server_address>:<port>/server-status?auto. The port is normally port 80, although this may vary depending on the server set up and your environment. For some Apache server configurations, you may need to use the server name rather than an IP address to access the server statistics page.

For details on configuring this monitor, see "Apache Server Monitor Settings" on page 430.

BroadVision Application Server Monitor Overview

Use the BroadVision Application Server Monitor to monitor the server performance data for BroadVision servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate monitor instance for each BroadVision server in your environment.

You must know the Object Request Broker (ORB) port number for the BroadVision server you are trying to monitor.

In a BroadVision Production-style environment where there is one primary root server and other secondary servers (for example, Interaction Manager node) on different machines, you can only define a monitor against the primary root node. Metrics for the other nodes in the configuration are available for selection during root node monitor definition. In other words, monitoring is always accomplished through the primary root node, for all servers.

For details on configuring this monitor, see “BroadVision Application Server Monitor Settings” on page 432.

Check Point Monitor Overview

Use the Check Point Monitor to monitor the content of event logs and other data from Check Point Firewall-1 servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate Check Point monitor instance for each Check Point Firewall-1 server in your environment.

For details on configuring this monitor, see "Check Point Monitor Settings" on page 434.

Cisco Works Monitor Overview

Use the Cisco Works Monitor to monitor the content of event logs and other data from Cisco Works servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate Cisco Works monitor instance for each Cisco Works server in your environment.

For details on configuring this monitor, see "Cisco Works Monitor Settings" on page 435.

Citrix Server Monitor Overview

Use the Citrix Server Monitor to monitor the server performance statistics from Citrix Servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate Citrix monitor instance for each Citrix Server in your environment.

Note: This monitor is supported in SiteScopes that are running on Windows versions only. However, this monitor can monitor remote servers running on any platform/operating system.

The Citrix Server Monitor makes use of performance objects and counters to measure application server performance. The Citrix Server Monitor keeps track of the following performance objects:

- Citrix IMA Networking
- Citrix Presentation Server (Citrix MetaFrame XP)
- ICA Session
- Terminal Services Session

You can find information about the Citrix performance objects and their counters in Appendix C of the Presentation Server 4.0 Administrator's Guide (http://support.citrix.com/article/CTX106319), and about the Terminal Services Session Object at http://technet2.microsoft.com/windowsserver/en/library/9784cf82-9d06-4efa-b6fc-51c803fe78671033.mspx?mfr=true.

This section contains the following topics:

- "Setup Requirements" on page 355
- "Troubleshooting" on page 356

Setup Requirements

The following are important requirements for using the SiteScope Citrix Server Monitor:

- SiteScope needs to be running under an account that has the necessary administrative security privileges to access performance counter data from remote servers. If the servers you want to monitor are in a different domain, are governed under a different policy, or require a unique login different than the account SiteScope is running under, you must define the connection to these servers under the Microsoft Windows Remote Servers option in Remote Servers.
- The Remote Registry service must be running on the machine where the Citrix Server is running if Citrix is running on a Windows 2000 platform.
- The Citrix Resource Manager must be available, installed, and running on the Citrix servers you want to monitor.

- One or more Citrix vusers must have established a connection with the Citrix server to enable viewing of ICA Session object.
- The Citrix Server Monitor requires the same permissions (trust level between monitoring and monitored machines) in Windows 2003 as Microsoft Windows Resources monitor. For details, see "Configuring the Microsoft Windows Resources Monitor to Run on Windows 2003 as a Non-Administrator User" on page 707.

Troubleshooting

Perform the following steps to troubleshoot the Citrix Server Monitor.

To troubleshoot the Citrix Server Monitor:

1. Open a command line window (DOS prompt).
2. Enter the following command, substituting the host name as required:

   ```
   C:\>perfex \\hostname -u username -p password -h | find "ICA"
   ```

3. This should return the following response:

   ```
   (3378) ICA Session
   (3386) ICA Session
   (3379) This object has several counters that can be used to monitor the
   performance in ICA sessions
   (3387) This object has several counters that can be used to monitor the
   performance in ICA sessions"
   ICA Session" 3386    performance in ICA sessions
   ```

   If you do not get a similar response, either the counters are not available on the remote server or you will get a more descriptive error message indicating what might be the problem.

   For details on configuring this monitor, see "Citrix Server Monitor Settings" on page 440.

ColdFusion Server Monitor Overview

Use the ColdFusion Monitor to monitor the server performance statistics from ColdFusion servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate ColdFusion monitor instance for each ColdFusion server in your environment.

Note: This monitor is supported in SiteScopes that are running on Windows versions only.

The ColdFusion Server Monitor makes use of performance counters to measure application server performance. SiteScope needs to be running under an account that has the necessary administrative security privileges to access performance counter data from remote servers. If the servers you want to monitor are in a different domain, are governed under a different policy, or require a unique login different than the account SiteScope is running under, you must define the connection to these servers in the Microsoft Windows Remote Servers container. For details on how to define the Windows server connection, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

The Remote Registry service must be running on the machine where the ColdFusion server is running if ColdFusion is running on Windows 2000.

For details on configuring this monitor, see "ColdFusion Server Monitor Settings" on page 442.

COM+ Server Monitor Overview

Use the COM+ Server Monitor to monitor the performance of software components registered and running on Microsoft COM+ servers. When you specify the host and port number of this probe instance, SiteScope retrieves all the functions running on the COM+ server for your monitoring selection. Error and warning thresholds for the monitor can be set on one or more function measurements.

Note: The COM+ Server Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.

This section contains the following topics:

Setup Requirements

The following are several key requirements for using the COM+ Server Monitor:

- A COM+ probe component from HP must be installed and running on the target COM+ server you want to monitor.
- There must be HTTP connectivity between the SiteScope server and the server running the COM+ probe.
- To enable this monitor type in SiteScope, an Option license for the COM+ Server Monitor must be obtained and input into SiteScope.

Note: You cannot have multiple SiteScope instances share one probe instance. You can have multiple COM+ Server monitors within a single SiteScope installation access the same probe instance (uniquely identified by the probe host and port). The probe cannot serve data to multiple SiteScope installations.

COM+ Probe Installation

A COM+ probe component must be installed and running on the target COM+ server you want to monitor.

To install the COM+ Probe:

1 Go to the HP Software Support site (http://www.hp.com/go/hpsoftwaresupport) and in the **Where do I find** section, click **Software patches**.

Note: To access the Patches search page, you must log in with your HP Passport user name and password.

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2 In the **Product** section, select **SiteScope.**

3 In the optional search box, enter **COM+** and click **Search**.

4 Download the COM+ probe from the results.

5 After downloading, follow the instructions for installing the probe on the COM+ server to be monitored.

6 After successfully installing the probe, you must start it prior to running or defining a SiteScope COM+ monitor, by invoking **mon_cplus_probe.exe** found in the COM+ probe's **bin** directory. By default, the installation creates this file at **C:\Program Files\Mercury Interactive\COMPlusMonitor\bin**.

COM+ Functions

After you have specified the COM+ Probe for the target COM+ server, you use the browse counters utility in the monitor configuration page. The COM+ probe is queried for a list of available functions to monitor, and a browse tree is displayed. Select the COM+ functions or counters that you want to measure.

For details on configuring this monitor, see “COM+ Server Monitor Settings” on page 445.

F5 Big-IP Monitor Overview

Use the F5 Big-IP Monitor to monitor the content of event logs and other data from F5 Big-IP load balancing device. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate F5 Big-IP monitor instance for each F5 Big-IP load balancing device in your environment.

For details on configuring this monitor, see “F5 Big-IP Monitor Settings” on page 448.

Microsoft ASP Server Monitor Overview

Use the Microsoft ASP Server Monitor to monitor the server performance parameters for Microsoft ASP servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate monitor instance for each ASP Server you are running.

The Remote Registry service must be running on the machine where the ASP server is running if the ASP Server is running on Windows 2000.

The Microsoft ASP Server Monitor makes use of performance counters to measure application server performance. SiteScope needs to be running under an account that has the necessary administrative security privileges to access performance counter data from remote servers. If the servers you want to monitor are in a different domain, are governed under a different policy, or require a unique login different than the account SiteScope is running under, then you must define the connection to these servers under the Microsoft Windows Remote Servers option in the remote server view.

Note: This monitor is supported in SiteScopes that are running on Windows versions only.

For details on configuring this monitor, see “Microsoft ASP Server Monitor Settings” on page 452.

Microsoft Exchange 2003 Mailbox Monitor Overview

Use the Microsoft Exchange 2003 Mailbox Monitor to display important statistics about mailboxes handled by a Microsoft Exchange 2003 server, including mailboxes that are over a certain size, and mailboxes that have not been accessed in some number of days.

Note:

- The Microsoft Exchange 2003 Mailbox Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- This monitor can only be added by deploying a Microsoft Exchange Solution template. For details on using the template, see “Microsoft Exchange Solution Templates” on page 1373.
- This monitor is supported in SiteScopes that are running on Windows versions only.
- SiteScope must be configured to log on as a user account within the domain when running as a service, and not as "Local System account".

This monitor computes statistics that do not normally change very rapidly and are not critical to system availability, so it should be scheduled to run infrequently, or on demand only.

For details on configuring this monitor, see “Microsoft Exchange 2003 Mailbox Monitor Settings” on page 455.

Microsoft Exchange 2003 Public Folder Monitor Overview

Use the Microsoft Exchange 2003 Public Folder Monitor to display important statistics about public folders handled by a Microsoft Exchange 2000/2003 server, such as access times, empty folders, folder sizes, and folders not accessed within some time period.

Note:

- The Microsoft Exchange 2003 Public Folder Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- This monitor can only be added by deploying a Microsoft Exchange Solution template. For details on using the template, see “Microsoft Exchange Solution Templates” on page 1373.
- This monitor is supported in SiteScopes that are running on Windows versions only.
- SiteScope must be configured to log on as a user account within the domain when running as a service, and not as "Local System account".

This monitor computes statistics that do not normally change very rapidly and are not critical to system availability, so it should be scheduled to run infrequently, or on demand only.

For details on configuring this monitor, see “Microsoft Exchange 2003 Public Folder Monitor Settings” on page 457.

Microsoft Exchange 2000/2003/2007 Message Traffic Monitor Overview

Use the Microsoft Exchange 2000/2003/2007 Message Traffic Monitor to display important statistics about messages handled by a Microsoft Exchange 2000/2003/2007 server, such as a count of messages sent that are larger than a certain size, or sent to a large number of recipients.

Note:

- The Microsoft Exchange 2000/2003/2007 Message Traffic Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- This monitor can only be added by deploying a Microsoft Exchange Solution template. For details on using the template, see “Microsoft Exchange Solution Templates” on page 1373.
- This monitor is supported in SiteScopes that are running on Windows versions only.
- SiteScope must be configured to log on as a user account within the domain when running as a service, and not as "Local System account".

This monitor computes statistics that do not normally change very rapidly and are not critical to system availability, so it should be scheduled to run infrequently, or on demand only.

For details on configuring this monitor, see “Microsoft Exchange 2000/2003/2007 Message Traffic Monitor Settings” on page 459.

Microsoft Exchange 2007 Monitor Overview

Use the Microsoft Exchange 2007 Monitor to display important statistics about the messaging system handled by a Microsoft Exchange Server 2007. The statistics are gathered through Exchange Management Shell, a command-line interface (built on Microsoft Windows PowerShell technology) that is used for managing and testing Microsoft Exchange Server 2007 servers and objects.

By default, the Microsoft Exchange 2007 Monitor can run command-lets (cmdlets) to provide health information about MAPI logons, Mail flow, and Search. You can also retrieve health information for Outlook Web Access and Web Services by configuring a test mailbox in the Exchange Server 2007. For details, see "Configuring Additional Microsoft Exchange Server Counters" on page 369.

Create a separate Microsoft Exchange 2007 monitor instance for each Microsoft Exchange server in your environment. The Microsoft Exchange 2007 Monitor is supported on Windows versions of SiteScope only.

This section contains the following topics:

System Requirements

- To configure Microsoft Exchange 2007 Monitor, Exchange Management Shell must be installed on SiteScope server. Windows PowerShell 1.0 must be installed on the computer that runs the Exchange Management Shell.
- To run each cmdlet mentioned above, the following requirements must be followed:
  - Server roles that correspond to the cmdlets you want to run must be installed on the Microsoft Exchange Server 2007. When monitoring Microsoft Exchange Server 2007, the available counters are determined according to the server roles installed. For example, if the Hub Transport and Mailbox roles are installed, the Test-MailFlow cmdlet runs. The following table shows the server roles required to run the cmdlets.

Server Role	Cmdlet
Mailbox	➤ Test-MAPIConnectivity ➤ Test-ExchangeSearch
Hub Transport, Mailbox	Test-MailFlow
Client Access	➤ Test-OWAConnectivity ➤ Test-WebServicesConnectivity

  - You must log on to the SiteScope server using a domain account that has the permissions assigned to the Exchange Server Administrators group. The account must also be a member of the local Administrators group on that computer. For details, see "Preparing the System for Using the Microsoft Exchange 2007 Monitor" on page 367.

Preparing the System for Using the Microsoft Exchange 2007 Monitor

There are several important configuration requirements that must be performed or verified before the Microsoft Exchange 2007 Monitor can be used. This section describes the steps you use to configure your environment for this monitor. The following are several definitions that are used in the steps listed below.

- **Local Administrator.** An account that has administrative privileges on the local machine. An account can have this privilege either implicitly by having Domain Admin privileges or explicitly by adding as a member of the Administrators group on the local machine. Consult your system administrator, if necessary, for help with creating accounts.
- **MailBox Owner.** This is an "owner" account for which an Exchange mailbox has been set up. To use the Microsoft Exchange 2007 Monitor, this account must be a Local Administrator (see definition above) on the SiteScope server.
- **SiteScope User.** This is the account that is used to run the SiteScope service. This account must also be a Local Administrator (see definition above).

Before creating an Microsoft Exchange 2007 Monitor, perform the following setup steps:

1 Create mailbox accounts on each Exchange Server to be monitored with the Microsoft Exchange 2007 monitor.

Exchange mailbox accounts are used by Microsoft Exchange 2007 monitor to measure the performance counters on the Exchange server. Consult your Exchange system administrator if you need help setting up mailbox accounts for use with the SiteScope Microsoft Exchange 2007 monitor.

2 Add each Exchange Mailbox Owner to the Administrators users group on the SiteScope server.

The Mailbox Owner accounts setup in step 1, which are by definition domain logons, must be added as to the Administrators group on the SiteScope server.

- Click **Start** > **Settings** > **Control Panel** > **Users and Passwords** > **Advanced tab** or open the Computer Management utility and expand the **Local Users and Groups** folder in the left pane and click the **Groups** folder.

- Double-click the **Administrators** group icon to open the Administrators Properties window.
- Click the **Add** button to add each Mailbox Owner you expect to use with the Exchange 2007 Monitor.

Note: Make sure that the domain logon description is of the form domain\logon.

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3 Verify that the SiteScope user logon is a member of Administrators group or a domain administrator account.

Important: The SiteScope user account must be a Local Administrator or a member of the domain admins group.

To change the logon account for the SiteScope user:

- Open the **Services** control utility on the SiteScope server.
- Right-click the **SiteScope** service entry and click **Properties**. The SiteScope Properties settings page opens.
- Click the **Log On** tab.
- Verify that the SiteScope user is run as a member of Administrators group or a domain logon account. To change the logon properties, click the **This account** radio button and enter the SiteScope user logon.
- Restart the SiteScope server after making changes to the SiteScope service logon account.

Configuring Additional Microsoft Exchange Server Counters

You must configure a test mailbox in the Microsoft Exchange Server 2007 to retrieve health information for the Outlook Web Access and Web Services cmdlets.

To configure a test mailbox in the Microsoft Exchange Server 2007:

1. Run the script **New-TestCasConnectivityUser.ps1** in the Exchange Server to create a test mailbox. The script can be found under **<Exchange 2007 installation directory>\Scripts**.
2. After running the command, define an initial password for this account, and press ENTER to confirm the process. A new user is created with a name similar to CAS_<16 digits>.

   You can run the **Get-Mailbox** cmdlet to verify that the test mailbox was created. This cmdlet retrieves a list of mailboxes, which you can use to check for the new test mailbox.
3. Repeat this process for each Exchange Mailbox Server that is to be tested.

Scheduling This Monitor

This monitor computes statistics that do not normally change very rapidly and are not critical to system availability, so it should be scheduled to run infrequently, or on demand only. We do not recommend setting monitor run frequency to less than 10 minutes.

For details on configuring this monitor, see “Microsoft Exchange 2007 Monitor Settings” on page 462.

Microsoft Exchange 5.5 Message Traffic Monitor Overview

Use the Microsoft Exchange 5.5 Message Traffic Monitor to display important statistics about messages handled by a Microsoft Exchange 5.5 server, such as a count of messages sent that are larger than a certain size, or sent to a large number of recipients.

Note:

- The Microsoft Exchange 5.5 Message Traffic Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- This monitor can only be added by deploying a Microsoft Exchange Solution template. For details on using the template, see "Microsoft Exchange Solution Templates" on page 1373.

This monitor computes statistics that do not normally change very rapidly and are not critical to system availability, so it should be scheduled to run infrequently, or on demand only.

For details on configuring this monitor, see "Microsoft Exchange 5.5 Message Traffic Monitor" on page 464.

Microsoft IIS Server Monitor Overview

Use the Microsoft IIS Server Monitor to monitor server performance statistics from IIS servers on Windows systems. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate IIS Server monitor instance for each IIS server in your environment.

Note:

- also provides a solution template that includes a set of predefined monitors to create a monitoring solution for various services and aspects of an IIS 6 server. For details, see “Microsoft IIS Solution Template” on page 1381.
- This monitor is supported in SiteScopes that are running on Windows versions only.

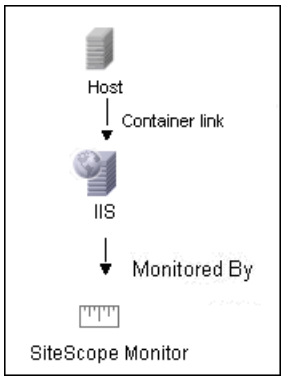
The Microsoft IIS Server Monitor makes use of performance counters to measure application server performance. If the servers you want to monitor require a unique login different than the account SiteScope is running under, you must define the connection to these servers in the Microsoft Windows Remote Servers container. Alternatively, you can enter the credentials of a user with administrative permissions on the server in the **Default authentication user name** and **Default authentication password** boxes in **Preferences** > **General Preferences**, and create the monitor without creating a Microsoft Windows Remote Server.

The Remote Registry service must be running on the machine where the IIS server is running if IIS is running on Windows 2000.

The Microsoft IIS Server Monitor supports monitoring HTTP/HTTPS services on IIS 4 and IIS 5, and HTTP/HTTPS, FTP, NNTP and MSMQ Queue on IIS 6.

Microsoft IIS Server Topology Settings

The Microsoft IIS Server monitor can identify the topology of the Microsoft IIS Server being monitored. If **Include topology data when reporting to BAC** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



For information about retrieving topologies and reporting them to Business Availability Center, see “Reporting Discovered Topologies to HP Business Availability Center” on page 141.

For details on configuring this monitor, see “Microsoft IIS Server Monitor Settings” on page 466.

News Monitor Overview

Use the News Monitor to regularly monitor news groups on News servers. This enables you to manage the number of articles that are allowed to queue up, and delete them before they cause disk space problems.

Status

Each time the News Monitor runs, it returns a status message and writes it in the monitoring log file. It also writes the total time it takes to receive a response from the news server, and the number of articles available for each of the specified news groups.

The reading is the current value of the monitor. The possible values for the News Monitor are:

- OK
- unknown host name
- unable to reach server
- unable to connect to server
- timed out reading
- <news group> not found. The given news group was not found on the news server
- permission denied for connection. The connection could not be made, probably because the news server was configured to enable connections from a limited range of addresses
- login expected. The news server expected a user name and password, but none were provided. In this case, enter a user name and password under the Monitor Settings section of the monitor.
- login failed, unauthorized. The user name and password were not accepted by the news server

The status is logged as either good or error. An error status is returned if the current value of the monitor is anything other than **OK**.

For details on configuring this monitor, see “News Monitor Settings” on page 468.

Oracle 9i Application Server Monitor Overview

Use the Oracle 9i Application Server Monitor to monitor the server performance data for Oracle 9i servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate monitor instance for each Oracle 9i Application server in your environment.

Note: You must enable Web caching on the Oracle 9i Application Server to use the Oracle 9i Application Server Monitor.

For details on configuring this monitor, see “Oracle 9i Application Server Monitor Settings” on page 470.

Oracle Application Server 10g Monitor Overview

Use the Oracle Application Server 10g Monitor to monitor the server performance data for Oracle 10g servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate monitor instance for each Oracle Application Server 10g in your environment.

Note: By default, the Oracle 10g metrics servlet is visible only to the local host. To enable monitoring the Oracle Application Server 10g, the servlet must be accessible from other IP addresses. You must edit the **dms.conf** file in the **<Oracle 10g installation path>infra/Apache/Apache/conf** directory. For details on editing the file and making this change, refer to the Oracle Application Server 10g documentation. Once configured properly, you should be able to see the following URL: **http://<Oracle 10g machine URL>:7201/dmsoc4j/Spy?format=xml**.

For details on configuring this monitor, see "Oracle Application Server 10g Monitor Settings" on page 472.

Radius Monitor Overview

Use the Radius Monitor to test that the RADIUS server correctly handles authentication requests. If the RADIUS server fails, any users that try to use it are unable to login and access any services. Create a separate monitor instance for each server you are running. You may want to setup multiple monitors per server if you want to test different kinds of login accounts.

This section contains the following topics:

Setup Requirements

- For SiteScope to monitor your RADIUS server, you must first add the IP address of your SiteScope server to the list of Clients that the RADIUS server is allowed to communicate with. This must be done in order for the Radius Server to take requests from SiteScope. Failure to do this results in Unknown Client errors on the RADIUS server.
- The Radius Monitor currently supports Password Authentication Procedure (PAP) authentication but not the Challenge Handshake Authentication Protocol (CHAP) or Microsoft Challenge Handshake Authentication Protocol (MS-CHAP). Your RADIUS server must be configured to accept PAP requests to use this monitor.

Status

Each time the Radius Monitor runs, it returns a status message and writes it in the monitoring log file. It also writes the total time it takes to receive a authentication response. The reading is the current value of the monitor. The possible values for the Radius Monitor are:

- OK
- unknown host name
- timed out reading
- match error

The status is logged as either good or error. An error status is returned if the current value of the monitor is anything other than **OK**.

For details on configuring this monitor, see “Radius Monitor Settings” on page 474.

SAP CCMS Monitor Overview

Use the SAP CCMS Monitor to retrieve and report metrics using SAP's centralized monitoring architecture, CCMS (Computer Center Management System). With CCMS, a SAP administrator can monitor all servers, components and resources in the R/3 landscape from a single centralized server, greatly facilitating not only problem discovery but also problem diagnosis.

Note:

- The SAP CCMS Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- SiteScope also provides a solution template that includes a set of predefined monitors to create a monitoring solution for various services and aspects of a SAP CCMS environment. For details, see "SAP Solution Templates" on page 1415.
- This monitor is supported in SiteScopes that are running on Windows versions only. However, this monitor can monitor remote servers running on any platform/operating system.

Using the SAP CCMS Monitor, you can also enable reporting of the host topology to Business Availability Center. If enabled, Business Availability Center automatically populates the CMDB with CIs based on the monitored hardware in SiteScope.

Using SAP's advanced CCMS interface BC-XAL 1.0, the SiteScope SAP CCMS Monitor exposes hundreds of performance and availability metrics. The error and warning thresholds for the monitor can be set for one or more of the nearly 120 SAP server performance statistics available by using the CCMS interface.

Note: Due to the large amount of metrics that are retrieved when displaying the entire SAP metrics browse tree during monitor definition, there could be a delay in opening the Choose Counters page. However, after a browse tree has been successfully retrieved, it is cached to file automatically, so that the next time you retrieve metrics from the same server/user name, the wait time is greatly reduced.

This monitor only retrieves and displays numeric metrics (Performance attributes). Status, Log and Information attributes are not supported. Also, presentation and management of SAP CCMS Alerts in SiteScope are not supported at this time.

This section contains the following topics:

Setup Requirements

- The SAP CCMS Monitor requires that the SAP Java Connector (SAP JCo 2.0.6 and above) component be downloaded from the SAP Service Marketplace Software Distribution Center, and installed on the same server where SiteScope is running (or at least be accessible on a shared or remote location).

  To download SAP Java Connector, go to the SAP Software Distribution Web site (http://www.service.sap.com/connectors), click **SAP Java Connector,** and then click **Tools and Services**. You need a valid Service Marketplace login to access the SAP Web site.

  For details on installing the SAP Java Connector, see "SAP Java Connector Installation" on page 379.

- The BC-XAL 1.0 interface is supported on R/3 systems 4.5B and above only.

➤ Consult your SAP documentation to determine if your R/3 landscape components may need additional software installed to run or work with CCMS.

User Authorization

A SAP user requires certain privileges to read CCMS metrics. When defining a SAP CCMS Monitor in SiteScope you must specify a user who has XMI authorization to be able to login to the CCMS server and retrieve metrics. The user should have one or more of the profiles listed below assigned to it. Authorizations are collected in SAP profiles, and the following profiles include XMI authorization:

➤ S_A.SYSTEM

➤ PD_CHICAGO

➤ S_WF_RWTEST

➤ SAP_ALL

One test to see if a user has such authorization is to try and issue transaction RZ20 in the SAP GUI and see if the CCMS monitor sets can be displayed.

SAP Java Connector Installation

The SAP CCMS monitor uses SAP JCo libraries to connect to the SAP R/3 system. A user must have the required license granted by SAP to receive and use these libraries.

To enable the SAP CCMS monitor on a Windows environment:

1 Download the following .jar file and .dll files from the SAP support Web site (http://www.service.sap.com/connectors):

- **sapjco.jar**
- **librfc32.dll**
- **sapjcorfc.dll**

2 Copy the **sapjco.jar** file into the **<SiteScope root directory>\WEB-INF\lib** directory.

3 Copy the two .dll files into the **<SiteScope root directory>\bin** directory.

Note: Check if the .dll files already exist in the **<Windows installation directory>/system32** directory. They may have been copied into this directory as part of the SAP client installation. If they do exist in your system, you must overwrite them with the above .dll files before copying into the SiteScope directory.

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4 Restart SiteScope.

To enable the SAP CCMS monitor on a UNIX environment:

1 Download the following .jar file and .so files from the SAP support Web site:

- **sapjco.jar**
- **librfccm.so**
- **libsapjcorfc.so**

2 Copy the **sapjco.jar** file into the **<SiteScope root directory>\WEB-INF\lib** directory.

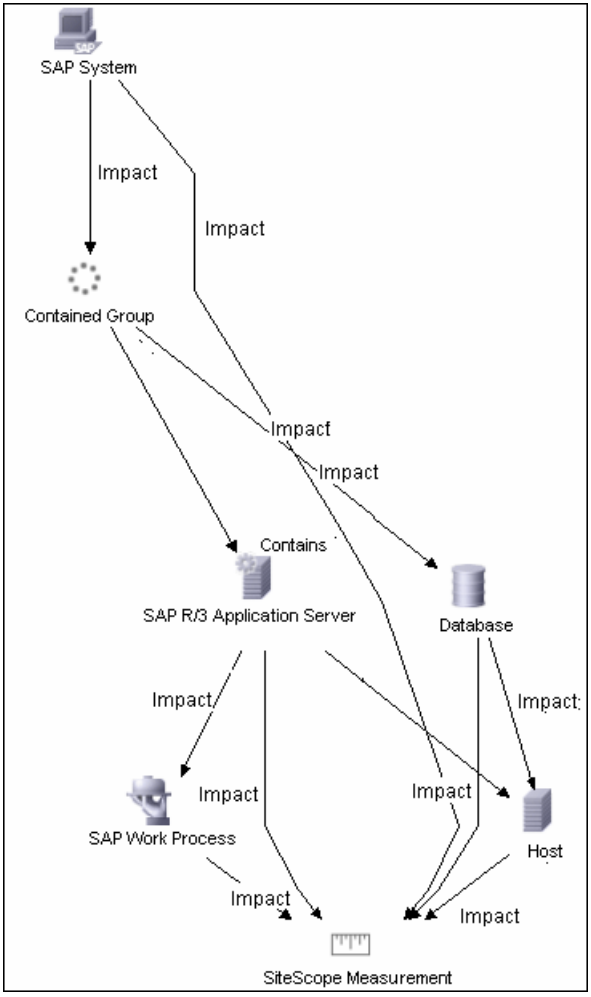
3 Copy the two .so files as follows:

- For Sun installations, copy into the **<SiteScope root directory>\java\lib\sparc** directory.
- For Linux installation, copy into the **<SiteScope root directory>\java\lib\i386** directory.

4 Restart SiteScope.

SAP CCMS Topology Settings

The SAP CCMS monitor can identify the topology of the SAP System being monitored. If **Include topology data when reporting to BAC** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



The CIs are created only for the monitored entities according to the counters that you select. The monitors are represented in the Universal CMDB as SiteScope Measurement Groups and SiteScope Measurement CIs.

Note:

- This direct integration between SiteScope and Business Availability Center is available only when the Business Availability Center for SAP Applications license is installed.
- When you add a new application server to the SAP System, you must clear the **Report SAP topology to HP Business Availability Center** option, save the Monitor definition, and then select the option again and save the monitor definition, in order for the monitor to recognize the new application server.

For information about retrieving topologies and reporting them to Business Availability Center, see "Reporting Discovered Topologies to HP Business Availability Center" on page 141.

For information about the SAP topology, see "SAP Systems View" in *Solutions and Integrations*.

For details on configuring this monitor, see "SAP CCMS Monitor Settings" on page 476.

SAP CCMS Alerts Monitor Overview

Use the SAP CCMS Alerts Monitor to retrieve and report alerts from the SAP CCMS monitors using SAP's centralized monitoring architecture, CCMS (Computer Center Management System). The SAP CCMS Alerts Monitor retrieves alerts using SAP's advanced CCMS interface BC-XAL 1.0.

The SAP CCMS Alerts Monitor allows you to monitor alerts for various components of your R/3 landscape.

Note: The SAP CCMS Alerts Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.

This section contains the following topics:

Setup Requirements

- The SAP CCMS Alerts Monitor requires that the SAP Java Connector (SAP JCo 2.0.6 and above) component be downloaded from the SAP Service Marketplace Software Distribution Center, and installed on the same server where SiteScope is running (or at least be accessible on a remote shared location).

  To download SAP Java Connector, go to the SAP Software Distribution Web site (http://www.service.sap.com/connectors), click **SAP Java Connector,** and then click **Tools and Services**. You need a valid Service Marketplace login to access the SAP Web site.

  For details on installing the SAP Java Connector, see "SAP Java Connector Installation" on page 392.

- The BC-XAL 1.0 interface is supported on R/3 systems 4.5B and above only.

➤ Consult your SAP documentation to determine if your R/3 landscape components may need additional software installed to run or work with CCMS.

User Authorization

A SAP user requires certain privileges to read CCMS metrics. When defining a SAP CCMS Alerts Monitor in SiteScope you must specify a user who has XMI authorization to be able to login to the CCMS server and retrieve metrics. The user should have one or more of the profiles listed below assigned to it. Authorizations are collected in SAP profiles, and the following profiles include XMI authorization:

➤ S_A.SYSTEM

➤ PD_CHICAGO

➤ S_WF_RWTEST

➤ SAP_ALL

One test to see if a user has such authorization is to try and issue transaction RZ20 in the SAP GUI and see if the CCMS monitor sets can be displayed.

SAP Java Connector Installation

The SAP CCMS Alerts monitor uses SAP JCo libraries to connect to the SAP R/3 system. A user must have the required license granted by SAP to receive and use these libraries.

To enable the SAP CCMS Alerts monitor on a Windows environment:

1 Download the following .jar file and .dll files from the SAP support Web site (http://www.service.sap.com/connectors):

   ➤ **sapjco.jar**

   ➤ **librfc32.dll**

   ➤ **sapjcorfc.dll**

2 Copy the **sapjco.jar** file into the **<SiteScope root directory>\WEB-INF\lib** directory.

3 Copy the two .dll files into the **<SiteScope root directory>\bin** directory.

Note: Check if the .dll files already exist in your **<Windows installation directory>\system32** directory. They may have been copied into this directory as part of the SAP client installation. If they do exist in your system, you must overwrite them with the above .dll files before copying into the SiteScope directory.

---

4 Restart SiteScope.

To enable the SAP CCMS Alerts monitor on a UNIX environment:

1 Download the following .jar file and .so files from the SAP support Web site (http://www.service.sap.com/connectors):

- **sapjco.jar**
- **librfccm.so**
- **libsapjcorfc.so**

2 Copy the **sapjco.jar** file into the **<SiteScope root directory>\WEB-INF\lib** directory.

3 Copy the two .so files as follows:

- For Sun installations, copy into the **<SiteScope root directory>\java\lib\sparc** directory.
- For Linux installation, copy into the **<SiteScope root directory>\java\lib\i386** directory.

4 Restart SiteScope.

Scheduling This Monitor

The default run schedule for this monitor is every 10 minutes, but you can change it to run more or less often using the **Frequency** setting in Monitor Run Settings. Note, however, that CCMS metrics are generally only updated once every 5 minutes.

For details on configuring this monitor, see "SAP CCMS Alerts Monitor Settings" on page 478.

SAP Java Web Application Server Monitor Overview

Use the SiteScope SAP Java Web Application Server monitor to monitor the availability and server statistics for SAP Java Web Application server cluster. A Java cluster consists of one instance of Dispatcher per host, and one or more Servers. The monitor displays a counter tree for each dispatcher and server in the cluster.

Note:

- The SAP Java Web Application Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- SiteScope also provides a solution template that includes a set of predefined monitors to create a monitoring solution for various services and aspects of a SAP Java Web Application server. For details on using the template, see "SAP Solution Templates" on page 1415.

This section contains the following topics:

Setup Requirements

To enable the SAP Java Web Application Server monitor, you must install the SAP JMX Connector. For details, see below.

To download SAP JMX Connector, go to the SAP Software Distribution Web site (http://www.service.sap.com/connectors), click **SAP Java Connector,** and then click **Tools and Services**. You need a valid Service Marketplace login to access the SAP Web site.

SAP JMX Connector Installation

The SAP Java Web Application Server monitor uses SAP JMX Connector libraries to connect to SAP J2EE cluster. A user must have the required license granted by SAP to receive and use these libraries.

To enable the SAP Java Web Application Server monitor:

1. Rename the **logging.jar** file from the SAP Java Web Application server to **sap_logging.jar** so as not to overwrite the SiteScope **logging.jar** file.
2. Copy the following .jar files from the SAP Java Web Application server installation:
   - **admin.jar**
   - **com_sap_pj_jmx.jar**
   - **exception.jar**
   - **sap_logging.jar** (renamed from **logging.jar** in SAP library)
   - **jmx.jar**

   into the <**SiteScope root directory**>**WEB-INF****lib** directory.
3. Restart SiteScope.

For details on configuring this monitor, see "SAP Java Web Application Server Monitor Settings" on page 480.

SAP Performance Monitor Overview

Use the SAP Performance Monitor to monitor the server and database performance data for SAP application servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server and database loading for performance, availability, and capacity planning. Create a separate monitor instance for each SAP server in your environment.

Note:

- The SAP Performance Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- SiteScope also provides a solution template that includes a set of predefined monitors to create a monitoring solution for various services and aspects of a SAP server. For details, see "SAP Solution Templates" on page 1415.

This section contains the following topics:

Setup Requirements

To enable the SAP Performance monitor, you must install the SAP Java Connector. For details, see below.

To download SAP Java Connector, go to the SAP Software Distribution Web site (http://www.service.sap.com/connectors), click **SAP Java Connector,** and then click **Tools and Services**. You need a valid Service Marketplace login to access the SAP Web site.

SAP Java Connector Installation

The SAP Performance monitor uses SAP JCo libraries to connect to the SAP R/3 system. A user must have the required license granted by SAP to receive and use these libraries.

To enable the SAP Performance monitor on a Windows environment:

1 Download the following .jar file and .dll files from the SAP support Web site:

- **sapjco.jar**
- **librfc32.dll**
- **sapjcorfc.dll**

2 Copy the **sapjco.jar** file into the **<SiteScope root directory>\WEB-INF\lib** directory.

3 Copy the two .dll files into the **<SiteScope root directory>\bin** directory.

Note: Check if the .dll files already exist in your **<Windows installation directory>/system32** directory. They may have been copied into this directory as part of the SAP client installation. If they do exist in your system, you must overwrite them with the above .dll files before copying into the SiteScope directory.

---

4 Restart SiteScope.

To enable the SAP Performance monitor on a UNIX environment:

1. Download the following .jar file and .so files from the SAP support Web site:
   - **sapjco.jar**
   - **librfccm.so**
   - **libsapjcorfc.so**
2. Copy the sapjco.jar file into the **<SiteScope root directory>\WEB-INF\lib** directory.
3. Copy the two .so files as follows:
   - For Sun installations, copy into the **<SiteScope root directory>\java\lib\sparc** directory.
   - For Linux installation, copy into the **<SiteScope root directory>\java\lib\i386** directory.
4. Restart SiteScope.

For details on configuring this monitor, see "SAP Performance Monitor Settings" on page 482.

SAP Work Processes Monitor Overview

Use the SAP Work Processes Monitor to monitor the effectiveness of your SAP R/3 server configurations. The monitor provides statistical information on work process performance. This information allows you to estimate whether the SAP R/3 Server is efficiently using its resources.

Note: The SAP Work Processes Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.

Using the SAP Work Processes Monitor, you can also enable reporting of the host topology to Business Availability Center. If enabled, Business Availability Center automatically populates the CMDB with CIs based on the monitored hardware in SiteScope.

This section contains the following topics:

Setup Requirements

To enable the SAP Work Processes monitor, you must install the SAP Java Connector. For details, see "SAP Java Connector Installation" on page 392.

To download SAP Java Connector, go to the SAP Software Distribution Web site (http://www.service.sap.com/connectors), click **SAP Java Connector,** and then click **Tools and Services**. You need a valid Service Marketplace login to access the SAP Web site.

Understanding the SAP Work Processes Monitor

A SAP work process is a program that runs the R/3 application tasks. Each work process acts as a specialized system service. In terms of the operating system, a group of parallel work processes makes up the R/3 runtime system.

Every work process specializes in a particular task type: dialog, batch, update, enqueue, spool, message, or gateway. In client/server terms, a work process is a service, and the computing system running the particular service is known as a server. For example, if the system is providing only dialog services, this is a dialog server, although commonly referred to as an application server.

The dispatcher assigns tasks to the free work processes, making optimal use of system resources and balancing the system load. The dispatcher knows and distributes pending tasks according to the type of the defined processes. The difference among the various work processes affects only those tasks or special services that have been assigned to the work processes through the dispatching strategy.

SAP Java Connector Installation

The SAP Work Processes monitor uses SAP JCo libraries to connect to the SAP R/3 system. A user must have the required license granted by SAP to receive and use these libraries.

To enable the SAP Work Processes monitor on a Windows environment:

1. Download the following .jar file and .dll files from the SAP support Web site:
   - **sapjco.jar**
   - **librfc32.dll**
   - **sapjcorfc.dll**
2. Copy the **sapjco.jar** file into the **<SiteScope root directory>\WEB-INF\lib** directory.

3 Copy the two .dll files into the **<SiteScope root directory>\bin** directory.

Note: Check if the .dll files already exist in the **<Windows installation directory>/system32** directory. They may have been copied into this directory as part of the SAP client installation. If they do exist in your system, you must overwrite them with the above .dll files before copying into the SiteScope directory.

---

4 Restart SiteScope.

To enable the SAP Work Processes monitor on a UNIX environment:

1 Download the following .jar file and .so files from the SAP support Web site:

- **sapjco.jar**
- **librfccm.so**
- **libsapjcorfc.so**

2 Copy the **sapjco.jar** file into the **<SiteScope root directory>\WEB-INF\lib** directory.

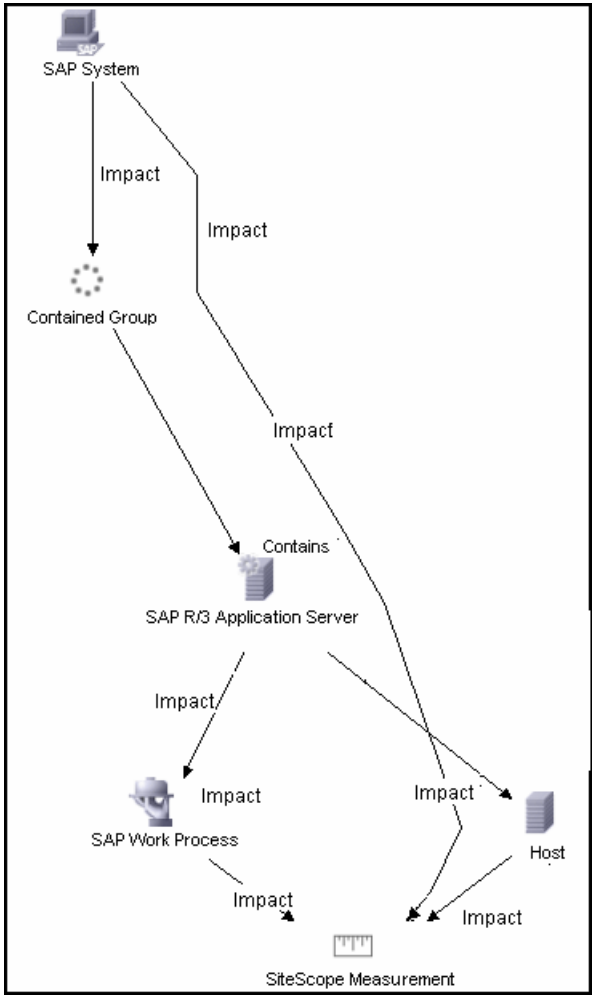
3 Copy the two .so files as follows:

- For Sun installations, copy into the **<SiteScope root directory>\java\lib\sparc** directory.
- For Linux installation, copy into the **<SiteScope root directory>\java\lib\i386** directory.

4 Restart SiteScope.

SAP Work Processes Topology Settings

The SAP Work Processes monitor can identify the work processes of the server being monitored. If **Include topology data when reporting to BAC** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



The CIs are created only for the monitored entities according to the counters that you select. The monitors are represented in the Universal CMDB as SiteScope Measurement Groups and SiteScope Measurement CIs.

Note: This direct integration between SiteScope and Business Availability Center is available only when the Business Availability Center for SAP Applications license is installed.

For information about retrieving topologies and reporting them to Business Availability Center, see "Reporting Discovered Topologies to HP Business Availability Center" on page 141.

For information about the SAP topology, see "SAP Systems View" in *Solutions and Integrations*.

For details on configuring this monitor, see "SAP Work Processes Monitor Settings" on page 484.

Siebel Application Server Monitor Overview

The Siebel Application Server Monitor (previously known as the Siebel Server Manager Monitor) uses the Siebel Server Manager client to monitor Object Manager components and task information on Siebel application servers.

Note:

- The Siebel Application Server Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- SiteScope also provides a solution template that includes a set of predefined monitors to create a monitoring solution for various services and aspects of a Siebel application server. For details, see "Siebel Solution Templates" on page 1421.

This section contains the following topics:

System Requirements

The following are requirements for using the Siebel Application Server Monitor:

- The Siebel Server Manager client must be installed only on the machine where SiteScope is running or that is accessible to the SiteScope. There are several options for how you can do this:
  - Copy the necessary client libraries from the Siebel server and install them on the machine where SiteScope is running (recommended option).
  - Enable the client on the Siebel server itself and create a remote server profile in SiteScope to access that server and the Siebel client on that server.

  - ➤ Install and enable the client on a third remote server and create a remote server profile in SiteScope to access that server and the Siebel client on that server. This option is applicable only for UNIX remotes.
  - ➤ For Windows networks, map the network drive where the Siebel client is installed to the SiteScope machine and use this in the Script Path.

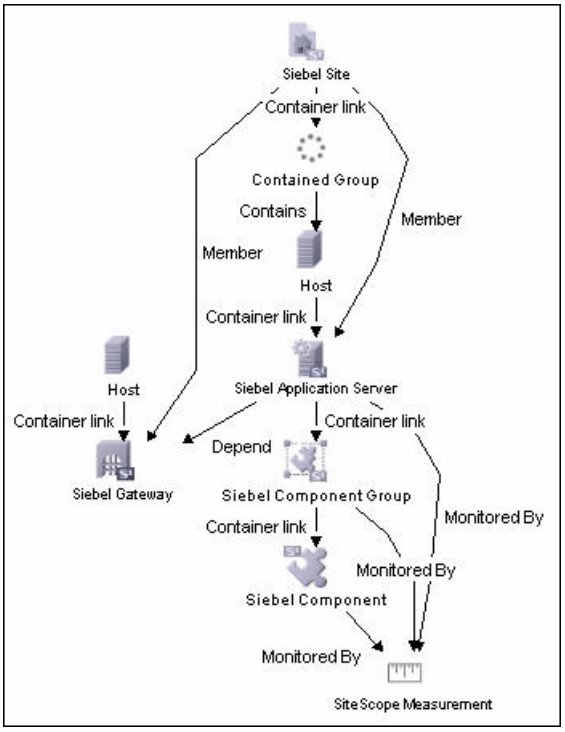
- ➤ You must know the install path for the Server Manager client to be able to setup Siebel Server Manager monitors in SiteScope. If the client is installed on the machine where SiteScope is running, this is the path on that machine. If the client is installed on a remote machine, you must know the fully qualified path to the client executable relative to that machine (usually called **srvrmgr** or **srvrmgr.exe**).
- ➤ You must know the name or address of the Siebel Gateway server used by the Siebel applications you want to monitor. Ask your Siebel system administrator or consult the Siebel documentation for more information about the Gateway server name.
- ➤ You must know the name or address of the Siebel Enterprise server used by the Siebel applications you want to monitor. Ask your Siebel system administrator or consult the Siebel documentation for more information.
- ➤ You must know the user and password that Server Manager uses for logging into the Siebel server. This user must be granted Siebel Administrator responsibility on the Siebel server.
- ➤ For monitoring Siebel processes, SiteScope needs credentials/authorization to access the target Siebel machine. You may need to define a Remote host in SiteScope for the target Siebel machine, unless the SiteScope server is already implicitly authenticated by the Siebel machine.

Note: Process monitoring remote Siebel machines incurs a noticeable delay (to get process metrics) hence the monitor runs slower than if the target Siebel machine is in close proximity to the SiteScope server. If your process counters are returning with no values during a run, it may be that the process metrics read operation is taking too long and SiteScope is timing out. In this case you may want to specify a required timeout value for perfex in the Infrastructure Settings Preferences page; for example, change the **Perfix timeout** value to 120 seconds. To access this setting, open the **Preferences** context, select **Infrastructure Settings**, and expand the **General Settings** section.

➤ **For SiteScope on Solaris/Linux.** You must make sure that the Siebel Server Manager Client's libraries are available to the Client. Set the LD_LIBRARY_PATH on that machine by using the Initialize Shell Environment field for the remote server configuration created in SiteScope. An example shell initialization command is LD_LIBRARY_PATH=/var/siebel/client/lib;export LD_LIBRARY_PATH.

Siebel Application Server Topology Settings

The Siebel Application Server monitor can identify the topology of the Siebel Application Servers being monitored. If **Include topology data when reporting to BAC** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



The CIs are created only for the monitored entities according to the counters that you select. The monitors are represented in the Universal CMDB as SiteScope Measurement Groups and SiteScope Measurement CIs.

Note: This direct integration between SiteScope and Business Availability Center is available only when the Business Availability Center for Siebel Applications license is installed.

For information about retrieving topologies and reporting them to Business Availability Center, see "Reporting Discovered Topologies to HP Business Availability Center" on page 141.

For information about the Siebel topology, see "Siebel Views" in *Solutions and Integrations*.

For details on configuring this monitor, see "Siebel Application Server Monitor Settings" on page 486.

Siebel Log File Monitor Overview

Use the Siebel Log File Monitor to automatically scan multiple log files for detailed data and error information. By having SiteScope scan the log files at set intervals, you can eliminate the need to scan the logs manually. In addition, you can be notified of warning conditions that you may have otherwise been unaware of until something more serious happened.

Note: The Siebel Log File Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.

Each time that SiteScope runs this monitor, it starts from the point in the file where it stopped reading last time it ran. This insures that you are only notified of new entries and speeds the rate at which the monitor runs. While this behavior can be overridden, we do not recommend it, and this should be done for troubleshooting purposes only.

You can schedule your Siebel Log File Monitors to run as often as every 15 seconds. However, depending on the size of the log files, the total number of monitors you have running, and whether the **Search from start** option is selected, the monitor may take a considerable amount of time to run.

For details on configuring this monitor, see “Siebel Log File Monitor Settings” on page 491.

Siebel Web Server Monitor Overview

Use the Siebel Web Server Monitor to monitor statistical and operational information about a Siebel server by way of the Siebel Web server plug-in. You can use this monitor to watch Siebel server login session statistics and gauge the performance of the Siebel server Object Managers and database.

Note:

- The Siebel Web Server Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- SiteScope also provides a solution template that includes a set of predefined monitors to create a monitoring solution for various services and aspects of a Siebel Web server. For details, see "Siebel Solution Templates" on page 1421.

This section contains the following topics:

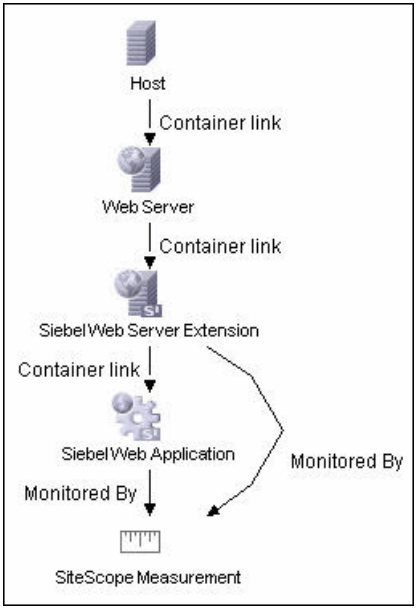
System Requirements

The following are several key requirements for using the Siebel Web Server Monitor:

- The Siebel Web server plug-in must be installed.
- The Siebel Web server plug-in should be configured to enable the display of the statistics you want to monitor. This may require that stats page sections be enabled by editing the **eapps.cfg** file for the Siebel server. Consult the Siebel documentation for more information.

Siebel Web Server Topology Settings

The Siebel Web Server monitor can identify the topology of the Siebel Web Server being monitored. If **Include topology data when reporting to BAC** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



The CIs are created only for the monitored entities according to the counters that you select. The monitors are represented in the Universal CMDB as SiteScope Measurement Groups and SiteScope Measurement CIs.

Note: This direct integration between SiteScope and Business Availability Center is available only when the Business Availability Center for Siebel Applications license is installed.

For information about retrieving topologies and reporting them to Business Availability Center, see "Reporting Discovered Topologies to HP Business Availability Center" on page 141.

For information about the Siebel topology, see “Siebel Views” in *Solutions and Integrations*.

For details on configuring this monitor, see “Siebel Web Server Monitor Settings” on page 495.

SunONE Web Server Monitor Overview

Use the SunONE Web Server Monitor to monitor performance metrics reported in the stats-xml file of SunONE servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate monitor instance for each SunONE server you are running.

Setup Requirements

Before you can use the SunONE Web Server Monitor, the **stats-xml** service option must be enabled on each Web server you want to monitor. This normally requires that you manually edit the **obj.conf** configuration file for each server instance. For iPlanet 6.0 servers, the entry has the following syntax:

```
<Object name="stats-xml">
ObjectType fn="force-type" type="text/xml"
Service fn="stats-xml"
</Object>
```

Each server instance must be restarted for the changes to become effective.

For details on configuring this monitor, see “SunONE Web Server Monitor Settings” on page 499.

Tuxedo Monitor Overview

Use the Tuxedo Monitor to monitor the server performance data for BEA Tuxedo servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate monitor instance for each Tuxedo server in your environment.

Note: This monitor is supported in SiteScopes that are running on Windows versions only. However, this monitor can monitor remote servers running on any platform/operating system.

System Requirements

The following are several key configuration requirements for using the Tuxedo Monitor:

- If SiteScope is running as a machine in the same domain as the Tuxedo server then SiteScope can connect to the Tuxedo server as a native client. If SiteScope is outside the domain of the Tuxedo server, you must install, configure, and enable the Tuxedo Workstation component to enable SiteScope to make requests of the Tuxedo server.
- The client and server side workstation component software versions should be the same. Some versions of the client software can work with multiple versions of Tuxedo servers but support information is limited.
- If Tuxedo 7.1 or later is installed on both the server you want to monitor and the SiteScope server, more than one Tuxedo server can be monitored at a time. If Tuxedo 6.5 or earlier is used, only one Tuxedo server can be monitored at a time.
- If SiteScope is outside the domain of the Tuxedo server, the Tuxedo Workstation client software needs to be installed on the server where SiteScope is running. This is usually in a DLL called libwsc.dll. The address to the application server needs to be specified in the WSNADDR environment variable.

➤ On the server where the Tuxedo application server is running, set the TUXDIR variable to be the TUXEDO installation directory and add the TUXEDO bin directory to the PATH variable.

The following environment variables must be added to the SiteScope environment:

➤ %TUXDIR% should be set on the monitoring machine to the <Tuxedo_root_folder>

➤ **<Tuxedo_root_folder>\bin** should be added to %PATH% variable

---

Note: Any environment variables (for example, TUXDIR) should be defined as system variables, not user variables.

For details on configuring this monitor, see "Tuxedo Monitor Settings" on page 502.

UDDI Monitor Overview

Use the UDDI Monitor to check the availability and round-trip response time of the UDDI server. Each time that the monitor is run, SiteScope checks if the UDDI Server can find a business entity.

Setup Requirements

The following are requirements for using the UDDI Monitor:

➤ The UDDI server must use UDDI Version 2.

➤ The administrator of the UDDI server can limit or disable this monitor.

For details on configuring this monitor, see "UDDI Monitor Settings" on page 504.

VMware Performance Monitor Overview

Use the VMware Performance monitor to monitor VMware-based servers. VMware supplies much of the virtualization software available for x86-compatible computers. The VMware Performance monitor supports monitoring:

- Single VMware ESX server installations.
- ESX server clusters managed by VMware Virtual Center.
- VMotion of virtual machines.

During initial monitor creation, the new monitor uses the connection URL configured to access the software and dynamically discover the object hierarchy and available performance counters. You can select from these performance counters to determine which measurements SiteScope should retrieve for reporting server status.

For details describing all the available counters, refer to the VMware documentation available at http://www.vmware.com/pdf/ProgrammingGuide201.pdf

This section contains the following topics:

- "VMotion Support" on page 408
- "SSL Connectivity" on page 408

VMotion Support

VMware's VMotion technology enables transparent migration of running virtual machines between physical hosts in a virtual infrastructure cluster. It allows you to move an entire running virtual machine instantaneously from one server to another with continuous service availability and zero downtime. This process can be done both manually and automatically as part of cluster load balancing.

The VMware Performance monitor is browseable, and the counters tree is designed so that virtual machine nodes are not children of physical host nodes. This means that the structure of the tree does not change during migration and if counters from a virtual machine are selected for this monitor, they do not change as a result of VMotion. This is regardless of where the virtual machine belonged at any particular moment.

SSL Connectivity

VMware servers are generally configured to use SSL encryption for administrative connections. This can be determined by the prefix of the Web service URL. The https:// prefix means that it is a secure, encrypted connection. Monitoring a VMware server which uses an encrypted connection, requires importing the server certificate.

To import a server certificate:

1. Export the certificate by going to the VMware administration URL and performing the export procedure described in the document.
2. Import the certificate, from the **<SiteScope root directory>java\lib\security**, by entering:

   ../../bin/keytool -import -file myCert.cer -alias myalias -keystore cacerts

   Make sure to specify a unique alias for every certificate you add. If you do not, the keytool uses an automatic alias and once you attempt to add more than one custom certificate, the new certificate overwrites the old one and keeps only the default alias.

   The word changeit is the default password for the cacerts file.

3 Make a copy of <**SiteScope root directory**>**java****lib****security****cacerts** and rename it <**SiteScope root directory**>**java****lib****security****jssecacerts**. After doing this, manually check to make sure the **jssecacerts** file is located in the <**SiteScope root directory**>**java****lib****security** directory. The reason for creating the **jssecacerts** file is that the default **cacerts** file is overwritten every time SiteScope is upgraded or re-installed. Creating a copy with a different name allows new certificates to be imported and not be overwritten with future installations or upgrades.

Note: This step is not necessary if you already have a **cacerts** file.

For details on configuring this monitor, see "VMware Performance Monitor Settings" on page 505.

WebLogic Application Server Monitor Overview

Use the WebLogic Application Server Monitor to monitor performance statistics data from WebLogic 6.x, 7.x, and 8.x servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate WebLogic Application Server Monitor instance for each WebLogic server in your environment.

Important: WebLogic Application Server Monitors cannot be used to monitor WebLogic 9.x or 10.x servers. To monitor these servers, use a JMX monitor as described in "JMX Monitor Settings" on page 604. For further details, see "Creating a JMX Monitor for a WebLogic 9.x or 10.x Server" on page 574.

SiteScope can discover the topology of WebLogic application servers using the JMX monitor. You cannot use the WebLogic Application Server monitor to discover topology data for reporting to Business Availability Center. For details, see "WebLogic Application Server Topology Settings" on page 574.

If you are using a WebLogic 9.x or 10.x server, the rest of this chapter is not relevant.

The BEA WebLogic Application Server monitor uses the Java JMX interface to access Runtime MBeans on the WebLogic server. An MBean is a container that holds the performance data. You must set certain permissions on the WebLogic server for SiteScope to be able to monitor MBeans.

Note: SiteScope also provides a solution template that includes a set of predefined monitors to create a monitoring solution for various services and aspects of a WebLogic application server. For details, see "WebLogic Solution Template" on page 1437.

This section contains the following topics:

Configuration Requirements for WebLogic 6.x Servers

To set permissions for monitoring WebLogic 6.x servers, create a new ACL on the WebLogic server with the name **weblogic.admin.mbean**. Set the permission type to **access** and set the Users and Groups to be the user or group account that SiteScope uses to monitor the WebLogic server.

Configuration Requirements for WebLogic 7.x Servers

WebLogic 7.x and later servers use Security Policies instead of ACL's to control access to the server resources. To monitor WebLogic 7.x servers with SiteScope, the WebLogic administrator needs to add the user account that is running SiteScope to a WebLogic user group. The WebLogic group containing the SiteScope user must then be associated with a role statement that grants the necessary security role for accessing the desired WebLogic resources. The same security role must also be associated with the applicable policy statement that grants SiteScope access to the WebLogic resources. See the WebLogic server documentation for more information.

Configuring SiteScope to Use T3 Over SSL Against a WebLogic Server

You use the following steps to configure a WebLogic Monitor with the **Secure Server** option to monitor a WebLogic 7 or 8 server.

To configure SiteScope to use SSL for WebLogic server monitoring:

1. Obtain and install a JRE version 1.4.1 on the machine where SiteScope is running. Make a note of the full path to this JRE installation, as you must enter this information in the WebLogic Monitor setup.
2. Import the WebLogic Server's certificate, signed by a certificate authority, into the **<jre_path>\lib\security\cacerts** file for the JRE 1.4.1 installation on the SiteScope machine. If it is not, then you have to import the signer's certificate into the cacerts file using the keytool program. For instance, using the default WebLogic cert setup, you must import the **CertGenCA.der** certificate using the following command (this must all be entered on a single command line):

   ```
   C:\j2sdk1.4.1\jre\bin>keytool.exe -import -alias weblogic81CA -keystore
   ..\lib\security\cacerts -trustcacerts -file
   C:\BEA\weblogic81\server\lib\CertGenCA.der
   ```

3. Obtain a valid BEA license file and put it somewhere on the SiteScope machine. This is the file named **license.bea** in the BEA installation directory.
4. Obtain the **weblogic.jar** file from the WebLogic server or from a WebLogic server of the same version that you are monitoring. For WebLogic version 8.x, you must also obtain a copy of the **wlcipher.jar** file. Copy this or these files to the SiteScope server.

Note: Do not install the **weblogic.jar** file in the SiteScope directory tree. In other words, do not install it in the **<SiteScope root directory>\java\lib\ext** directory as this causes the Weblogic monitor to fail. You must install it in a separate directory on the server where SiteScope is running.

---

5 Open SiteScope and add a WebLogic Application Server Monitor.

6 Configure the WebLogic Application Server Monitor Settings as follows:

- In the Authentication Settings panel, select the **Secure server** option.
- In the Advanced Settings panel:
  - Enter the full path to the **wlcipher.jar** and **weblogic.jar** files in the **WLCipher jar file** and the **WebLogic jar file** boxes, respectively.
  - Enter the full path to the BEA license file in the **WebLogic license file** box.
  - Enter the full path to the javaw.exe (for Windows platforms) or the java (Solaris/Linux) executable for the JRE version 1.4.1 installation in the **JVM** box.

7 Click the **Get Counters** button to browse the counters on the WebLogic server over SSL.

For details on configuring this monitor, see "WebLogic Application Server Monitor Settings" on page 507.

WebSphere Application Server Monitor Overview

Use the WebSphere Application Server Monitor to monitor the server performance statistics from IBM WebSphere servers using the performance monitoring interfaces provided with WebSphere. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate WebSphere Application Server Monitor instance for each WebSphere Application Server in your environment.

Note: SiteScope also provides a solution template that includes a set of predefined monitors to create a monitoring solution for various aspects of a WebSphere Application server. For details, see "WebSphere Solution Template" on page 1445.

This section contains the following topics:

System Requirements

Before you can use the WebSphere Application Server Monitor, there are a number of configuration requirements involving the server environment. The following is an overview of the configuration steps:

For WebSphere 3.5.x and 4.x

Perform the following to prepare the WebSphere environment for SiteScope monitoring of WebSphere versions 3.5.x and 4.x:

➤ Install the IBM WebSphere Administrator's Console on the SiteScope server if you are monitoring WebSphere versions 3.5.x or 4.x.

If installing the Administrator's Console:

- ➤ Select **Custom Installation** option during installation.
- ➤ Select **Administrator's Console** and **IBM JDK 1.2.2.** in the **Choose Application Server Components** dialog box.
- ➤ Specify the machine you want to monitor during the installation.

➤ Enable the WebSphere servers to be monitored.

- ➤ For WebSphere 3.5.x, enable EPM Counters on the WebSphere server.
- ➤ For WebSphere 4.x, enable PMI Counters or enable the Performance Monitoring Service on the WebSphere server. You can enable the counters for the application you want to monitor by using the WebSphere Administrator's Console.
- ➤ For WebSphere 4.x, select **Resources** and then select the **Performance** option. In the dialog box that opens, expand the **Performance Modules** tree. To manage different levels of performance data, select the performance modules, choose a performance level, and then click the **Set** button.

➤ Alternatively, on WebSphere 3.5.x, you can set the EPM Specification to:

```
epm=high:epm.beanMethodData=none
```

by using the WebSphere Administrator's Console.

➤ If security has been enabled on the WebSphere server, the server security ring must be copied to the admin client.

For WebSphere 5.x

To monitor WebSphere version 5.x, the necessary WebSphere libraries must be available on the SiteScope server. Generally, this means that a WebSphere 5.x client install must exist on the SiteScope server.

To install the correct client software on a SiteScope server:

1 Install the **Administration (or admin console) Performance Analysis** option from the custom options menu in the WebSphere 5.x install.

Important: Certain trial versions of IBM WebSphere do not include the Performance Analysis option required by the SiteScope WebSphere Application Server Monitor. The SiteScope monitor can only work when a complete WebSphere production installation is available.

---

2 Copy all of the files from the **lib** folder of a WebSphere 5.x Application Server installation to the **lib** folder on the client install from step 1.

3 The WebSphere 5.x server and client settings have to match. This means that the SiteScope WebSphere Application Server Monitor is not able to monitor a WebSphere 5.1 application server if the client libraries are from a WebSphere 5.0 and vice versa. Client libraries should be installed in separate folders with clearly distinct directory names (for example, Websphere50 and Websphere51) to avoid confusion and SiteScope setup errors.

Note: For WebSphere 5.x SiteScope uses the WebSphere JMX interface so the port number used to communicate with the application server is the SOAP port number. The default SOAP port number is 8880.

---

4 You must enable the WebSphere servers to be monitored. For WebSphere 4.x and 5.x, enable PMI Counters or enable the Performance Monitoring Service on the WebSphere server. You can enable the counters for the application you want to monitor by using the WebSphere Administrator's Console.

For WebSphere 5.x, click **Servers** > **Application Servers**. Select the server to be monitored from the Application Server list. From the Configuration tab, click on the Performance Monitoring Service in the Additional Properties list. Click the **Start Up** check box and select the **Initial specification** level as Standard or Custom. Then click the Apply button.

5 If security has been enabled on the WebSphere server, the server security ring must be copied to the admin client.

Note: If security has been enabled on the WebSphere 5.x server, you must copy the security keyring from the WebSphere server to SiteScope. A keyring is a certification used by the server to identify the client.

For WebSphere 6.x

To enable monitoring WebSphere version 6.x, you must have the following directories copied onto the SiteScope machine:

- AppServer/Java
- AppServer/lib

These directories can be copied into any directory on the SiteScope machine but must be stored exactly as they appear under the **AppServer** directory.

You can use one of the following options:

- Create a directory on the machine running SiteScope called **AppServer** and copy the two directories, **Java** and **lib**, directly into the newly created **AppServer** directory. We recommend option because it occupies the least amount of disk space on your SiteScope machine.
- Copy the entire WebSphere AppServer directory from the machine being monitored onto the machine running SiteScope.

➤ Copy all the WebSphere application server files onto the machine running SiteScope. We do not recommend this option because of the size of the application server files.

Once you have the **AppServer/Java** and **Appserver/lib** files on the SiteScope machine, use the following procedure to prepare the WebSphere environment for monitoring WebSphere 6.x.

To set up monitoring WebSphere 6.x:

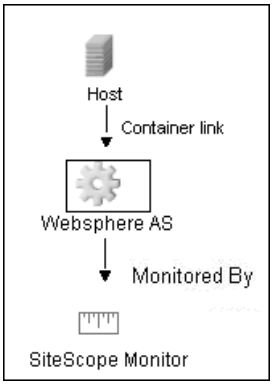
1. On the WebSphere server, select **Servers** > **Application Servers** > **<server name>** > **Performance Monitoring Infrastructure (PMI)** and make sure that the counters are set to **Extended**.
2. From the SiteScope machine, make sure that you can access the SOAP from a browser. For example, open a browser and enter the following sample address: http://jberantlab:8880. If an XML page is returned, the monitor is ready to be added to SiteScope and configured.
3. Open SiteScope, add the WebSphere Application Server Monitor, and configure the settings. For details, see "WebSphere Application Server Monitor Settings" on page 510.

Note: For WebSphere 6.x and later, SiteScope uses the WebSphere JMX interface so the port number used to communicate with the application server is the SOAP port number. The default SOAP port number is 8880.

WebSphere version 6.x supports global security. Global security is set up and maintained through the WebSphere administrative console. To enable this functionality in SiteScope, you must configure the WebSphere 6.x monitor in the Advanced Settings pane.

WebSphere Application Server Topology Settings

The WebSphere Application Server monitor can identify the topology of the WebSphere Application Servers being monitored. If **Include topology data when reporting to BAC** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



For information about retrieving topologies and reporting them to Business Availability Center, see “Reporting Discovered Topologies to HP Business Availability Center” on page 141.

For details on configuring this monitor, see “WebSphere Application Server Monitor Settings” on page 510.

WebSphere MQ Status Monitor Overview

Use the WebSphere MQ Status Monitor to monitor the performance attributes of MQ Objects: channels and queues, on MQ Servers v5.2 and above (formerly known as MQSeries). You can monitor both performance attributes and events for channels and queues.

Note: The WebSphere MQ Status Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.

You can set the error and warning thresholds for the WebSphere MQ Status Monitor on as many as fifteen function measurements.

This section contains the following topics:

System Requirements

This monitor requires two IBM MQ SupportPacs to be downloaded from the IBM Web site and installed on the same machine where the SiteScope server is running:

- **MA88.** MQSeries classes for Java, version 5.2.2 (5648-C60) or later. Go to the IBM Web site for this support package. Note that in some cases this component may already be bundled with the IBM MQ Server installation. Check your IBM MQ install documentation for details.
- **MS0B.** WebSphere MQ Java classes for PCF. Go to the IBM Web site for this support package.

  Follow the instructions for installing both support packs. Copy the following files from these installations to the **<SiteScope root directory>\java\lib\ext** directory:

  - **com.ibm.mq.jar**
  - **connector.jar**
  - For PCF (depends on WebSphere MQ version):
    - **com.ibm.mq.pcf.jar** (for WebSphere MQ versions earlier than 6.x)
    - **pcf.jar** (for WebSphere MQ 6.x and later)

  After installing the required libraries, stop and restart SiteScope.

Channel Status Codes

You can choose from two different reporting schemes for Channel Status Code values:

- **IBM MQ Native Coding Scheme.** Report the actual or original channel status codes as documented in the IBM MQ literature.
- **HP Coding Scheme.** Report channel status codes in ascending values that are directly proportional to the health of the channel. That is, SiteScope reports a channel status value from 0 (least healthy) to 6 (healthiest). This scheme is consistent with how other HP products report MQ channel status codes. However this scheme provides less gradients than the IBM scheme, as shown in the table below:

MQ Channel Status	MQ Coding Scheme	HP Coding Scheme
Stopped	6	0
Paused	8	0
Inactive	-1	0
Initializing	4	1
Stopping	13	1
Starting	2	2
Retrying	5	3
Requesting	7	4
Binding	1	5
Running	3	6
Stopped	6	0

You can select the required coding scheme in the **Channel status code scheme** box under WebSphere MQ Status Monitor Settings.

Monitoring MQ Events

For events, two system queues are regularly polled for the presence of relevant events:

- SYSTEM.ADMIN.PERFM.EVENT - for queue performance events
- SYSTEM.ADMIN.CHANNEL.EVENT - for channel events

On each scheduled run of the MQ monitor (which contain event counters), one or both of these system queues are queried for the presence of events that match the chosen event type, the source queue or channel that generated the event, and its queue manager. Events found are only browsed and not removed from the queue, so such events can continue to be consumed by other applications, if necessary. On each run the MQ monitor reports the number of event occurrences found since the last run of the monitor.

The monitor strives not to report the same event occurrence more than once. This is accomplished by recording the timestamp of the most recent event browsed, so that in the next monitor run any events encountered that were generated prior to this recorded timestamp are ignored.

Enabling Queue Events on the MQ Server

By default, queue performance events are unavailable in the MQ server. For SiteScope to monitor these events, enable the MQ server to create these events. A MQSC command must be issued on each queue and for each event to be enabled. In addition, required threshold values must be set on each queue and for each event that specify the conditions for generating the event. Consult the IBM MQ MQSC Command Reference for more information.

Channel events are always enabled and require no further action for them to operate.

Specifying Alternate Queue Managers

It is possible to set up an MQSeries environment such that events from remote queue managers are routed to a central queue manager for monitoring. If the event configured for monitoring by the user is from a remote queue manager (a queue manager other than the one identified in **Queue manager** of the MQ Status Monitor Settings panel), it must be specified in the **Alternate queue manager** text box.

Authentication

Your MQ server may require SiteScope to authenticate itself when connecting to retrieve metrics. A function has been built into this monitor to run a user-developed, client-side security exit written in Java.

To use this function, specify the fully-qualified class name of the security exit component in file **<SiteScope root directory>\groups\master.config**. For example,
_mqMonitorSecurityExit=com.mycompany.mq.MyExit

where the security exit class is called com.mycompany.mq.MyExit.

Make sure this class is in the classpath of the running SiteScope JVM by copying your security exit class into **<SiteScope root directory>\java\lib\ext**. You can only deploy one security exit class for a SiteScope instance, and every MQ monitor running on that instance runs that security exit.

In the case of a Windows-based SiteScope instance monitoring a Windows-based MQ server, the default authentication scheme requires that SiteScope be running under a user account that is recognized by the target server's Windows security group. Specifically, the SiteScope user must be added to the server's mqm group.

For information about MQ security exits and other authentication schemes, consult the IBM WebSphere MQ documentation.

For details on configuring this monitor, see “WebSphere MQ Status Monitor Settings” on page 514.

WebSphere Performance Servlet Monitor Overview

Use the WebSphere Performance Servlet Monitor to monitor the server performance statistics for IBM WebSphere servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate WebSphere Performance Servlet Monitor instance for each WebSphere Application Server in your environment.

System Requirements

The following are several key requirements for using the WebSphere Performance Servlet Monitor:

- The WebSphere Performance Servlet is an optional component for WebSphere 3.0x and 3.5x versions. The performance servlet must be installed on WebSphere servers to use this monitor. A patch needs to be applied according to which WebSphere 3.x version you are monitoring.
- The WebSphere Performance Servlet must be installed on each WebSphere 3.x server you want to monitor. The files should be copied to the **hosts\default_host\default_app\servlets** subdirectory on each WebSphere server machine. The files needed per version are as follows:

Version	Files
3.02	xml4j.jar performance.dtd perf.jar
3.5	perf35.jar
3.5.2, 3.5.3	perf35x.jar

- The WebSphere Performance Servlet should be included as part of WebSphere 4.0 although it needs to be deployed. If you are running WebSphere 4.0 servers, only one instance of the servlet needs to be deployed to monitor one or more WebSphere 4.0 servers.
- Verify that the servlet is running properly and that the performance data is generated. One way to do this is to try to display it through an XML enabled browser. The servlet URL should be in the following format:

  http://<server:port:>/<dir_alias>/com.ibm.ivb.epm.servlet.PerformanceServlet

  For example,
  http://wbs.company.com:81/servlet/com.ibm.ivb.epm.servlet.Performance Servlet

  For details on configuring this monitor, see "WebSphere Performance Monitor Settings" on page 517.

Application Monitors User Interface

This section describes:

Active Directory Replication Monitor Settings

Description	The Active Directory Replication Monitor allows you to monitor the time that it takes replication to occur between up to ten Domain Controllers. The error and warning thresholds for the monitor can be set on each of the monitored Domain Controllers. Use this page to add the monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand the **Solution Templates** container. Right-click the Active Directory solution template that you require, and select **Deploy Template**. Select the SiteScope group container into which you want to deploy the solution template, and enter the deployment values.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. This monitor can only be added by deploying an Active Directory Solution template. For information about using templates to deploy monitors, see "SiteScope Templates" on page 1245. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Active Directory Replication Monitor Overview" on page 351.

Active Directory Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Domain controller	Select the domain controller that contains the replicated data.
Replicating domain controllers	Enter a comma separated list of domain controllers that replicate data from the domain controller entered above.
User name	Enter either the user name or the entire Security Principal of a Domain Admin account. If a user name is given, the default security principal is created from the root context of the Domain Controller. **Example:** If you enter Administrator for a domain controller in the domain yourcompany.com, then the entire Security Principal would be CN=Administrator,CN=Users,DC=yourcompany,DC=com.
Password	Enter the password for the Domain Admin account.
Maximum replication time (seconds)	Enter the maximum amount of time for replication to occur. The monitor goes into error if any of the Replicating Domain Controllers exceed this replication time. **Default value:** 600 seconds
Polling interval (seconds)	The amount of time this monitor should wait between queries of the Replicating Domain Controllers. A higher number reduces the number of LDAP queries against the servers. **Default value:** 10 seconds
Directory path	The path to a directory in the Active Directory that you want to monitor. This is in the form of an LDAP query. **Default value:** Based on the default Directory for this server. For example, the default for a Domain Controller for sub.yourcompany.com is DC=sub,DC=yourcompany,DC=com.

Apache Server Monitor Settings

Description	Use to monitor the administrative and performance statistics for an Apache server. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Apache Server Monitor Overview" on page 352

Apache Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server Settings	
Administration URL	Choose the server URL you want to verify with this monitor. This should be the Apache server statistics URL which usually has the form of http://<servername>:<port>/server-status?auto.
Operating System	The operating system that the Apache server is running on. This is used to correctly read server statistics from Apache based on the operating system platform. **Default value:** UNIX
Counter Settings	
Counters	Select the server performance counters you want to check with this monitor. The list displays the available counters and those currently selected for this monitor.

GUI Element	Description
Connection Settings	
Authorization user name	If the server you want to monitor requires a name and password for access, enter the name in this box.
Authorization password	If the server you want to monitor requires a name and password for access, enter the password in this box.
HTTP Proxy	(Optional) A proxy server can be used to access the server. Enter the domain name and port of an HTTP Proxy Server.
Proxy user name	If the proxy server requires a name and password to access the server, enter the name here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy password	If the proxy server requires a name and password to access the server, enter the password here. **Note:** your proxy server must support Proxy-Authenticate for these options to function.
Timeout (seconds)	The number of seconds that the monitor should wait for a response from the server before timing-out. Once this time period passes, the monitor logs an error and reports an error status. **Default value:** 60 seconds

BroadVision Application Server Monitor Settings

Description	Monitor the availability and performance statistics of a BroadVision server. The error and warning thresholds for the monitor can be set on one or more BroadVision server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree.
Useful Links	"BroadVision Application Server Monitor Overview" on page 353

BroadVision Application Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
Server	Enter the BroadVision root server name of the BroadVision server you want to monitor. For example, 199.123.45.678.
Port	Enter the ORB port number to the BroadVision server you want to monitor. **Example:** 1221
Counter Settings	
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Check Point Monitor Settings

Description	Monitor the statistics of a Check Point Firewall-1 server using SNMP. The error and warning thresholds for the monitor can be set on one or more firewall statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Check Point Monitor Overview" on page 354

Check Point Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
Index	Enter the index of the SNMP object you want to check with this monitor. Non-table object IDs have an index of 0 (zero). **Default value:** 0
Community	Enter the community name of the Check Point Firewall-1 you want to monitor. You may need to consult with your network administrators about what community names are active in your network environment. **Default value:** public

GUI Element	Description
Host	Enter the host name or IP address of the Check Point Firewall-1 server you want to monitor. If the Check Point Firewall is configured to respond to SNMP on a port number other than the default port, enter the port number as part of the server address.
Retry delay (seconds)	The number of seconds that the monitor should wait for a response from the server before retrying the request. **Default value:** 1 second
Timeout (seconds)	The number of seconds that the monitor should wait for a response from the server before timing out. Once this time period passes, the monitor logs an error and reports an error status. **Default value:** 5 seconds
Counter Settings	
<List of counters>	Displays the available server performance counters and those currently selected for this monitor.

Cisco Works Monitor Settings

Description	Monitor the statistics of a Cisco Works Server using SNMP. The error and warning thresholds for the monitor can be set on one or more Cisco Works server statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Cisco Works Monitor Overview" on page 354

Cisco Works Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SNMP Connection Settings	
Server	Enter the name of the server you want to monitor.
SNMP version	Select the version of SNMP to use when connecting. Supports SNMP version 1, 2, and 3. Selecting V3 enables you to enter V3 settings in the SNMP V3 settings panel. **Default value:** V1
Community	Enter the community name of the Cisco Works Server you want to monitor (valid only for version 1 or 2 connections). You may need to consult with your network administrators about what community names are active in your network environment. **Default value:** public
Timeout (seconds)	Enter the total time, in seconds, that SiteScope should wait for all SNMP requests (including retries) to complete. **Default value:** 5
Retries	Enter the number of times each SNMP GET request should be retried before SiteScope considers the request to have failed. **Default value:** 1
Port	Enter the port to use when requesting data from the SNMP agent. **Default value:** 161

GUI Element	Description
Starting OID	Use this option when selecting counters for this monitor. When the monitor attempts to retrieve the SNMP agent's tree, it starts with the OID value that is entered in this box. You should edit this box only when attempting to retrieve values from an application that does not handle OIDs starting with 1. If the default value of 1 did not enable retrieving any counters, then you may have to enter a different value in this box. **Default value:** 1
MIB file	Select either the **CISCOWORKS-MIB.my** file or **All MIBs**. Selecting the **CISCOWORKS-MIB.my** file causes only those objects that are described within that MIB file to be displayed. Selecting **All MIBs** causes all objects discovered on the given Cisco Works server to be displayed when browsing counters. If no MIB information is available for an object, it is still displayed, but with no textual name or description. **Default value:** All MIBs
Counter calculation mode	Use this option to perform a calculation on objects of type Counter, Counter32, or Counter64. The available calculations are: ➤ **Calculate delta.** Calculates a simple delta of the current value from the previous value. ➤ **Calculate rate.** Calculates a rate calculation using the delta of current value from previous value, divided by the time elapsed between measurements. ➤ **Do not calculate.** No calculation is performed. **Note:** This option only applies to the aforementioned object types. A Cisco Works Monitor that monitors Counter objects as well as DisplayString objects only performs this calculation on the Counter objects.

GUI Element	Description
V3 SNMP Settings (This panel is enabled only if V3 is selected in the SNMP version field)	
SNMP V3 authentication type	Select the type of authentication to use for version 3 connections. **Default value:** MD5
SNMP V3 user name	Enter the user name for version 3 connections.
SNMP V3 authentication password	Enter the authentication password to use for version 3 connections.
SNMP V3 privacy password	Enter the privacy password if DES privacy encryption is desired for version 3 connections. Leave blank if you do not want privacy.
SNMP V3 context engine ID	Enter a hexadecimal string representing the Context Engine ID to use for this connection. This is applicable for SNMP V3 only.
SNMP V3 context name	Enter the Context Name to use for this connection. This is applicable for SNMP V3 only.

GUI Element	Description
SNMP Counters	
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note:** ➤ The counters displayed are those received during the timeout period, and may not include all the counters available on the server. Specifying a longer timeout in the Timeout (seconds) field in the SNMP Connection Settings panel may result in receiving more counters. ➤ The total time for receiving the counters may be longer than the timeout specified, due to additional processing time not part of the request/response period. ➤ Due to third-party counter restrictions, the total number of counters that can be monitored is limited to 32. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Citrix Server Monitor Settings

Description	Monitor the availability of the following Citrix servers: ➤ MetaFrame 1.8 Service Pack 3 ➤ MetaFrame XP(s,a,e) Feature Release 1/Service Pack 1 ➤ MetaFrame XP(s,a,e) Feature Release 2/Service Pack 2 ➤ Presentation Server 3.5 ➤ Presentation Server 4.x The error and warning thresholds for the monitor can be set on one or more Citrix Server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Useful Links	"Citrix Server Monitor Overview" on page 354

Citrix Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the Citrix Server you want to monitor is running. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.

GUI Element	Description
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters. For information about the Citrix performance counters, see Appendix C of the MetaFrame Presentation Server 4.0 Administrator's Guide (http://support.citrix.com/article/CTX106319). **Note when working in template mode:** To update counters in template browsable monitors that need a target server, click the **Select measurement from** button and add the required server and counters. Any server that is accessible in the domain can be used. If a server is not in the domain, you must manually add the server to the remote server tree before adding counters, and then specify the newly created server name in the **Server** field.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor.

ColdFusion Server Monitor Settings

Description	Monitor the availability of an Allaire ColdFusion server (versions 4.5x) on Windows NT systems. The error and warning thresholds for the monitor can be set on one or more ColdFusion server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"ColdFusion Server Monitor Overview" on page 357

ColdFusion Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the ColdFusion Server you want to monitor is running. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

GUI Element	Description
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters. **Note when working in template mode:** To update counters in template browsable monitors that need a target server, click the **Select measurement from** button and add the required server and counters. Any server that is accessible in the domain can be used. If a server is not in the domain, you must manually add the server to the remote server tree before adding counters, and then specify the newly created server name in the **Server** field.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor.

COM+ Server Monitor Settings

Description	The COM+ Server Monitor monitors the performance of software components registered and running on Microsoft COM+ servers. When you specify the host and port number of this probe instance, SiteScope retrieves all the functions running on the COM+ server, for your monitoring selection. Error and warning thresholds for the monitor can be set on one or more function measurements. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"COM+ Server Monitor Overview" on page 358

COM+ Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
COM+ probe host name	Enter the host name of the COM+ probe.
COM+ probe port number	Specify the port number of the COM+ probe. **Default value:** 8008
Credentials	Select the option for providing the user name and password authorization to the COM+ probe. ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
HTTP proxy	(Optional) A proxy server can be used to access the probe. Enter the domain name and port of an HTTP Proxy Server.
Proxy server user name	If the proxy server requires a name and password to access the probe, enter the name here. Your proxy server must support Proxy-Authenticate for these options to function.
Proxy server password	If the proxy server requires a name and password to access the probe, enter the password here.

GUI Element	Description
Timeout (seconds)	The number of seconds that the monitor should wait for a response from the server before timing-out. Once this time period passes, the monitor logs an error and reports an error status. **Default value:** 60 seconds **Note:** Depending on the activity on the server, the time to build the server monitor statistics Web page may take more than 15 seconds. You should test the monitor with a timeout value of more than 60 seconds to enable the server to build and serve the server monitor statistics Web page before the SiteScope monitor is scheduled to run again.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

F5 Big-IP Monitor Settings

Description	Allows you to monitor the statistics of a F5 Big-IP load balancing device using SNMP. The error and warning thresholds for the monitor can be set on one or more load balancer statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"F5 Big-IP Monitor Overview" on page 360

F5 Big-IP Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SNMP Connection Settings	
Server	Enter the name of the server you want to monitor.
SNMP version	Select the version of SNMP to use when connecting. Supports SNMP version 1, 2, and 3. Selecting V3 enables you to enter V3 settings in the SNMP V3 settings panel. **Default value:** V1
Community	Enter the community string (valid only for version 1 or 2 connections). **Default value:** public

GUI Element	Description
Timeout (seconds)	Enter the total time, in seconds, that SiteScope should wait for all SNMP requests (including retries) to complete. **Default value:** 5
Retries	Enter the number of times each SNMP GET request should be retried before SiteScope considers the request to have failed. **Default value:** 1
Port	Enter the port to use when requesting data from the SNMP agent. **Default value:** 161
Starting OID	Use this option when selecting counters for this monitor. When the monitor attempts to retrieve the SNMP agent's tree, it starts with the OID value that is entered in this box. You should edit this box only when attempting to retrieve values from an application that does not handle OIDs starting with 1. If the default value of 1 did not enable retrieving any counters, then you may have to enter a different value in this box. **Default value:** 1
MIB file	Select either the **LOAD-BAL-SYSTEM-MIBS.txt** file or **All MIBs**. Selecting the **LOAD-BAL-SYSTEM-MIBS.txt** file displays only those objects that are described within that MIB file. Selecting **All MIBs** displays all objects discovered on the given F5 Big-IP when browsing counters. If no MIB information is available for an object, it is still displayed, but with no textual name or description. **Default value:** All MIBs

GUI Element	Description
Counter calculation mode	Use this option to perform a calculation on objects of type Counter, Counter32, or Counter64. The available calculations are: ➤ **Calculate delta.** Calculates a simple delta of the current value from the previous value. ➤ **Calculate rate** Calculates a rate calculation using the delta of current value from previous value, divided by the time elapsed between measurements. ➤ **Do not calculate.** No calculation is performed. **Note:** This option only applies to the aforementioned object types. An SNMP by MIB Monitor that monitors Counter objects as well as DisplayString objects only performs this calculation on the Counter objects.
V3 SNMP Settings (This panel is enabled only if V3 is selected in the SNMP version field)	
SNMP V3 authentication type	Select the type of authentication to use for version 3 connections. **Default value:** MD5
SNMP V3 user name	Enter the user name for version 3 connections.
SNMP V3 authentication password	Enter the authentication password to use for version 3 connections.
SNMP V3 privacy password	Enter the privacy password if DES privacy encryption is desired for version 3 connections. Leave blank if you do not want privacy.
SNMP V3 context engine ID	Enter a hexadecimal string representing the Context Engine ID to use for this connection. This is applicable for SNMP V3 only.

GUI Element	Description
SNMP V3 context name	Enter the Context Name to use for this connection. This is applicable for SNMP V3 only.
SNMP Counters	
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note:** ➤ The counters displayed are those received during the timeout period, and may not include all the counters available on the server. Specifying a longer timeout in the **Timeout (seconds)** field in the SNMP Connection Settings panel may result in receiving more counters. ➤ The total time for receiving the counters may be longer than the timeout specified, due to additional processing time not part of the request/response period. ➤ Due to third-party counter restrictions, the total number of counters that can be monitored is limited to 32. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Microsoft ASP Server Monitor Settings

Description	Monitor the availability of a Microsoft ASP server on Windows NT systems. The error and warning thresholds for the monitor can be set on one or more ASP server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Useful Links	"Microsoft ASP Server Monitor Overview" on page 361

Microsoft ASP Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the Microsoft ASP Server you want to monitor is running. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server.For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.

GUI Element	Description
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters. **Note when working in template mode:** To update counters in template browsable monitors that need a target server, click the **Select measurement from** button and add the required server and counters. Any server that is accessible in the domain can be used. If a server is not in the domain, you must manually add the server to the remote server tree before adding counters, and then specify the newly created server name in the **Server** field.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor.

Microsoft Exchange 2003 Mailbox Monitor Settings

Description	The Microsoft Exchange 2003 Mailbox Monitor monitors mailbox statistics of Microsoft Exchange Server 2003. Use this page to add the monitor or edit the monitor's properties. **To access:** Click the **Templates**  button to display the template tree, and expand the **Solution Templates** container. Right-click **Microsoft Exchange 2003**, and select **Deploy Template**. Select the SiteScope group container into which you want to deploy the solution template, and enter the deployment values.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. This monitor can only be added by deploying a Microsoft Exchange Solution template. Once the monitor has been created, you can edit the monitor configuration in the same way as other monitors. For information about using templates to deploy monitors, see "SiteScope Templates" on page 1245. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Microsoft Exchange 2003 Mailbox Monitor Overview" on page 362

Microsoft Exchange 2003 Mailbox Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	Choose the server running Microsoft Exchange Server 2003 that you want to monitor.
User name	Enter the user name to use when querying the server for mailbox statistics. The statistics are gathered by using WMI (Windows Management Instrumentation), so the user name entered here must have permissions to read WMI statistics on the server from WMI namespace root\MicrosoftExchangeV2. **Default value:** If this box is left blank, the user that SiteScope is running is used.
Password	Enter the password for the user name entered above, or blank if user name is blank.
N largest mailboxes	Enter the number (N) of mailboxes to display when reporting the N largest mailboxes. **Default value:** 5
Days since access	Enter the number of days (N) to use when reporting the number of mailboxes that have not been accessed in N days. **Default value:** 30
Reporting directory	Enter a location for SiteScope to save the results of each execution of this monitor. A default location is chosen if this box is left blank.
Timeout (seconds)	The number of seconds that the monitor should wait for a response from the server before timing-out. Once this time period passes, the monitor logs an error and reports an error status. **Default value:** 60 seconds

Microsoft Exchange 2003 Public Folder Monitor Settings

Description	The Microsoft Exchange 2003 Public Folder Monitor monitors public folder statistics of Microsoft Exchange Server 2003. Use this page to add the monitor or edit the monitor's properties. **To access:** Click the **Templates**  button to display the template tree, and expand the **Solution Templates** container. Right-click **Microsoft Exchange 2003**, and select **Deploy Template**. Select the SiteScope group container into which you want to deploy the solution template, and enter the deployment values.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. This monitor can only be added by deploying a Microsoft Exchange Solution template. Once the monitor has been created, you can edit the monitor configuration in the same way as other monitors. For information about using templates to deploy monitors, see "SiteScope Templates" on page 1245. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Microsoft Exchange 2003 Public Folder Monitor Overview" on page 363

Microsoft Exchange 2003 Public Folder Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	Select the server running Microsoft Exchange Server 2003 that you want to monitor.
User name	Enter the user name to use when querying the server for mailbox statistics. The statistics are gathered by using WMI (Windows Management Instrumentation), so the user name entered here must have permissions to read WMI statistics on the server from WMI namespace root\MicrosoftExchangeV2. **Default value:** If this box is left blank, the user that SiteScope is running as is used.
Password	Enter the password for the user name entered above, or blank if user name is blank.
Days since access	Enter the number of days (N) to use when reporting the number of public folders that have not been accessed in N days. **Default value:** 7
Timeout (seconds)	The number of seconds that the monitor should wait for a response from the server before timing-out. Once this time period passes, the monitor logs an error and reports an error status. **Default value:** 60
Reporting directory	Enter a location for SiteScope to save the results of each execution of this monitor. **Default value:** A default location is chosen if this box is left blank.

Microsoft Exchange 2000/2003/2007 Message Traffic Monitor Settings

Description	The Microsoft Exchange 2000/2003/2007 Message Traffic Monitor monitors message statistics of Microsoft Exchange Server 2000/2003/2007. Use this page to add the monitor or edit the monitor's properties. **To access:** Click the **Templates**  button to display the template tree, and expand the **Solution Templates** container. Right-click the Microsoft Exchange solution template version that you require, and select **Deploy Template**. Select the SiteScope group container into which you want to deploy the solution template, and enter the deployment values.
Important Information	SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. This monitor can only be added by deploying an Exchange Solution template. Once the monitor has been created, you can edit the monitor configuration in the same way as other monitors. For information about using templates to deploy monitors, see "SiteScope Templates" on page 1245. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Microsoft Exchange 2000/2003/2007 Message Traffic Monitor Overview" on page 364

Microsoft Exchange 2000/2003/2007 Message Traffic Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Recipient limit	Enter the number (N) of recipients to use when computing the number of messages sent to more than N recipients. **Default value:** 10
Query interval	Enter the number of minutes to look back for messages when computing statistics. This affects how long it takes to run the monitor as a large interval could result in a large number of messages to be processed. **Default value:** 1440 minutes (one day)
Message size limit	Enter the number (N) of bytes to use when computing the number of messages sent larger than N bytes. **Default value:** 2000
Number of domains	Enter the number (N) of domains to use for reporting the top N sending domains. **Default value:** 5
Number of outgoing users	Enter the number (N) of users to use for reporting the top N outgoing users. **Default value:** 5

GUI Element	Description
Log directory	The UNC path of the messaging tracking log file directory. **Default value:** ➤ For 2000/2003 versions: \\<server name>\<server name>.log ➤ For 2007 version: \\<server name>\MessageTracking
Reporting directory	Enter a location for SiteScope to save the results of each execution of this monitor. **Default value:** A default location is chosen if this box is left blank.

Microsoft Exchange 2007 Monitor Settings

Description	The Microsoft Exchange 2007 Monitor monitors statistics of Microsoft Exchange Server 2007 on Windows platforms only. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	You can create or update the Microsoft Exchange 2007 Monitor even if you input the incorrect **Exchange Domain** or **Mailbox**. This is because these properties are counter specific. As a result, some counter values may not be retrieved. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Microsoft Exchange 2007 Monitor Overview" on page 365

Microsoft Exchange 2007 Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Exchange server	Enter the name of the server running Microsoft Exchange Server 2007 that you want to monitor.
Exchange domain	Enter the domain name and the mailbox of the server running Microsoft Exchange Server 2007 that you want to monitor.

GUI Element	Description
Mailbox	Enter the name (alias) of the mailbox to be used for this monitor. This is often the e-mail account name but it may be a different name. We recommend that you copy the mailbox name as it appears in the E-Mail Account properties for the e-mail account you are using with this monitor.
Exchange PS console file path	Enter the full path to the Microsoft Exchange 2007 Server Management Shell console file. **Example:** C:\Program Files\Microsoft\Exchange Server\Bin\ExShell.psc
Timeout (seconds)	Enables you to customize the time to wait, in seconds, for getting a response. You can set the timeout to no less than 1 second and no more than 10 minutes. **Default value:** 120 seconds
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters. Each performance counter contains information in the following categories: ➤ **Unit\Type.** The statistic's units. Some examples of possible types of units include percent, millisecond, or KB. ➤ **Component.** Components from which the performance counter is collected. ➤ **Server Role.** Indicates the required server role for running the cmdlet.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Microsoft Exchange 5.5 Message Traffic Monitor

Description	The Microsoft Exchange 5.5 Message Traffic Monitor monitors message statistics of Microsoft Exchange Server 5.5. Use this page to add the monitor or edit the monitor's properties. **To access:** Click the **Templates**  button to display the template tree, and expand the **Solution Templates** container. Right-click **Microsoft Exchange 5.5**, and select **Deploy Template**. Select the SiteScope group container into which you want to deploy the solution template, and enter the deployment values
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. This monitor can only be added by deploying a Microsoft Exchange Solution template. Once the monitor has been created, you can edit the monitor configuration in the same way as other monitors. For information about using templates to deploy monitors, see "SiteScope Templates" on page 1245. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Microsoft Exchange 5.5 Message Traffic Monitor Overview" on page 370

Microsoft Exchange 5.5 Message Traffic Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Recipient limit	Enter the number (N) of recipients to use when computing the number of messages sent to more than N recipients. **Default value:** 10
Query interval	Enter the number of minutes to look back for messages when computing statistics. This affects how long it takes to run the monitor as a large interval could result in a large number of messages to be processed. **Default value:** 1440 minutes (one day)
Message size limit	Enter the number (N) of bytes to use when computing the number of messages sent larger than N bytes. **Default value:** 2000
Number of domains	Enter the number (N) of domains to use for reporting the top N sending domains. **Default value:** 5
Number of outgoing users	Enter the number (N) of users to use for reporting the top N outgoing users. **Default value:** 5
Log directory	Enter a UNC path to the directory where message tracking logs are stored for the Exchange 5.5 server. **Default value:** \\<server name>\tracking.log.
Reporting directory	Enter a location for SiteScope to save the results of each execution of this monitor. **Default value:** A default location is chosen if this box is left blank.

Microsoft IIS Server Monitor Settings

Description	Allows you to monitor the availability and server statistics of a Microsoft IIS server on Windows NT systems. The error and warning thresholds for the monitor can be set on one or more IIS server performance counters. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Useful Links	"Microsoft IIS Server Monitor Overview" on page 371

Microsoft IIS Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the Microsoft IIS performance statistics you want to monitor is running. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the Use already configured template remote under current template check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

GUI Element	Description
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters. **Note when working in template mode:** To update counters in template browsable monitors that need a target server, click the **Select measurement from** button and add the required server and counters. Any server that is accessible in the domain can be used. If a server is not in the domain, you must manually add the server to the remote server tree before adding counters, and then specify the newly created server name in the **Server** field.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor.

News Monitor Settings

Description	The News Monitor verifies that a news server can be connected to, and is responding. It also measures how long it takes to make a connection, and how many articles are currently in the specified news groups. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"News Monitor Overview" on page 373

News Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
News server	Enter the IP address or the name of the news server that you want to monitor. **Example:** 206.168.191.21 or news.thiscompany.com. If the port is not the standard news port, add the port after the server with a colon. **Example:** news.thiscompany.com:7777
News groups	Optionally enter one or more news groups to be checked, separated by commas. Each of these news groups are checked for the current number of articles available in that news group. The reading of the monitor is the sum of articles available for each of the specified news groups.
User name	If your News server requires authorization, enter a valid user name here.
Password	If your News server requires authorization, enter a valid password here.
Advanced Settings	
Connect from	The name or IP address of the server that connects to the News monitor.
Timeout (seconds)	The number of seconds that the News monitor should wait for all of news transactions to complete before timing-out. Once this time period passes, the News monitor logs an error and reports an error status. **Default value:** 60 seconds

Oracle 9i Application Server Monitor Settings

Description	The Oracle 9i Application Server Monitor allows you to monitor the availability and performance statistics of a Oracle 9i Application Server. The error and warning thresholds for the monitor can be set on one or more Oracle 9i server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Oracle 9i Application Server Monitor Overview" on page 374

Oracle 9i Application Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
URL	Enter the server administration URL for the server you want to monitor. The URL is usually in the format: http://server:port/webcacheadmin?SCREEN_ID=CGA.Site.Stats&ACTION=Show.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor.
Authorization user name	If the server you want to monitor requires a name and password for access, enter the name in this box.

GUI Element	Description
Authorization password	If the server you want to monitor requires a name and password for access, enter the password in this box.
HTTP Proxy	Optionally, a proxy server can be used to access the server. Enter the domain name and port of an HTTP Proxy Server.
Proxy user name	If the proxy server requires a name and password to access the server, enter the name here. Technical note: your proxy server must support Proxy-Authenticate for these options to function.
Proxy password	If the proxy server requires a name and password to access the server, enter the password here. Technical note: your proxy server must support Proxy-Authenticate for these options to function.
Timeout (seconds)	The number of seconds that the monitor should wait for a response from the server before timing-out. Once this time period passes, the monitor logs an error and reports an error status.

Oracle Application Server 10g Monitor Settings

Description	The Oracle Application Server 10g Monitor allows you to monitor the availability and performance statistics of an Oracle Application Server 10g. The error and warning thresholds for the monitor can be set on one or more Oracle 10g server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Oracle Application Server 10g Monitor Overview" on page 375

Oracle Application Server 10g Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Authorization user name	If the server you want to monitor requires a name and password for accessing, enter the name in this box.
Authorization password	If the server you want to monitor requires a name and password for accessing, enter the password in this box.
Proxy server	Optionally, a proxy server can be used to access the server. Enter the domain name and port of an HTTP Proxy Server.
Proxy server user name	If the proxy server requires a name and password to access the server, enter the name here. Your proxy server must support Proxy-Authenticate for these options to function.

GUI Element	Description
Proxy server password	If the proxy server requires a name and password to access the server, enter the password here. Your proxy server must support Proxy-Authenticate for these options to function.
Host name	Enter the server administration URL for the server you want to monitor.
Metric type	Enter the type of metrics to monitor. Options are App Server (OC4J) and Web Server (DMS).
Port	Enter the server port for the server you want to monitor. **Default value:** 7201 (configured in the **dms.conf** file)
Secure server	Select this option to use a secure server.
Timeout (seconds)	The number of seconds that the monitor should wait for a response from the server before timing-out. Once this time period passes, the monitor logs an error and reports an error status. **Default value:** 60 seconds
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Radius Monitor Settings

Description	The Radius (Remote Authentication Dial In User Service) Monitor checks that a RADIUS server is working correctly by sending an authentication request and checking the result. A RADIUS server is used to authenticate users, often connecting through a remote connection such as a dialup modem or a DSL line. Use this page to add a monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Radius Monitor Overview" on page 375

Radius Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Radius server	Enter the IP address or the name of the RADIUS server that you want to monitor. **Example:** 206.168.191.21 or radius.thiscompany.com
Secret phrase	Enter the secret used to encrypt all requests to this RADIUS server.
User name	Enter the user name to authenticate.
Password	Enter the password to authenticate.

GUI Element	Description
Timeout (seconds)	The number of seconds that the Radius monitor should wait for the connection to the port, and for any sending and receiving to complete. Once this time period passes, the Radius monitor logs an error and reports an error status. **Default value:** 30 seconds
Port	Choose the UDP port used by the RADIUS server. **Default value:** 1645
Match content	Enter a string of text to check for in the response. If the text is not contained in the response, the monitor displays the message **no match on content**. You may also perform a regular expression match by enclosing the string in forward slashes, with an **i** after the trailing slash indicating case-insensitive matching. **Example:** / \d\d/ or /size \d\d/i **Note:** The search is case sensitive.

SAP CCMS Monitor Settings

Description	The SAP CCMS Monitor allows you to monitor the performance of your SAP R/3 System landscape in a centralized manner using SAP CCMS interface. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"SAP CCMS Monitor Overview" on page 377

SAP CCMS Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Application server	Enter the address of the SAP server you want to monitor.
SAP client	Enter the Client to use for connecting to SAP.
System number	Enter the System number for the SAP server.
SAP router string	If your connection is being made through a router, enter a router address string, otherwise leave it blank. You can find the router address using the SAP Logon tool from the SAP Client software. Open the Logon console, select the server you want to monitor and then select **Properties** to view the router address.

GUI Element	Description
Credentials	Select the option for providing the user name and password to be used to access the SAP server. ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password to access the SAP server in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. This tree more or less matches the hierarchy of Monitoring Tree Elements displayed in the Monitoring Tree that is shown in the SAP GUI with transaction RZ20. However, the SiteScope browse tree may show more or less information than RZ20 depending on the authorization level of the user name you specified for this monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

SAP CCMS Alerts Monitor Settings

Description	The SAP CCMS Alerts Monitor allows you to read and complete alerts from the SAP CCMS Alerts monitors. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"SAP CCMS Alerts Monitor Overview" on page 383

SAP CCMS Alerts Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Application server	Enter the host name/IP address of the SAP server you want to monitor.
SAP client	Enter the Client to use for connecting to SAP.
System number	Enter the System number for the SAP server.
SAP router string	If your connection is being made through a router, enter a router address string, otherwise leave it blank. You can find the router address using the SAP Logon tool from the SAP Client software. Open the Logon console, select the server you want to monitor and then select Properties to view the router address.

GUI Element	Description
Credentials	Select the option for providing the user name and password to be used to access the SAP CCMS metrics. ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password to access the SAP server in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

SAP Java Web Application Server Monitor Settings

Description	The SAP Java Web Application Server Monitor allows you to monitor the availability and server statistics for SAP Java Web Application server cluster. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor requires that a third-party Java DHCP library be installed on the server where SiteScope is running. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"SAP Java Web Application Server Monitor Overview" on page 386

SAP Java Web Application Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Application server	Enter the address of the SAP Java Web Application Server you want to monitor.
Port	Enter the number of the P4 port for the SAP Java Web Application Server you want to monitor. **Default value:** 50004

GUI Element	Description
Credentials	Select the option for providing the user name and password to be used to access the SAP server. ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password to access the SAP server in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. These counters are received dynamically from the JMX. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

SAP Performance Monitor Settings

Description	The SAP Performance Monitor allows you to monitor the availability and performance statistics of a SAP Application Server. The error and warning thresholds for the monitor can be set on SAP server and database performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"SAP Performance Monitor Overview" on page 388

SAP Performance Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Application server	Enter the address of the SAP server you want to monitor.
SAP client	Enter the Client to use for connecting to SAP.
System number	Enter the System number for the SAP server.

GUI Element	Description
SAP router string	If your connection is being made through a router, enter a router address string, otherwise, leave it blank. You can find the router address using the SAP Logon tool from the SAP Client software. Open the Logon console, select the server you want to monitor and then select **Properties** to view the router address.
Credentials	Select the option for providing the user name and password to be used to access the SAP server. ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password to access the SAP server in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

SAP Work Processes Monitor Settings

Description	The SAP Work Processes Monitor allows you to monitor the effectiveness of your SAP R/3 server configurations. The monitor provides statistical information on work process performance to estimate whether the SAP R/3 Server is efficiently using its resources. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"SAP Work Processes Monitor Overview" on page 391

SAP Work Processes Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Application server	Enter the address of the SAP server you want to monitor.
SAP client	Enter the Client to use for connecting to SAP.
System number	Enter the System number for the SAP server.

GUI Element	Description
SAP router string	If your connection is being made through a router, enter a router address string, otherwise, leave it blank. You can find the router address using the SAP Logon tool from the SAP Client software. Open the Logon console, select the server you want to monitor and then select **Properties** to view the router address.
Credentials	Select the option for providing the user name and password to be used to access the SAP server. ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password to access the SAP server in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Siebel Application Server Monitor Settings

Description	The Siebel Application Server Monitor (previously know as the Siebel Server Manager Monitor) uses the Siebel Server Manager client to monitor Object Manager components and task information on Siebel application servers. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers, Add Remote Server**, and **Add Credentials** buttons are not displayed.
Useful Links	"Siebel Application Server Monitor Overview" on page 396

Siebel Application Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Siebel host name	This box is required if you are doing either of the following: ➤ **Doing process monitoring.** In this case you must define a Remote Definition to the target Siebel machine whose Siebel processes are to be monitored. Specify in this box the **Host Server Name** of the Siebel Remote definition (not the **Title**). This is the **NT Server Address** box for NT remote servers or **Server Address** box for UNIX remote servers. ➤ **Reporting monitor data to an installation of HP Business Availability Center.** In this case the value entered is used as a text identifier describing the target Siebel server that this monitor is monitoring. This text descriptor is used to identify the Siebel server when the monitor data is viewed in an HP Business Availability Center report. The box is optional only if the **Script Server** box is already specified to be the target Siebel server.
Application server	Enter the Siebel server name or address.
Gateway server	Enter the Gateway server name or address.
Enterprise server	Enter the Enterprise server name or address.

GUI Element	Description
Credentials	The Siebel Server Manager client requires a user name and password. Select the option to use for providing credentials: ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (selected by default). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Script server	The remote Windows or UNIX machine where the Server Manager (srvrmgr) script is installed. Select a server from the server list (only those remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. The method of connection is either SSH or Telnet (but not Microsoft NetBios). For NetBios, choose this server and map the drive.

GUI Element	Description
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the Add Remote Server dialog box. Select the type of remote you want to add (Windows or UNIX), and enter the configuration details. For details on the Microsoft Windows Remote Servers user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. For details on the UNIX Remote Servers user interface, see "UNIX Remote Servers User Interface" on page 1032.
Script path	The full path to the Siebel Server Manager executable directory relative to the machine chosen above. **Example:** E:\sea704\client\BIN
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.

GUI Element	Description
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.
Siebel tasks time window (minutes)	Specify a time window in which tasks are monitored on the Siebel application server. This setting applies only to the "No. of Tasks in XXX" counters. This value tells SiteScope to count tasks that have started within the last N minutes only. It can be used, for instance, to make SiteScope monitor only newly occurring tasks. **Example:** If the task start time is within the time window (for example, 20 minutes), the task is monitored. The time window is calculated according to the formula: time window = (current time – property value). Enter 0 to monitor every task on the Siebel application server, regardless of its start time. **Default value:** 60 minutes

Siebel Log File Monitor Settings

Description	The Siebel Log File Monitor watches for log file entries added to a group of log files by looking for entries containing a specific event type or subtype. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Useful Links	"Siebel Log File Monitor Overview" on page 401

Siebel Log Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The Siebel server where the log files you want to monitor are running. Select a server from the server list (only those remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

GUI Element	Description
Add Remote Server	Click to open the Add Remote Server dialog box. Select the type of remote you want to add (Windows or UNIX), and enter the configuration details. For details on the Microsoft Windows Remote Servers user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. For details on the UNIX Remote Servers user interface, see "UNIX Remote Servers User Interface" on page 1032.
Log file directory	Enter the path to the log directory you want to monitor. To monitor log files on a remote Windows NT/2000 server through NetBIOS, specify a UNC path to the remote directory. **Example:** \\remoteserver\logFileDirectory If you are using SSH as a connection method to the remote NT server, you must select the **java library** and **ssh1** options for that remote.
File name (regular expr.)	Select the log files that you want to monitor. You must use a regular expression to specify multiple files, and the regular expression string must be enclosed in forward slashes (for example, /<my reg exp>/). The search is not recursive and only matches files listed within the log file directory. **Note:** Selecting too many log files to monitor can significantly degrade SiteScope performance.
Severity	Select the severity level of entries to consider for matching. Entries that have the correct event type/subtype and have an equal or greater severity are matched. Those entries with lesser severity are ignored. **Default value:** Fatal
Event type	Select the matching event type or subtype. The monitor reports how many log entries were found of the specified type. **Default value:** GenericLog

GUI Element	Description
Log-entry content match	(Optional) You may specify an additional text string or regular expression to further narrow down the matched log entries. This match expression is run against the content returned from the initial **Severity** and **Event type** match. You use this option to find only those log entries with the selected severity an event type that meet this additional match criteria.
Search from start	Select to always check the contents of the whole file. If this option is not selected, SiteScope checks only newly-added records, starting at the time that the monitor was created (not when the file was created). **Note:** Monitoring large numbers of log files with this option enabled may use large amounts of memory and CPU time. This can degrade SiteScope server performance. **Default value:** Not selected

Siebel Web Server Monitor Settings

Description	The Siebel Web Server Monitor allows you to use SiteScope to monitor statistical and operational information about a Siebel server by way of the Siebel Web server plug-in. You can use this monitor to watch Siebel server login session statistics and gauge the performance of the Siebel server Object Managers and database. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Siebel Web Server Monitor Overview" on page 402

Siebel Web Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Basic Settings	
Application URL	Enter the URL of the Web plug-in server stats page for the application you want to monitor. **Example:** http://siebelsrv/service/_stats.swe If the Siebel Web server is configured to support verbose mode, you can also use http://siebelsrv/service/_stats.swe?verbose=high to include information on Locks and Current Operations Processing for the Siebel server.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.
Connecton Settings (These settings are optional, unless the server requires authentication)	
Authorization user name	Enter the user name to access the Web server stats page.
Authorization password	Enter the password for accessing the Web server stats page.
HTTP proxy	If you are using a proxy to access the Siebel server, enter the proxy server and port to use. **Example:** proxy.SiteScope.com:8080

GUI Element	Description
Proxy server user name	Enter the proxy user name if the proxy server requires authorization.
Proxy server password	Enter the proxy password if the proxy server requires authorization. If access to the Siebel Web Server site is controlled by a centralized authorization and authentication access control system, the following fields are used to submit information to a HTML/CGI enabled authentication system. You can determine if authentication is required by trying to access the Web plug-in server stats page using a Web browser outside of SiteScope. If an HTML-based authentication form opens before you see the Siebel service statistics page, you must use the following fields to access the Siebel Web server plug-in.
HTML Form-Based Authentication (These settings are optional, unless the server requires authentication)	
HTML form-based authentication required	Check this option to have SiteScope submit HTML form-based authentication when accessing the Siebel Web server plug-in.
Authorization form name	When using HTML Form-based Authentication, this is the identifier of the authentication form within the Web page. The identifier is a number representing the place or order of the forms on an HTML page. **Example:** [1] is the first HTML <FORM> set, [2] is the second, and so on. The default is [1] because it assumes that the authentication information is entered into the first HTML <FORM> tag set on the page.
Authorization user name form field	When using HTML Form-based Authentication, enter the user name that should be submitted to the access control system. This must be the user name that would be entered in the authentication form the same as if you were accessing the Siebel Web server plug-in manually using a Web browser.

GUI Element	Description
Authorization password form field	Enter the password that should be submitted to the access control system. This must be the password that would be entered in the authentication form when accessing the Siebel Web server plug-in manually using a Web browser.
Authorization form button	When using HTML Form-based Authentication, this is the identifier of the Submit button on the authentication form. The identifier is a number representing the place or order of the buttons on an HTML page. **Example:** [1] is the first HTML <INPUT TYPE=SUBMIT> button, [2] is the second, and so on. **Default value:** [1]

SunONE Web Server Monitor Settings

Description	Enables you to monitor the availability of SunONE or iPlanet 6.x servers using the stats-xml performance metrics file (iwsstats.xml or nesstats.xml) facility. By providing the URL of this stats-xml file, SiteScope can parse and display all metrics reported in this file and enable you to choose those metrics you need to be monitored as counters. In addition, several derived counters are provided for your selection which measure percent utilization of certain system resources. Error and warning thresholds for the monitor can be set on one or more SunONE server performance statistics or HTTP response codes. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"SunONE Web Server Monitor Overview" on page 404

SunONE Web Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
Stats-XML URL	Specify the URL to the stats-xml file on the SunONE server you want to monitor. This is usually in the form http://server_id:port/stats-xml/<stats-xml-file> where <stats-xml-file> is **nesstats.xml** or **iwsstats.xml**.
Authorization user name	Enter the user name of the SunONE server you want to monitor.
Authorization password	Enter the password of the SunONE server you want to monitor.
HTTP proxy	(Optional) A proxy server can be used to access the server. Enter the domain name and port of an HTTP Proxy Server.
Proxy server user name	If the proxy server requires a name and password to access the server, enter the name here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy server password	If the proxy server requires a name and password to access the server, enter the password here.

GUI Element	Description
Timeout (seconds)	The number of seconds that the monitor should wait for a response from the server before timing-out. Once this time period passes, the monitor logs an error and reports an error status. **Default value:** 60 seconds **Note:** Depending on the activity on the server, the time to build the server monitor statistics Web page may take more than 15 seconds. You should test the monitor with a timeout value of more than 60 seconds to enable the server time to build and serve the server monitor statistics Web page before the SiteScope monitor is scheduled to run again.
Counter Settings	
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Tuxedo Monitor Settings

Description	The Tuxedo Monitor allows you to monitor the availability of an BEA Tuxedo server. The error and warning thresholds for the monitor can be set on one or more Tuxedo Monitor performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Tuxedo Monitor Overview" on page 405

Tuxedo Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Basic Tuxedo Settings	
Server	Enter the name or IP address of the server. The address should match that dedicated to the Tuxedo Workstation component (the WSL process). On UNIX servers, enter the full path of the applicable server.
Port	Enter the port number for the Tuxedo server. The port number should match the port dedicated to the Tuxedo Workstation component (the WSL process).
User name	Enter the user name if required to access the Tuxedo server.

GUI Element	Description
Password	Enter the Password if required to access the Tuxedo server.
Advanced Tuxedo Settings	
Client name	Enter an optional client name for the Tuxedo server.
Connection data	Enter any extra or optional Connection Data to be used for connecting to the Tuxedo server. In some cases, this may be a hexadecimal number.
Tuxedo Counters	
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

UDDI Monitor Settings

Description	The UDDI Monitor checks the availability and round-trip response time of the UDDI server. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"UDDI Monitor Overview" on page 406

UDDI Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Inquiry URL	Enter the UDDI server inquiry URL. **Example:** http://uddi.company.com/inquiry/
Business name	Enter the business entity to search for in the UDDI server.
Maximum number of businesses	The maximum allowed business entities to receive from the UDDI server (1–200). **Default value:** 10

VMware Performance Monitor Settings

Description	The VMware Performance Monitor enables you to monitor performance statistics of the VMware infrastructure for various server applications. The supported applications include VirtualCenter 2.0.x, ESX Server 3.0.x, and others. The monitor supports monitoring both single VMware ESX server installations and ESX server clusters managed by VMware Virtual Centers. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	The following are the requirements for monitoring: ➤ The monitored VI server or ESX server cluster must be directly accessible by the SiteScope server (no proxy involved). ➤ The VI server or ESX server cluster provides connection either by http or by https (depending on the VI server configuration). If https is used, server certificate must be imported to the SiteScope. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"VMware Performance Monitor Overview" on page 407

VMware Performance Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
URL	Select the VMware infrastructure for the server you want to monitor. The format of the URL is: <protocol>://<server_name>/sdk where <protocol> is either http or https, and <server_name> is the name of the VI server.
User name	The user name of the VMware Web service's administrator.
Password	The password of the VMware Web service's administrator.
Socket timeout (milliseconds)	Enter the number in milliseconds that the VMware Performance monitor should wait for data from a server during a single data request. After the socket timeout period elapses, the monitor logs an error and reports the error status. **Note:** ➤ The socket timeout value must be larger than 0. ➤ The value of zero is interpreted as an infinite timeout. **Default value**: 600000

GUI Element	Description
Counter Settings	
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

WebLogic Application Server Monitor Settings

Description	The WebLogic Application Server Monitor allows you to monitor the statistics of a WebLogic version 6 through 8 servers. WebLogic Application Server Monitors cannot be used to monitor WebLogic 9.x servers. To monitor these servers, use a JMX monitor. For further details, see "Creating a JMX Monitor for a WebLogic 9.x or 10.x Server" on page 574. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"WebLogic Application Server Monitor Overview" on page 410

WebLogic Application Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Authentication Settings	
Target	Enter the name of the server where WebLogic is running.
Server	Enter the address of the server where WebLogic is running.
Port number	Enter the port number that the WebLogic server is responding on. **Default value:** 7001
User name	Enter the user name required to log in to the WebLogic server.
Password	Enter the password required to log in to the WebLogic server.
Secure server	Select this box if you are using a secure server connection option. If you select this option, you must enter the applicable port number used by the WebLogic server for secure connections. **Default value:** 7002
Advanced Settings	
WLCipher jar file	For some versions of WebLogic Server, you must install a copy of the wlcipher.jar file from the WebLogic server onto the SiteScope server to enable monitoring over SSL. Enter the absolute path to the file on the SiteScope machine in this box. **Example:** C:\bea\weblogic81\server\lib\wlcipher.jar **Note:** This option is for use only with the **Secure Server** (SSL) option.

GUI Element	Description
WebLogic license file	You use this box only when you want to enable the Secure Server (SSL) option. Enter the absolute path to the BEA license file that was copied to the SiteScope machine. **Example:** C:\bea\license.bea
JVM	Enter the full path to the Java Virtual Machine (JVM) in which the WebLogic monitoring process should be run. For monitors that do not use the Secure Server option, this is not required. For monitors which do use the Secure Server option, a separate JVM must be installed on the server where SiteScope is running. This other JVM must be version 1.4.1 or earlier. This is not the same JVM version used by SiteScope. **Example:** C:\j2sdk1.4.1\jre\bin\javaw.exe
WebLogic jar file	Enter the absolute path to the weblogic.jar file on the SiteScope machine. This file must be installed on the SiteScope server and can be downloaded from the WebLogic server. **Example:** c:\bea\weblogic7\ebcc\lib\ext\weblogic.jar This file is not strictly required for monitoring some earlier versions of WebLogic 6. In this case, leaving this box blank normally causes any necessary classes to be downloaded directly from the WebLogic server. Note that this is not as efficient as loading the classes from the *.jar file on the server where SiteScope is running.
Timeout (seconds)	The number of seconds that the monitor should wait for a response from the server before timing-out. Once this time period passes, the monitor logs an error and reports an error status. **Default value:** 180 (using a value other than the default timeout value may adversely affect performance)

GUI Element	Description
Counter Settings	
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

WebSphere Application Server Monitor Settings

Description	The WebSphere Application Server Monitor allows you to monitor the availability and server statistics of an IBM WebSphere Application Server 3.5.x, 4.x, 5.x, and 6.x. The error and warning thresholds for the monitor can be set on one or more WebSphere Application Server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"WebSphere Application Server Monitor Overview" on page 414

WebSphere Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Target	Enter the logical name of the server you want to monitor. If this box is left empty, the host name entered above is used.
Server	Enter the name of the server where the WebSphere Application Server you want to monitor is running. **Note:** Do not include backslashes in the name.
Port number	Enter the port number for the SOAP. **Default value:** 8880
Credentials	The user name and password required to access the WebSphere Application Server. Select the option to use for providing credentials: ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password in the **User name** and **Password** box if one has been configured. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (selected by default). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Security realm	Only relevant for WebSphere 3.5 users. Specify the security realm of the WebSphere application server.
Version	Enter the version of the WebSphere application you are monitoring. **Default value:** 3.5x

GUI Element	Description
WebSphere directory	➤ For 3.x: Enter the path to a WebSphere 3.5x Directory. The directory you enter here should contain at least a valid Admin Client installation. ➤ For 6.x: Enter the path to the AppServer directory. **Default value:** C:\WebSphere\AppServer
Client properties file	The name of the custom client properties file. **Default value:** soap.client.props (use the default for version 6.x)
Classpath	Enter additional classpath variables that are to be used by the WebSphere JVM running on the SiteScope machine.
Timeout (seconds)	Enter the time, in seconds, that the monitor should wait for a response from the server. If a response is not received within the interval of the timeout, the monitor reports a timeout error. **Default value:** 60 seconds
Trust store	This is the full directory path of file **DummyClientTrustFile.jks**. This file is in the client monitor directory on the SiteScope machine. **Default value:** C:\WebSphere\AppServer\profiles\default\etc\
Trust store password	This is the password for the SSL trust store file. **Default value:** WebAS
Key store	This is the full directory path of file **DummyClientKeyFile.jks**. This file is in the client monitor directory on the SiteScope machine. **Default value:** C:\WebSphere\AppServer\profiles\default\etc

GUI Element	Description
Key store password	This is the password for the SSL key store file. **Default value:** WebAS The values for **Trust Store**, **Trust Store Password**, **Key Store**, and **Key Store Password** are automatically configured and can be found in the following directories: ➤ On Windows platform, in **<drive>:\WebSphere\AppServer\etc** ➤ On Solaris platform, in **/opt/WebSphere/AppServer/etc/** ➤ On Linux platform, in **/opt/IBMWebAS/etc/** For more information about Key Store passwords, refer to the IBM Information Center (http://publib.boulder.ibm.com/infocenter/wasinfo/v4r0/index.jsp?topic=/com.ibm.websphere.v4.doc/wasa_content/050703.html) and search for SSL configuration.
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

WebSphere MQ Status Monitor Settings

Description	The WebSphere MQ Status Monitor allows you to monitor the performance attributes of MQ Objects (channels and queues) on MQ Servers v5.2 and later. Both performance attributes and events for channels and queues can be monitored. This monitor was formerly known as MQSeries. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"WebSphere MQ Status Monitor Overview" on page 420

WebSphere MQ Status Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
MQ server name	Specify the host name of the MQ Server you want to monitor. Enter the network name of the server or the IP address of the server. **Example:** mqmachinename
MQ server port	Specify the port number of the target MQ Server. **Default value:** 1414

GUI Element	Description
Server connection channel	Enter the name of the server connection channel of the target MQ server. Check with the MQ Server administrator for the name syntax of the server connection channel.
Queue manager	Enter the name of the queue manager whose queues or channels are to be monitored.
Alternate queue manager	(Optional) You can enter an alternate queue manager name that has been set up to forward its events to the primary queue manager specified above if you are also interested in monitoring those events.
Channel status code scheme	Select a reporting schemes for Channel Status Code values, and click **Apply**. ➤ **Use HP coding scheme.** Report the actual or original channel status codes as documented in the IBM MQ literature. ➤ **Use IBM MQ coding scheme.** Report channel status codes in ascending values that are directly proportional to the health of the channel. SiteScope reports a channel status value from 0 (least healthy) to 6 (healthiest). For details, see "Channel Status Codes" on page 422.

GUI Element	Description
Available Measurements	Displays available MQ queue instances and channel instances, and counters to choose from. In the **Objects** drop-down list, select either **Queue** or **Channel Objects** to work with. After an object is selected, a connection to the MQ server is made. A list of available queues or channels is displayed, both system and user instances, depending on the object type selected. Select the instances and counters you want to monitor, and click the **Add Selected Measurements**  button. The selected measurements are moved to the Selected Measurements list.
Selected Measurements	Displays the measurements currently selected for this monitor, and the total number of selected counters. To remove measurements selected for monitoring, select those measurements, and click the **Remove Selected Measurements**  button. The measurements are moved to the Available Measurements list.

WebSphere Performance Monitor Settings

Description	The WebSphere Performance Monitor to monitor the server statistics of IBM WebSphere Server (versions 3.0x, 3.5, 3.5.x, and 4.0) by using a WebSphere Performance Servlet. The error and warning thresholds for the monitor can be set on one or more performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"WebSphere Performance Servlet Monitor Overview" on page 425

WebSphere Performance Servlet Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
Server	Enter the server you want to monitor. On UNIX servers, enter the full path of the server.
Secure server	Select if the server being monitored is secure. **Default value:** Not selected

GUI Element	Description
Target	Enter the logical name of the server that is the target of this monitor instance. Depending on the deployment of the WebSphere application in your infrastructure, this may be the same as the **Server** selected above. **Default value:** Empty (the host name is used)
Port	Enter the port number to the WebSphere server you want to monitor.
Servlet URL	URL of the performance servlet. For WebSphere versions 3.x.x, the URL can be viewed by using the Servlet Properties page in the WebSphere Admin Console. For WebSphere 4.0, the default URL is /wasPerfTool/servlet/perfservlet. In earlier versions, the URL is chosen during the installation of the servlet. For WebSphere 6.0 and later, use the URL: /wasPerfTool/servlet/perfservlet?version=5. In either case, the URL can be found in the Servlet properties page of the Admin Console.
User name	Enter the user name if the URL requires authorization.
Password	Enter the password if the URL requires authorization.
Advanced Settings	
Timeout (seconds)	Enter the time, in seconds, that the monitor should wait for a response from the Performance Servlet. If a response is not received within the interval of the timeout, the monitor reports a timeout error. **Default value:** 60 seconds
Refresh frequency	Select a time interval at which the WebSphere server should update the metrics that are requested by this monitor. This value should be equal to or less than the **Frequency** time interval for the monitor in Monitor Run Settings. **Default value:** 10 minutes

GUI Element	Description
Proxy Settings	
HTTP proxy	The name of the proxy server if required.
Proxy user name	If the proxy server requires a name and password to access the server, enter the name here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy password	If the proxy server requires a name and password to access the server, enter the password here.
WebSphere Performance Counters	
Counters	The server performance counters selected for this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

12

Database Monitors

This chapter includes the main concepts and reference information for monitoring different types of database applications.

This chapter includes:

Concepts

Reference

DB2 8.x Monitor Overview

Use the DB2 8.x Monitor to monitor DB2 servers for availability and proper functioning. You can monitor multiple parameters or counters with a single monitor instance. This allows you to monitor server loading for performance, availability, and capacity planning. Create a separate DB2 Monitor instance for each Database in your IBM DB2 environment.

This section contains the following topics:

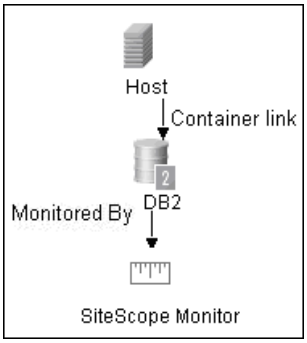
Setup Requirements

The following are several key requirements for using the DB2 8.x Monitor:

- JDBC drivers for connecting to the DB2 Database server. These can be found in your DB2 server installation directories. Copy the **db2jcc.jar** file to the **<SiteScope root directory>\java\lib\ext** folder.
- This monitor uses the Snapshot mirroring functionality supported by DB2. You must enable the Snapshot Mirror on your DB2 instance to retrieve counters. See the following information from the IBM DB2 documentation http://www-128.ibm.com/developerworks/db2/library/techarticle/dm-0408hubel/.

DB2 8.x Topology Settings

The DB2 8.x monitor can identify the topology of the DB2 system being monitored. If **Include topology data when reporting to HP Business Availability Center** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



For information about retrieving topologies and reporting them to Business Availability Center, see “Reporting Discovered Topologies to HP Business Availability Center” on page 141.

For details on configuring this monitor, see “DB2 8.x Monitor Settings” on page 545.

Database Counter Monitor Overview

Use the Database Counter Monitor to make SQL queries for performance metrics from any JDBC-accessible database. This monitor provides optional support for calculating deltas and rates for metrics between monitor runs. You can monitor multiple counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning.

Setup Requirements

The following are several key requirements for using the Database Counter Monitor:

- You must have a copy of the applicable JDBC database driver file on the SiteScope server. Copy the downloaded driver file into the **<SiteScope root directory>\WEB-INF\lib** subdirectory. If the file is in zip format, do not unzip the file. Stop and restart the SiteScope service after copying the driver file to the SiteScope machine.
- You must know the syntax for accessing the database driver. Examples of common database driver strings are:
  - **sun.jdbc.odbc.JdbcOdbcDriver.** JDBC-ODBC Bridge Driver from Sun Microsystems.
  - **com.inet.tds.TdsDriver.** TDS driver from i-net Software for Microsoft SQL databases. This driver is deployed with SiteScope.
  - **com.inet.ora.OraDriver.** A driver from Oracle for Oracle databases. This driver is deployed with SiteScope.
  - **com.mercury.jdbc.sqlserver.SQLServerDriver.** DataDirect driver from DataDirect Technologies. It is an alternative to the TDS driver for those Microsoft SQL databases that use Windows NT authentication. This driver is deployed with SiteScope.
  - **oracle.jdbc.driver.OracleDriver.** JDBC thin driver for Oracle 7 and 8 databases. This driver is an Oracle product and is supplied by Oracle.
  - **org.postgresql.Driver.** The database driver for the Postgresql database.

- You must know the syntax for the Database connection URL. The Database connection URL normally includes the class of driver you are using, some key name relating to the supplier of the driver software, followed by a combination of server, host, and port identifiers.

  Examples of common database connection URLs are:

  - **jdbc:odbc:<dsname>**
    where <dsname> is the data source name in the system environment or configuration.
  - **jdbc:inetdae:<hostname>:<port>**
    where <hostname> is the name of the host where the database is running and <port> is the port on which the database interfaces with the driver.
  - **jdbc:mercury:sqlserver://<hosthost>:1433;DatabaseName=master;AuthenticationMethod=type2**
    where <hostname> is the name of the host where the database is running.
  - **jdbc:oracle:thin:@<hostname>:<port>:<dbname>**
    where <hostname> is the name of the host where the database is running, <port> is the port on which the database interfaces with the driver, and <dbname> is the SID of the Oracle database instance.
  - **jdbc:postgresql://<hostname>:<port>/<dbname>**
    where <hostname> is the name of the host where the database is running, <port> is the port on which the database interfaces with the driver, and <dbname> is the name of the Postgresql database.

- Generally, you should only have one instance of each type of JDBC driver client installed on the SiteScope machine. If there is more than one instance installed, SiteScope may report an error and be unable to connect to the database. For example, installing two **classes12.zip** files from two different versions of Oracle is unlikely to work.

➤ You must have a database user login that SiteScope can use to access the database with CREATE SESSION system privileges. SiteScope is only able to run the SQL queries that this user has permission to run on the database.

Note: When Windows authentication is used to connect to the database, configure SiteScope using the following settings:

➤ **Database connection URL:** jdbc:mercury:sqlserver://<server name or IP address>:1433;DatabaseName=<database name>; AuthenticationMethod=type2.

➤ **Database driver:** com.mercury.jdbc.sqlserver.SQLServerDriver.

➤ Leave the **Database User name** and **Database Password** boxes empty, because the Windows user credentials of the account from which the SiteScope service is running are used to establish a connection to the database.

For details on configuring this monitor, see "Database Counter Monitor Settings" on page 548.

Database Query Monitor Overview

Use the Database Query Monitor to monitor the availability and proper functioning of your database application. If your database application is not working properly, the user may not be able to access Web content and forms that depend on the database. Most importantly, the user cannot complete e-commerce transactions that are supported by databases. You can also use the Database Query Monitor to isolate performance bottlenecks. If the database interaction time and the associated user URL retrieval times are both increasing at about the same amount, the database is probably the bottleneck.

Usually the most important thing to monitor in databases are the queries used by your most frequently used and most important Web applications. If more than one database is used, you must monitor each of the databases.

Each time the Database Query Monitor runs, it returns a status, the time it takes to perform the query, the number of rows in the query result, and the first two fields in the first row of the result and writes them in the monitoring log file.

You can also monitor internal database statistics. The statistics provided by each database are different but may include items such as database free space, transaction log free space, transactions/second, and average transaction duration.

This section contains the following topics:

Setup Requirements

The steps for setting up a Database Query Monitor vary according to what database software you are trying to monitor. The following is an overview of the requirements for using the Database Query Monitor:

- You must install or copy a compatible JDBC database driver or database access API into the required SiteScope directory location.

  Many database driver packages are available as compressed (zipped) archive files or .jar files. Copy the downloaded driver file into the **<SiteScope root directory>\WEB-INF\lib** subdirectory. Do not unzip the file.

- You must know the syntax for accessing the database driver. Examples of common database driver strings are:
  - **sun.jdbc.odbc.JdbcOdbcDriver.** JDBC-ODBC Bridge Driver from Sun Microsystems.
  - **com.inet.tds.TdsDriver.** TDS driver from i-net Software for Microsoft SQL databases. This driver is deployed with SiteScope.
  - **com.inet.ora.OraDriver.** A driver from Oracle for Oracle databases. This driver is deployed with SiteScope.
  - **com.mercury.jdbc.sqlserver.SQLServerDriver.** Datadirect driver from DataDirect Technologies. It is an alternative to the TDS driver for those Microsoft SQL databases that use Windows NT authentication. This driver is deployed with SiteScope.
  - **oracle.jdbc.driver.OracleDriver.** JDBC thin driver for Oracle 7 and 8 databases. This driver is an Oracle product and is supplied by Oracle.

- You must know the syntax for the database connection URL. The database connection URL normally includes the class of driver you are using, some key name relating to the supplier of the driver software, followed by a combination of server, host, and port identifiers.

  Examples of common database connection URLs are:

  - **jdbc:odbc:<dsname>**
    where <dsname> is the data source name in the system environment or configuration.
  - **jdbc:inetdae:<hostname>:<port>**
    where <hostname> is the name of the host where the database is running and <port> is the port on which the database interfaces with the driver.
  - **jdbc:mercury:sqlserver://<hosthost>:1433;DatabaseName=master;AuthenticationMethod=type2**
    where <hostname> is the name of the host where the database is running.
  - **jdbc:oracle:thin:@<hostname>:<port>:<dbname>**
    where <hostname> is the name of the host where the database is running, <port> is the port on which the database interfaces with the driver, and <dbname> is the name of the Oracle database instance.

- The database you want to monitor needs to be running, have a database name defined, and have at least one named table created in the database. In some cases, the database management software needs to be configured to enable connections by using the middleware or database driver.
- You need a valid user name and password to access and perform a query on the database. In some cases, the machine and user account that SiteScope is running on must be given permissions to access the database.
- You must know a valid SQL query string for the database instance and database tables in the database you want to monitor. Consult your database administrator to work out required queries to test.

Note: When Windows authentication is used to connect to the database, configure SiteScope using the following settings:

- **Database connection URL:** jdbc:mercury:sqlserver://<server name or IP address>:1433;DatabaseName=<database name>; AuthenticationMethod=type2.
- **Database driver:** com.mercury.jdbc.sqlserver.SQLServerDriver.
- Leave the **Database user name** and **Database password** boxes empty, because the Windows user credentials of the account from which the SiteScope service is running are used to establish a connection to the database.

Accessing Oracle Databases Without Using ODBC

If you want to monitor an Oracle database without using ODBC, a good alternative is to use the Oracle Thin JDBC Drivers.

To set up SiteScope to use the JDBC Thin Drivers:

1. Download the Oracle Thin JDBC drivers from the Oracle Web site (may require service/support agreement with Oracle).
2. Copy the downloaded driver package into the **<SiteScope root directory>\WEB-INF\lib** subdirectory.

Note: Do not extract the files from the archive file.

---

3. Stop and restart the SiteScope service.

4 Add a Database Query Monitor within SiteScope.

The **Database connection URL** format for the Oracle JDBC driver is:

jdbc:oracle:thin:@<tcp address>:<tcp port>:<database SID>

For example to connect to the ORCL database on a machine using port 1521 you would use:

jdbc:oracle:thin:@206.168.191.19:1521:ORCL

Note: After the word thin is a colon (:) and an at (@) symbol.

The **Database driver** for the Oracle thin JDBC driver is:

oracle.jdbc.driver.OracleDriver

Enter this string into the **Database driver** text box under the Monitor Settings section of the New Database Query Monitor dialog box.

Possible Errors Using the Oracle Thin Driver

- "**error, connect error, No suitable driver**": check for syntax errors in Database connection URL, such as dots instead of colons.
- "**error, connect error, Io exception: The Network Adapter could not establish the connection**": in Database connection URL, check **jdbc:oracle:thin:@206.168.191.19:1521:ORCL**.
- "**error, connect error, Io exception: Invalid connection string format, a valid format is: "host:port:sid**": in Database connection URL check **jdbc:oracle:thin:@206.168.191.19:1521:ORCL**.
- "**error, connect error, Invalid Oracle URL specified: OracleDriver.connect**": in Database connection URL, check for a colon before the "**@**" **jdbc:oracle:thin@206.168.191.19:1521:ORCL**.

- "**Refused:OR=(CODE=12505)(EMFI=4))))**": in Database connection URL, check the database SID is probably incorrect (ORCL part). This error can also occur when the tcp address, or tcp port is incorrect. If this is the case, verify the tcp port and check with the your database administrator to verify the proper SID.
- "**String Index out of range: -1**": in Database connection URL, check for the database server address, port, and the database SID.
- "**error, driver connect error, oracle.jdbc.driver.OracleDriver**": check syntax in item Database driver.
- "**error, driver connect error, oracle.jdbc.driver.OracleDriver**": check that driver is loaded in correct place.
- "**error, connect error, No suitable driver**": check driver specified in item Database driver.
- "**error, connect error, No suitable driver**": check for syntax errors in Database connection URL, such as dots instead of colons.

Monitoring Informix Databases

Monitoring a Informix database requires the use of a JDBC driver.

To enable SiteScope to monitor an Informix database:

1. Download the Informix JDBC driver from Informix. See the Informix Web site for details.
2. Uncompress the distribution file.
3. Open a DOS window and go to the **jdbc140jc2** directory.
4. Unpack the driver by running the following command:

   ```
   c:\SiteScope\java\bin\java -cp . setup
   ```

5. Copy **ifxjdbc.jar** to the **<SiteScope root directory>\WEB-INF\lib** subdirectory.
6. Stop and restart SiteScope.

7 Use your browser to add a Database Query Monitor within SiteScope.

The Database connection URL format for the Informix JDBC driver is:

jdbc:informix-sqli://<database hostname>:<tcp port><database server>:INFORMIXSERVER=<database>

If you require a user name and password the database connection URL format for the Informix JDBC driver is:

jdbc:informix-sqli://<database hostname>:<tcp port><database server>:INFORMIXSERVER=<database>;user=myuser;password=mypassword

For example, to connect to the Database Server sysmaster running on the machine called pond.thiscompany.com and the Database called maindbase, type:

jdbc:informix-sqli://pond.thiscompany.com:1526/sysmaster:INFORMIXSERVER=maindbase;

The Database driver for the Informix JDBC driver is:

com.informix.jdbc.IfxDriver

Enter this string into the **Database driver** box under the Monitor Settings section of the New Database Query Monitor dialog box.

Monitoring MySQL Databases

Monitoring a MySQL database requires the use of a JDBC driver.

To enable SiteScope to monitor a MySQL database:

1 Download the MySQL JDBC driver from the MySQL web site (http://www.mysql.com).

2 Uncompress the distribution file.

3 Among all the other files, you should find a file with a .jar extension.

4 Copy the .jar file into the **<SiteScope root directory>\WEB-INF\lib** directory.

5 Stop and restart SiteScope.

6 Use your browser to add a Database Query Monitor within SiteScope.

The **Database connection URL** format for the MySQL JDBC driver is:

jdbc:mysql://<database hostname>[:<tcp port>]/<database>

For example to connect to the MySQL database "aBigDatabase" on a machine using the standard MySQL port number 3306 you would use:

jdbc:mysql://206.168.191.19/aBigDatabase

If you are using a different port to connect to the database, include that port number as part of the IP address.

The specification for the MySQL JDBC driver is: org.gjt.mm.mysql.Driver

Enter this string into the **Database driver** box under the Monitor Settings section of the New Database Query Monitor dialog box.

Possible Errors Using the MySQL Driver

If, after setting this up, you get an authorization error in the Database Query Monitor, then you may have to grant rights for the SiteScope machine to access the MySQL database. Consult the MySQL Database administrator for setting up privileges for the SiteScope machine to access the MySQL server.

Monitoring Sybase Databases

To use JDBC drivers with your Sybase SQL server, perform the following steps:

1. Obtain the driver for the version of Sybase that you are using. For example, for version 5.X databases you need **jconn2.jar**. If you have Jconnect, you should be able to find a driver in the Jconnect directory.
2. Place the zip file in the **<SiteScope root directory>\WEB-INF\lib** directory.

Note: Do not extract the zip file.

---

3. Stop and restart the SiteScope service.
4. Add a Database Query Monitor in SiteScope.
5. For the **Database connection URL**, use the syntax of:

   jdbc:sybase:Tds:hostname:port

   For example to connect to SQL server named bgsu97 listening on port 2408, you would enter:

   jdbc:sybase:Tds:bgsu97:2408
6. You can specify a database by using the syntax:

   jdbc:sybase:Tds:hostname:port#/database

   For example to connect to SQL server named bgsu97 listening on port 2408 and to the database of quincy, you would enter:

   jdbc:sybase:Tds:bgsu97:2408/quincy
7. For the **Database driver**, enter:
   - com.sybase.jdbc.SybDriver (for Sybase version 4.x)
   - com.sybase.jdbc2.jdbc.SybDriver (for Sybase version 5.x)
8. Enter the **Database user name** and **Database password**.

9 Enter a query string for a database instance and table in the Sybase database you want to monitor.

- For example, Sp_help should work and return something similar to:
  good, 0.06 sec, 27 rows, KIRK1, dbo, user table
- Alternately, the query string select * from spt_ijdbc_mda should return something similar to:
  Monitor: good, 0.06 sec, 175 rows, CLASSFORNAME, 1, create table #tmp_class_for_name (xtbinaryoffrow image null), sp_ijdbc_class_for_name(?), select * from #tmp_class_for_name, 1, 7, 12000, -1

10 Click **OK**.

Possible Errors with Sybase Database Monitoring

- Verify you are using the correct driver for the version of Sybase you are monitoring. Enter com.sybase.jdbc.SybDriver for Sybase version 4.x. and com.sybase.jdbc2.jdbc.SybDriver for Sybase version 5.x.
- If you get the error: "**error, driver connect error, com/sybase/jdbc/SybDriver**", verify that there are no spaces at the end of the driver name. Save the changes and try the monitor again.
- If you get the error: "**connect error, JZ006: Caught IOException: java.net.UnknownHostException: dbservername**", verify the name of the database server in the **Database connection URL** box is correct.

Scheduling This Monitor

You may want to monitor your most critical and most common queries frequently, every 2-5 minutes. Database statistics that change less frequently can be monitored every 30 or 60 minutes.

For details on configuring this monitor, see “Database Query Monitor Settings” on page 552.

LDAP Monitor Overview

If your LDAP server is not working properly, the user is not able to access and update information in the directory. Most importantly, the user is not able to perform any authentication using the LDAP server. Use the LDAP Monitor to monitor the availability and proper functioning of your LDAP server. Another reason to monitor the LDAP server is so that you can find performance bottlenecks. If your end user and LDAP times are both increasing at about the same amount, the LDAP server is probably the bottleneck.

The most important thing to monitor is the authentication of a specific user on the LDAP server. If more than one LDAP server is used, you should monitor each of the servers. You may also want to monitor round trip time of the authentication process.

Status

Each time the LDAP Monitor runs, it returns a status based on the time it takes to perform the connection.

The possible values for the LDAP status are:

- OK
- warning
- error

An error status or warning status is returned if the current value of the monitor is anything other than OK. Errors occur if SiteScope is unable to connect, receives an unknown host name error, or the IP address does not match the host name.

For details on configuring this monitor, see “LDAP Monitor Settings” on page 557.

Microsoft SQL Server Monitor Overview

Use the Microsoft SQL Server Monitor to monitor the server performance metrics pages for SQL Servers versions 6.5, 7.1, 2000, and 2005 on Windows NT systems. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate monitor instance for each Microsoft SQL Server you are running.

Note:

- SiteScope also provides a solution template that includes a set of predefined monitors to create a monitoring solution for various aspects of a Microsoft SQL 2005 server. For details, see "Microsoft SQL Server 2005 Solution Template" on page 1387.
- This monitor is supported in SiteScopes that are running on Windows versions only.

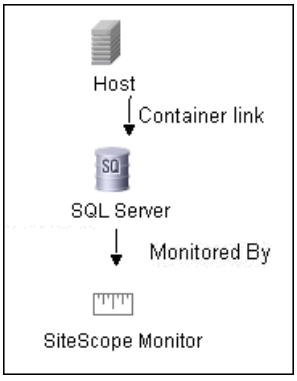
This section contains the following topics:

Setup Requirements

- The Microsoft SQL Server Monitor uses performance counters to measure application server performance. SiteScope needs to be running under an account that has the necessary administrative security privileges to access performance counter data from remote servers. If the servers you want to monitor are in a different domain, are governed under a different policy, or require a unique login different than the account SiteScope is running under, you must define the connection to these servers in the Microsoft Windows Remote Servers container. For details, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
- The Remote Registry service must be running on the machine where the SQL Server is running if the SQL Server is running on Windows 2000.

Microsoft SQL Server Topology Settings

The Microsoft SQL Server monitor can identify the topology of the Microsoft SQL Servers being monitored. If **Include topology data when reporting to HP Business Availability Center** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



For information about retrieving topologies and reporting them to Business Availability Center, see “Reporting Discovered Topologies to HP Business Availability Center” on page 141.

For details on configuring this monitor, see “Microsoft SQL Server Monitor Settings” on page 561.

Oracle Database Monitor Overview

Use the Oracle Database Monitor to monitor the server performance statistics from Oracle Database servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate Oracle Database Monitor instance for each Oracle database server in your environment.

Note: SiteScope also provides a solution template that includes a set of predefined monitors to create a monitoring solution for various aspects of an Oracle Database server. For details, see "Oracle Database Solution Template" on page 1405.

This section contains the following topics:

Setup Requirements

The following are several key requirements for using the Oracle Database Monitor:

- You must have a copy of the applicable Oracle JDBC database driver file (for example, classes12.zip) on the SiteScope server. Copy the downloaded driver file into the **<SiteScope root directory>\WEB-INF\lib** subdirectory. Do not unzip the file. Stop and restart the SiteScope service after copying the driver file to the SiteScope machine.

Note: More than one driver file is available for download. Some drivers support more than one version of Oracle database (for example, the classes12.zip Oracle JDBC thin driver) while others only support a particular version. If you are monitoring a recent version of Oracle database, download the latest version of the database driver.

- You must supply the correct **Database connection URL**, a database user name and password when setting up the monitor. When using the Oracle thin driver, the database connection URL has the form of: jdbc:oracle:thin:@<server name or IP address>:<port>:<database sid>.

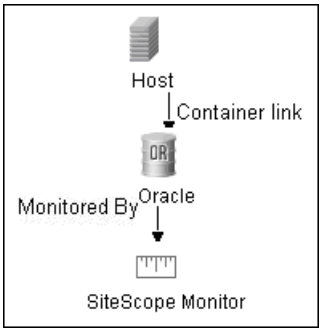
  For example, to connect to the ORCL database on a machine using port 1521 you would use: jdbc:oracle:thin:@206.168.191.19:1521:ORCL.

Note: The colon (:) and the at (@) symbols must be included as shown.

- You must know the syntax for accessing the Oracle **Database driver** that was installed on the SiteScope server. Examples of common database driver strings are:
  - **com.inet.ora.OraDriver**. A driver from Oracle for Oracle databases. This driver is deployed with SiteScope.
  - **oracle.jdbc.driver.OracleDriver**. JDBC thin driver for Oracle 7 and 8 databases. This driver is an Oracle product and is supplied by Oracle.
- You should have only one version of each driver installed on the SiteScope machine. If there is more that version is installed, SiteScope may report an error and be unable to connect to the database.
- The user specified in the **Credentials** section must be granted the permission to access System tablespace.

Oracle Database Topology Settings

The Oracle Database monitor can identify the topology of the Oracle databases being monitored. If **Include topology data when reporting to HP Business Availability Center** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



To ensure that the topology is reported accurately, you should enter the values for the **Database machine name** and the **SID**. These fields appear in the **HP BAC Integration Settings** under **Topology Settings.**

For information about retrieving topologies and reporting them to Business Availability Center, see “Reporting Discovered Topologies to HP Business Availability Center” on page 141.

For details on configuring this monitor, see “Oracle Database Monitor Settings” on page 564.

Sybase Monitor Overview

Use the Sybase Monitor to monitor the server performance data for Sybase database servers. You can monitor multiple parameters or counters with a single monitor instance. Create a separate monitor instance for each Sybase server in your environment.

Note: This monitor is supported in SiteScopes that are running on Windows versions only.

Setup Requirements

- Before you can use the Sybase Monitor, you have to configure the Sybase server environment. The Sybase Monitor connects to the Sybase ASE server by using the Adaptive Server Enterprise Monitor Server and retrieves metrics from the server using Sybase-provided libraries. When connecting to the monitored server, you connect to the Adaptive Server Enterprise Monitor Server, not the Sybase server. The Adaptive Server Enterprise Monitor Server is an application that runs on the same machine as Sybase server and retrieves performance information from the Sybase server. The Adaptive Server Enterprise Monitor Server usually has the same server name as the Sybase server, but with the suffix _ms. For example, if the name of the Sybase database application server is back-enddb, the name of the Adaptive Server Enterprise Monitor Server for that server would be back-enddb_ms.
- You also have to install the Sybase Central client on the machine where SiteScope is running to connect to the Adaptive Server Enterprise Monitor Server. The version of the client software that you install must be at least as recent or more recent than the version of the server you are trying to monitor. For example, if you have Sybase version 11.0 servers, you must use the Sybase Central client version 11.0 or later. Copy the content of the **sql.ini** file located in **<System Root>\SYBASE\INI** on the Sybase server into the **sql.ini** file on the SiteScope server. You can use the dsedit tool in the Sybase client console to test connectivity with the Adaptive Server Enterprise Monitor Server.

For details on configuring this monitor, see “Sybase Monitor Settings” on page 567.

Database Monitors User Interface Settings

This section describes:

DB2 8.x Monitor Settings

Description	Monitors the availability and performance statistics of an IBM DB2 database for versions 8.x. The error and warning thresholds for the monitor can be set on up to ten DB2 server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"DB2 8.x Monitor Overview" on page 522

DB2 8.x Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
DB2 server	Enter the address or name of the server where the DB2 8.x database is running.
Port	The port on which the DB2 8.x database accepts connections. **Default value:** 50000
Database	Enter the DB2 database node name that you want to monitor. **Default value:** sample **Example:** DB2 is the default node name created by DB2 installation.

GUI Element	Description
Credentials	Select the option for providing the user name and password to be used to access the DB2 database server. ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (selected by default). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Partition	Partition to monitor. -1 is the current partition; -2 is all partitions. **Default value: -1**
Calculate rate	Select to calculate rates for counter values rather than the actual values returned from the monitored server. **Example**: If a counter counts logins and every second an average of two users log in to the database, the counter keeps growing. Selecting this option, the monitor displays the value 2, which means 2 user logins per second.
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Database Connection Settings

Description	The Database Connection Settings enable you to retrieve, share, and reuse database connections for database monitors that use any JDBC-compliant driver. When multiple database monitors use the same database, using a connection pool instead of an open connection for each monitor improves monitor performance and optimizes database server resource utilization. Connections can be shared regardless of monitor type. For example, SiteScope database logger, database tools (Database Connection, Database Information), database alerts, and database monitors (Oracle database, Database Counter, Database Query, DB2 8.x, Technology Database Integration, and so forth) can share and reuse database connections in a connection pool.
Important Information	You can set additional database options that affect all resources that connect to the database in the JDBC Global Options in the General Preferences container.
Useful Links	"JDBC Global Options" on page 1138

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Use connection pool	If this check box is selected, SQL connection sharing is enabled. This means that you use a connection pool rather than open and close a new connection for each monitor query. **Default value:** Selected
Physically close if idle connection count exceeds	The maximum number of unused SQL connections in the SQL connection pool. When this number is exceeded, unused connections are closed rather than returned to the connection pool. **Default value:** 10

GUI Element	Description
Idle connection timeout	The maximum amount of time, in seconds/minutes/hours/days, that a SQL connection remains unused after it has been returned to the SQL connection pool. When the time is exceeded, the connection is automatically closed. **Default value:** 5 minutes
Query timeout	The amount of time, in seconds/minutes/hours/days, to wait for execution of a SQL statement. Not all SQL drivers have this function. If your SQL driver does not support this function, this parameter is ignored. **Default value:** 1 minute

Database Counter Monitor Settings

Description	The Database Counter Monitor allows you to monitor the availability of any database through a JDBC driver. The error and warning thresholds for the monitor can be set on one or more database server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Database Counter Monitor Overview" on page 524

Database Counter Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Database connection URL	Enter the connection URL to the database you want to connect to. The syntax is jdbc:oracle:thin:@<server name or IP address>:<database server port>:<sid>. **Example:** To connect to the ORCL database on a machine using port 1521 use: jdbc:oracle:thin:@206.168.191.19:1521:ORCL. The colon (:) and @ symbols must be included as shown. **Note for using Windows Authentication:** If you want to access the database using Windows authentication, enter jdbc:mercury:sqlserver://<server name or IP address>:1433;DatabaseName=<database name>; AuthenticationMethod=type2 as the connection URL, and com.mercury.jdbc.sqlserver.SQLServerDriver as your database driver. Leave the **Database user name** and **Database password** boxes empty, because the Windows user credentials of the account from which the SiteScope service is running are used to establish a connection to the database.
Query	Enter a SQL query that returns at least two columns of data. The values in the first column of data are interpreted as the labels for the entries in the each row. The values in the first row are treated as labels for each entry in the column.
Database driver	Enter the driver used to connect to the database. **Example:** org.postgresql.Driver
Database machine name	The identifier for the target database server, as it should be reported to HP Business Availability Center.
Divisor query	A SQL query that returns a single numeric value. The value of each counter is calculated by dividing the counter value as retrieved from the database divided by the Divisor Query value.

GUI Element	Description
No cumulative counters	Select to turn off the default behavior of calculating the value of a counter as the difference between that counter's cumulative values (as retrieved from the database on consecutive monitor runs).
No divide counters	Select to turn off the default behavior of calculating the value of a counter as the value retrieved from the database (or the delta of two values retrieved from the database over consecutive monitor runs) divided by some number. The divisor is either taken from the Divisor Query, or it is the elapsed time in seconds since the previous monitor run.
Credentials	Select the option for providing the user name and password to be used to access the database server. ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Database Connection Settings

Description	The Database Connection Settings enable you to retrieve, share, and reuse database connections for database monitors that use any JDBC-compliant driver. When multiple database monitors use the same database, using a connection pool instead of an open connection for each monitor improves monitor performance and optimizes database server resource utilization. Connections can be shared regardless of monitor enter. For example, SiteScope database logger, database tools (Database Connection, Database Information), database alerts, and database monitors (Oracle database, Database Counter, Database Query, DB2 8.x, Technology Database Integration, and so forth) can share and reuse database connections in a connection pool.
Important Information	You can set additional database options that affect all resources that connect to the database in the JDBC Global Options in the General Preferences container.
Useful Links	"JDBC Global Options" on page 1138

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Use connection pool	Enables SQL connection sharing. This means that you use a connection pool rather than open and close a new connection for each monitor query. **Default value:** Selected
Physically close if idle connection count exceeds	This is the maximum number of unused SQL connections in the SQL connection pool. When this number is exceeded, unused connections are closed rather than returned to the connection pool. **Default value:** 10

GUI Element	Description
Idle connection timeout	The maximum amount of time, in seconds/minutes/hours/days, that a SQL connection remains unused after it has been returned to the SQL connection pool. When the time is exceeded, the connection is automatically closed. **Default value:** 5 minutes
Query timeout	The amount of time, in seconds/minutes/hours/days, to wait for execution of a SQL statement. Not all SQL drivers have this function. If your SQL driver does not support this function, this parameter is ignored. **Default value:** 1 minute

Database Query Monitor Settings

Description	Checks that a database is working correctly by connecting to it and performing a query. Optionally, it can check the results of a database query for expected content. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Database Query Monitor Overview" on page 527

Database Query Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Database connection URL	Enter a URL to a database connection (no spaces are allowed in the URL). One way to create a database connection is to use ODBC to create a named connection to a database. **Example:** First use the ODBC control panel to create a connection called test. Then, enter jdbc:odbc:test in this box as the connection URL. **Note for using Windows Authentication:** If you want to access the database using Windows authentication, enter jdbc:mercury:sqlserver://<server name or IP address>:1433;DatabaseName=<database name>; AuthenticationMethod=type2 as the connection URL, and com.mercury.jdbc.sqlserver.SQLServerDriver as your database driver. Leave the **Database user name** and **Database password** boxes empty, because the Windows user credentials of the account from which the SiteScope service is running are used to establish a connection to the database.
Database driver	Enter the java class name of the JDBC database driver. The default driver uses ODBC to make database connections. SiteScope uses the same database driver for both primary and backup database connections. If a custom driver is used, the driver must also be installed in the **<SiteScope root directory>\WEB-INF\lib** directory. **Default value:** sun.jdbc.odbc.JdbcOdbcDriver

GUI Element	Description
Database user name	Enter the user name used to log in to the database. If you are using Microsoft SQL server and the default driver (Sun Microsystem JDBC-ODBC bridge driver, sun.jdbc.odbc.JdbcOdbcDriver), you can leave this blank and choose NT Authentication when you setup the ODBC connection. With NT Authentication, SiteScope connects using the login account of the SiteScope service. **Note:** The specified user name must have privileges to run the query specified for the monitor.
Database password	Enter a password used to login to the database. If you are using Microsoft SQL server and the default driver (Sun Microsystem JDBC ODBC bridge driver (sun.jdbc.odbc.JdbcOdbcDriver), you can leave this blank and choose NT Authentication when you create the ODBC connection. With NT Authentication, SiteScope connects using the login account of the SiteScope service.
Query	Enter the SQL query to test. **Example:** select * from sysobjects

GUI Element	Description
Match content	Enter a string of text to check for in the query result. If the text is not contained in the result, the monitor displays no match on content. This works for XML tags as well. You may also perform a Perl regular expression match by enclosing the string in forward slashes, with an i after the trailing slash indicating case-insensitive matching. **Example:** /href=Doc\d+\.html/ or /href=doc\d+\.html/i If you want a particular piece of text to be saved and displayed as part of the status, use parentheses in a Perl regular expression. **Example:** /Temperature: (\d+)/ would return the temperature as it appears on the page and this could be used when setting an Error if or Warning if threshold. **Note:** The search is case sensitive.
File path	Enter the name of the file that contains the query you want to run. The file should be in a simple text format. Use this function as an alternative to the Query text box for complex queries or queries that change and are updated by an external application.
Column labels	Enter the field labels for the two columns returned by the query, separated by a comma (","). These column labels are used as data labels in SiteScope reports for Database Query Monitors. **Note:** The field labels should be two of the labels that are returned by the Query string entered above.
Database machine name	If you are reporting monitor data to an installation of HP Business Availability Center, enter a text identifier describing the database server that this monitor is monitoring. This text descriptor is used to identify the database server when the monitor data is viewed in an HP Business Availability Center report.

Database Connection Settings

Description	The Database Connection Settings enable you to retrieve, share, and reuse database connections for database monitors that use any JDBC-compliant driver. When multiple database monitors use the same database, using a connection pool instead of an open connection for each monitor improves monitor performance and optimizes database server resource utilization. Connections can be shared regardless of monitor type. For example, SiteScope database logger, database tools (Database Connection, Database Information), database alerts, and database monitors (Oracle database, Database Counter, Database Query, DB2 8.x, Technology Database Integration, and so forth) can share and reuse database connections in a connection pool.
Important Information	You can set additional database options that affect all resources that connect to the database in the JDBC Global Options in **Preferences** > **General Settings**.
Useful Links	"JDBC Global Options" on page 1138

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Use connection pool	Enables SQL connection sharing. This means that you use a connection pool rather than open and close a new connection for each monitor query. **Default value:** Selected
Physically close if idle connection count exceeds	The maximum number of unused SQL connections in the SQL connection pool. When this number is exceeded, unused connections are closed rather than returned to the connection pool. **Default value:** 10

GUI Element	Description
Idle connection timeout	The maximum amount of time, in seconds/minutes/hours/days, that a SQL connection remains unused after it has been returned to the SQL connection pool. When the time is exceeded, the connection is automatically closed. **Default value:** 5 minutes
Query timeout	The amount of time, in seconds/minutes/hours/days, to wait for execution of a SQL statement. Not all SQL drivers have this function. If your SQL driver does not support this function, this parameter is ignored. **Default value:** 1 minute

LDAP Monitor Settings

Description	Verifies that a Lightweight Directory Access Protocol (LDAP) server is working correctly by connecting to it and performing a simple authentication. Optionally, it can check the result for expected content. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"LDAP Monitor Overview" on page 537

LDAP Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Authentication Settings	
LDAP service provider	Enter the constant that holds the name of the environment property for specifying configuration information for the service provider to use. The value of the property should contain a URL string (for example, ldap://somehost:389). This property may be specified in the environment, an applet parameter, a system property, or a resource file. If it is not specified in any of these sources, the default configuration is determined by the service provider.
Security principal	Enter the constant that holds the name of the environment property for specifying the identity of the principal for authenticating the caller to the service. The format of the principal depends on the authentication scheme. If this property is unspecified, the behavior is determined by the service provider. This should be of the form uid=testuser,ou=TEST,o=mydomain.com.
Security credential	Enter the constant that holds the name of the environment property for specifying the credentials of the principal for authenticating the caller to the service. The value of the property depends on the authentication scheme. For example, it could be a hashed password, clear-text password, key, certificate, and so on. If this property is unspecified, the behavior is determined by the service provider.

GUI Element	Description
LDAP Settings	
Content match	Enter a string of text to check for in the query result. If the text is not contained in the result, the monitor displays no match on content. The search is case sensitive. You may also perform a regular expression match by enclosing the string in forward slashes, with an i after the trailing slash indicating case-insensitive matching. **Example:** /href=Doc\d+\.html/ or /href=doc\d+\.html/i If you want a particular piece of text to be saved and displayed as part of the status, use parentheses in a Perl regular expression. **Example:** /Temperature: (\d+). This would return the temperature as it appears on the page and this could be used when setting an Error if or Warning if threshold.

GUI Element	Description
Object query	Use this box to enter an object query to look at a LDAP object other than the default user **dn** object. For example, enter the mail object to check for an e-mail address associated with the dn object entered above. You must enter a valid object query in this text box if you are using a LDAP filter (see the description below). **Note:** To use LDAP version 3 for a particular monitor, type [LDAP-3] before the query. If you want to use version 2 and version 3, type [LDAP-ANY].
LDAP filter	Enter an LDAP filter in this text box to perform a search using a filter criteria. The LDAP filter syntax is a logical expression in prefix notation meaning that logical operator appears before its arguments. For example, the item sn=Freddie means that the sn attribute must exist with the attribute value equal to Freddie. Multiple items can be included in the filter string by enclosing them in parentheses (such as sn=Freddie) and combined using logical operators such as the & (the ampersand conjunction operator) to create logical expressions. **Example:** The filter syntax (& (sn=Freddie) (mail=*)) requests LDAP entries that have both a sn attribute of Freddie and a mail attribute. More information about LDAP filter syntax can be found at http://www.ietf.org/rfc/rfc2254.txt and also at http://java.sun.com/products/jndi/tutorial/basics/directory/filter.html.

Microsoft SQL Server Monitor Settings

Description	The Microsoft SQL Server Monitor allows you to monitor the availability and performance of a Microsoft SQL Server (versions 6.5, 7.1, 2000, 2005) on Windows NT systems. The error and warning thresholds for the monitor can be set on one or more SQL Server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Microsoft SQL Server Monitor Overview" on page 538

Microsoft SQL Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the Microsoft SQL Server you want to monitor is running. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.

GUI Element	Description
SQL instance name	Select the Microsoft SQL server instance you want to monitor from the list of SQL instances running on the selected server. **Default value:** SQLServer (this value is displayed even if SiteScope is unable to get the instance list).
Counters	The server performance counters you want to check with this monitor. All non-default instances are dynamically loaded and displayed in the drop-down box. Use the **Get Counters** button to select counters. **Note when working in template mode:** To update counters in template browsable monitors that need a target server, click the **Select measurement from** button and add the required server and counters. Any server that is accessible in the domain can be used. If a server is not in the domain, you must manually add the server to the remote server tree before adding counters, and then specify the newly created server name in the **Server** field.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor.

Oracle Database Monitor Settings

Description	The Oracle Database Monitor allows you to monitor the availability of an Oracle database server (versions 9i plus some earlier versions). The error and warning thresholds for the monitor can be set on one or more Oracle server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. If you are using a third-party database driver and you upgrade SiteScope, you must deploy the driver to SiteScope again, since the driver configuration data is not saved during an upgrade.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Oracle Database Monitor Overview" on page 540

Oracle Database Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Database connection URL	Enter the connection URL to the database you want to connect to. The syntax is jdbc:oracle:thin:@<server name or IP address>:<database server port>:<sid>. **Example:** To connect to the ORCL database on a machine using port 1521, use: jdbc:oracle:thin:@206.168.191.19:1521:ORCL. **Note:** The colon (:) and @ symbols must be included as shown.
Database driver	Enter the driver used to connect to the database. **Example:** oracle.jdbc.driver.OracleDriver
Database machine name	Enter the name of the target database server.
Credentials	Select the option for providing the user name and password to be used to access the database server. ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor.

Database Connection Settings

Description	The Database Connection Settings enable you to retrieve, share, and reuse database connections for database monitors that use any JDBC-compliant driver. When multiple database monitors use the same database, using a connection pool instead of an open connection for each monitor improves monitor performance and optimizes database server resource utilization. Connections can be shared regardless of monitor type. For example, SiteScope database logger, database tools (Database Connection, Database Information), database alerts, and database monitors (Oracle Database, Database Counter, Database Query, DB2 8.x, Technology Database Integration, and so forth) can share and reuse database connections in a connection pool.
Important Information	You can set additional database options that affect all resources that connect to the database in the JDBC Global Options in the General Preferences container.
Useful Links	"JDBC Global Options" on page 1138

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Use connection pool	Enables SQL connection sharing. This means that you use a connection pool rather than open and close a new connection for each monitor query. **Default value:** Selected
Physically close if idle connection count exceeds	The maximum number of unused SQL connections in the SQL connection pool. When this number is exceeded, unused connections are closed rather than returned to the connection pool. **Default value:** 10

GUI Element	Description
Idle connection timeout	The maximum amount of time, in seconds/minutes/hours/days, that a SQL connection remains unused after it has been returned to the SQL connection pool. When the time is exceeded, the connection is automatically closed. **Default value:** 5 minutes
Query timeout	The amount of time, in seconds/minutes/hours/days, to wait for execution of a SQL statement. Not all SQL drivers have this function. If your SQL driver does not support this function, this parameter is ignored. **Default value:** 1 minute

Sybase Monitor Settings

Description	The Sybase Monitor allows you to monitor the availability and performance statistics of a Sybase Server. The error and warning thresholds for the monitor can be set on one or more Sybase server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Sybase Monitor Overview" on page 543

Sybase Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	Type the name of the server where the Sybase server you want to monitor is running. Usually it is the name of the server followed by _MS.
User name	Enter the user name to access the Sybase database.
Password	Enter the password of the user name to access the Sybase database.
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

13

Generic Monitors

This chapter includes the main concepts and reference information for monitoring various type of environment. These monitors can monitor networks, applications, and databases depending on how they are configured.

This chapter includes:

Concepts

Reference

Composite Monitor Overview

Each time the Composite Monitor runs, it returns a status based on the number and percentage of items in the specified monitors and/or groups currently reporting an error, warning, or OK status. It writes the percentages reported in the monitoring log file.

Use this monitor is if you want to create complex monitor alert logic. For example, if you want to trigger an alert when:

- Five or more monitors in a group of eight are in error
- Three or more groups have monitors with errors in them
- You have two monitors, and exactly one is in error

then you could create a Composite Monitor that went into error on these conditions, and then add alerts on the Composite Monitor to take the desired actions.

If you need alert logic that is more complex than SiteScope's standard alerts allow, you can use the Composite Monitor to create a customized alert behavior.

For details on configuring this monitor, see “Composite Monitor Settings” on page 593.

Directory Monitor Overview

Use the Directory Monitor to monitor directories that contain log files or other files that tend to grow and multiply unpredictably. You can instruct SiteScope to notify you if either the number of files or total disk space used gets out of hand. You can also use this to monitor directories in which new files are added and deleted frequently. For example, in the case of an FTP directory, you probably want to watch both the number of files in the directory and the files contained in the directory.

You can set up thresholds for this monitor based on the time in minutes since the latest time a file in the directory has been modified, as well as the time in minutes since the first time a file in the directory has been modified.

Because the uses for the Directory Monitor vary so greatly, there is no one interval that works best. Keep in mind that if you are watching a directory that contains a lot of files and sub directories, this monitor may take longer to run.

For details on configuring this monitor, see "Directory Monitor Settings" on page 596.

File Monitor Overview

The File Monitor is useful for watching files that can grow too large and use up disk space, such as log files. Other files that you may want to watch are Web pages that have important content that does not change often.

You can set up your File Monitors to monitor file size, age, or content, and set a threshold at which you should be notified. SiteScope can alert you to unauthorized content changes so that you can correct them immediately. You can write scripts for SiteScope to run that automatically roll log files when they reach a certain size.

Reading and Status

Each time the File Monitor runs, it returns a reading and a status and writes them in the monitoring log file. It also writes the file size and age into the log file.

The reading is the current value of the monitor. Possible values are:

- OK
- content match error
- file not found
- contents changed

An error status is returned if the current value of the monitor is anything other than OK.

For details on configuring this monitor, see "File Monitor Settings" on page 599.

JMX Monitor Overview

Use the JMX Monitor to monitor performance statistics of Java-based applications that provide access to their statistics by using the standard JMX remoting technology defined by JSR 160.

You can monitor multiple parameters or counters with a single monitor instance. The counters available vary from application to application, but normally include both basic JVM performance counters as well as counters specific to the application. You may create one JMX Monitor instance for each application you are monitoring, or several monitors for the same application that analyze different counters.

Note: WebLogic 9.x and 10.x servers can be monitored using a JMX monitor only. For details on how to monitor a WebLogic 9.x or 10.x server, see "Creating a JMX Monitor for a WebLogic 9.x or 10.x Server" on page 574.

This section contains the following topics:

Applications Supporting JSR 160

Here are some applications that currently support JSR 160 and information about how to monitor them:

- BEA WebLogic 9.x and 10.x supports JSR 160, which can be enabled on the WebLogic application server by following instructions found on the BEA Web site (http://e-docs.bea.com/wls/docs90/ConsoleHelp/taskhelp/channels/EnableAndConfigureIIOP.html).

Once enabled, the JMX URL for monitoring the server follows the following form:

service:jmx:rmi:///jndi/iiop://<localhost>:7001/weblogic.management.mbeanservers.runtime

where the <localhost> is the server name or IP address that is running your WebLogic application.

For instructions to create a JMX monitor for WebLogic 9.x and 10.x servers, see "Creating a JMX Monitor for a WebLogic 9.x or 10.x Server" on page 574.

- Tomcat 5.x supports JSR 160, by defining the following properties to the JVM on startup:
  - Dcom.sun.management.jmxremote
  - Dcom.sun.management.jmxremote.port=9999
  - Dcom.sun.management.jmxremote.ssl=false
  - Dcom.sun.management.jmxremote.authenticate=false

  The above properties specify the port as 9999. This value can be changed to any available port. Also, it specifies no authentication. If authentication is necessary, see the Java Sun Web site for more details (http://java.sun.com/j2se/1.5.0/docs/guide/jmx/tutorial/security.html). If the above properties are defined when starting Tomcat 5.x on <localhost>, the following would be the JMX URL for monitoring it:

  service:jmx:rmi:///jndi/rmi://<localhost>:9999/jmxrmi

Note: SiteScope 8.x runs within Tomcat 5.x, and can be monitored as described above.

- Other vendors that have released versions of their software that are JSR 160 compliant, include JBoss, Oracle 10g, and IBM WebSphere.

  You can find more information about JSR 160 on the Java Community Process Web site (http://www.jcp.org/en/jsr/detail?id=160).

Creating a JMX Monitor for a WebLogic 9.x or 10.x Server

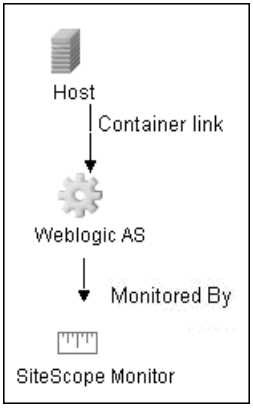
WebLogic 9.x and 10.x servers cannot be monitored using a WebLogic monitor. To monitor a WebLogic 9.x or 10.x server, create a JMX monitor, and enter the following in the **JMX URL** box:

service:jmx:rmi:///jndi/iiop://<server_name>:7001/weblogic.management.mbeanservers.runtime.

To help you to select the counters that you require, you can open a WebLogic monitor for versions prior to WebLogic 9.x (WebLogic 6.x, 7.x, and 8.x) and see the counters that were defined there. Search for these same counters in the counter tree. You can select additional counters that are available in the JMX monitor and were not available in the WebLogic monitors.

WebLogic Application Server Topology Settings

The JMX monitor can identify the topology of WebLogic Application Servers. If **Include topology data when reporting to BAC** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



Note: The JMX monitor can report topology data to Business Availability Center only when monitoring the WebLogic application server, not when monitoring any other environment.

For information about retrieving topologies and reporting them to Business Availability Center, see "Reporting Discovered Topologies to HP Business Availability Center" on page 141.

Troubleshooting the JMX Monitor

Problem: When using the JMX monitor to monitor performance statistics on a JBoss server, the **Good** status is displayed in the SiteScope Dashboard even when the JBoss server is unavailable. SiteScope handles the exceptions differently according to the platform.

- On Windows, each counter is set to **n/a**.
- On Linux and Solaris platforms, the counters are not reset, but the **no data** value is set (and **No Data Availability**  is displayed on the Dashboard).

Resolution: A workaround when monitoring JBoss is to change the monitor's properties in Threshold Settings, by setting **If unavailable** to **Set monitor status to error**.

For details on configuring this monitor, see "JMX Monitor Settings" on page 604.

Log File Monitor Overview

The Log File Monitor watches for specific entries added to a log file by looking for entries containing a text phrase or a regular expression. You can use it to automatically scan log files for error information. With SiteScope doing this for you at set intervals, you can eliminate the need to scan the logs manually. In addition, you can be notified of warning conditions that you may have otherwise been unaware of until something more serious happened.

By default, each time that SiteScope runs this monitor, it starts from the point in the file where it stopped reading last time it ran. This insures that you are notified only of new entries and speeds the rate at which the monitor runs. You change this default behavior using the **Check from beginning** property. For details, see "Check from beginning" on page 609.

Note: Monitoring log files using SSH on Windows platforms is supported from SiteScope version 8.5 and later.

This section contains the following topics:

Scheduling This Monitor

You can schedule your Log File Monitors to run as often as every 15 seconds. However, depending on the size of the log file, the total number of monitors you have running, and **Check from beginning** option selected, the monitor may take 15 seconds or longer to check the file for the desired entries. The default update schedule of every 10 minutes is a reasonable frequency in most cases.

Customizing Log File Content Matches and Monitor Alerts

You can create a Log File monitor that triggers customized alerts for content matches according to the threshold status of the monitor.

To configure the Log File monitor with custom matches and alerts:

1 In the Log Monitor Settings, configure the following settings:

- **Run Alerts:** Select the **For each log entry matched** option.
- **Content match:** Enter the text to look for in the log entries. For example, to find text entries redflag and disaster in the log file, enter /(redflag|disaster)/.
- **Match value label:.** Enter a label name for the matched values found in the target log file. For example, type matchedValue.

2 In the Threshold Settings, set the error and warning threshold. For example, set Error if matchedValue == disaster and set Warning if matchedValue == redflag.

3 Configure error, warning, and good alerts for the Log File monitor. The alert that is sent depends on the threshold that is met for each entry matched. For example, if the error threshold is met, the error alert is triggered. For details on configuring alerts, see “Configure an Alert” on page 1604.

For details on configuring this monitor, see “Log File Monitor Settings” on page 606.

Multi Log File Monitor Overview

Note: This monitor is available only when SiteScope is configured with System Health.

The Multi Log File Monitor performs the same functionality as the Log File Monitor, but also enables you to run the monitor on all files in a given directory. You specify the directory in the **Log File directory** field in the New Multi Log Monitor dialog box.

For details on configuring this monitor, see "Multi Log Monitor Settings" on page 613.

Script Monitor Overview

The Script Monitor can be used to run shell commands or other scripts on the machine where SiteScope is running or it can run a script that is stored on a remote machine.

One of the primary reasons for using the Script Monitor is to integrate into SiteScope an existing script that you use to do a particular system management function. For example, if you have a script that runs a diagnostic on an application and returns a 0 reading if everything is working, you could create a Script monitor that runs this script and recognizes any exit value other than 0 as an error. Then you could create an alert which would e-mail or page you in the event that this monitor was in error.

Note: Symbolic links are now supported when executing scripts on remote UNIX servers. This support is enabled by setting the property **_scriptMonitorAllowSymbolicLink** to **true** (false by default) in the **master.config** file. When enabled, the symbolic link appears in the list of available scripts when configuring a Script monitor to monitor a UNIX remote.

This section contains the following topics:

Script Options

The following is an overview of the possible script execution options and requirements for the SiteScope Script Monitor:

Script Option	Description
Local Script	A file stored and run on the SiteScope machine. The file should be stored in the **<SiteScope root directory>\scripts** directory.
Remote Script	A remote script file (UNIX and Windows-Windows SSH only) in a scripts subdirectory in the home directory of the account SiteScope uses to access the remote server. For example, home/sitescope/scripts. The remote scripts must include an echo construct to echo script results and exit codes back to SiteScope (see the Return Status Example section below). The monitor may fail if the required exit code is not echoed back to SiteScope. When running a script on a remote Windows server using SSH, you must include an "end script" string at the end of the script to avoid a timeout error. For example: @echo off time echo end script
Remote Command	A script file containing a single command stored locally in the **<SiteScope root directory>\scripts.remote** directory. This script file is used to run a command on a remote server. The command may be used to run a remote script file that performs multiple functions.

Note: For SiteScope on Linux, the script itself must have a shell invocation line as the very first line of the script. This applies to scripts that you are trying to run locally on the SiteScope machine. For example, the first line of the script should include something like #!/bin/sh or #!/usr/local/bin/perl. If the shell invocation line is not found then the exec() call returns with a -1 exit status. This is a limitation of the Java Runtime in JRE prior to release 1.4. This has been fixed in the 1.4 JRE from Sun which is shipped with SiteScope version 7.8 and later.

Scheduling Script monitors is dependent on the script that you want SiteScope to run. You can use the scheduling option to have SiteScope run scripts at different intervals throughout the week.

Status

Each time the Script Monitor runs, it returns a status and writes it into the monitoring log file. It also reports a command result, a value, and the time it took to run the command.

The command result is the exit value returned by running the command. This works for local UNIX scripts, but does not work for remote UNIX scripts, or Win NT batch files. Win NT batch file (*.bat) exit codes are not passed out of the command interpreter, and remote UNIX script exit codes are not passed back through the remote connection. See the example below for a way to receive information from the script.

Caching Script Output

The Script Monitor includes an optional function that can be used to cache the output of a script execution. The cached output is useful in you want to:

- Have multiple script monitors check and alert on different parts of the output of a script
- Reduce network traffic and server load by minimizing the number of times a script is run

You can enable script output caching by entering a time value (in seconds) greater than zero in the **Cache life (seconds)** setting in the Monitor Settings section. To configure multiple Script monitors to use the data in the cache you must make sure that each monitor instance:

- is configured to use the same remote Server profile
- is configured to use the same Script file
- has a **Cache life (seconds)** value greater than zero

The **Cache life (seconds)** value entered for each monitor should approach, but not exceed, the equivalent of the value selected for the **Frequency** setting for that monitor. For example, if the **Frequency** setting is 10 minutes, the **Cache life (seconds)** value can be set to a value of 590 because 10 minutes is equivalent to 600 seconds and 590 is less than 600. Any monitor that detects the end of its Cache Life runs the script again and refreshes the cache.

Setting a Timeout Value for Script Execution

You can set a timeout value for the Script Monitor for SiteScope running on Windows. The timeout value is the total time, in seconds, that SiteScope should wait for a successful run of the script. You can use this option to have SiteScope run the monitor but kill the script execution if a script exit code is not detected within the timeout period.

The requirements and limitations of this option are:

- It is only available with SiteScope for Windows.
- It can only be used with scripts stored and run on the local SiteScope server (that is, where the **Server** setting for the Script Monitor is this server or localhost).
- The timeout setting value is expressed in seconds.
- It only applies to Script Monitors.

Two methods exist for applying a timeout setting to Script monitors. One applies the setting as a property to an individual monitor. The second method adds the setting to groups, subgroups, or the entire SiteScope installation. The procedures for both are described below.

To set a Timeout Value for individual script monitor instances:

1. Stop the SiteScope service.
2. Using a text editor, open the SiteScope group file containing the monitor frame for the Script Monitor to which you want to apply the timeout setting.
3. Inside the Script Monitor frame (delimited by the # sign), insert a line and add the timeout setting as _timeout=time where time is replaced with the time in seconds.
4. Save the group file.

Note: Do not add blank lines, leading or trailing spaces to any record in the group file.

---

5. Restart the SiteScope service.

To set a Timeout Value for multiple script monitor instances:

1. Stop the SiteScope service.
2. Using a text editor, open the SiteScope group file containing one or more Script monitors to which you want to apply the timeout setting. Alternately, you can add the setting to the **SiteScope/groups/master.config** file.
3. Inside the group file frame a the top of the file before the first # symbol, insert a line and add the timeout setting as _scriptMonitorTimeout=time where time is replaced with the time in seconds.
4. Save the group file.

Note: Do not add blank lines, leading or trailing spaces to any record in the group file or **master.config** file.

---

5. Restart the SiteScope service.

Running Different Types of Scripts

You can run non-batch scripts, for example VBScript or Perl scripts, without wrapping them into a batch file (in versions of SiteScope earlier than 9.50, this was not possible).

Note: This is supported only on Windows machines where SiteScope Server is the target of the Script monitor.

- You can see scripts with any extensions that you specify in the _scriptExtensions property of the **master.config** file. For example, to see **.pl**, **.py**, or **.php** scripts, use the following format:
  _scriptMonitorExtensions=.pl;.py;.php
- You can run script interpreters with script extensions by specifying the _scriptInterpreters property of the **master.config** file as follows:
  _scriptInterpreters=pl=c:/perl/perl.exe;py=c:/python/python.exe;php=c:/php/php.exe

For details on configuring this monitor, see "Script Monitor Settings" on page 617.

Web Service Monitor Overview

Use the Web Service Monitor to check the availability of a Web service accepting Simple Object Access Protocol (SOAP) requests. The Web Service Monitor checks that the service can send a response to the client in certain amount of time and to verify that the SOAP response is correct based on your selected match specifications.

The Simple Object Access Protocol is a way for a program running under one operating system to communicate with another program running under the same or different operating system (such as a Windows 2000 program talking to a Linux based program) The Simple Object Access Protocol uses the Hypertext Transfer Protocol (HTTP) and Extensible Markup Language (XML) for information exchange with services in a distributed environment.

This monitor uses a Web Services Description Language (WSDL) file to extract technical interface details about a Web service and uses information returned to create an actual SOAP request to that Web service. That is this monitor emulates a real Web service client making a request. The SOAP request can be used to confirm that the Web service is serving the expected response data and in a timely manner. The status of the Web Service Monitor is set based on the results of the SOAP request.

For information about SOAP, refer to the W3C Web site (http://www.w3.org/TR/SOAP/).

For information about WSDL, refer to the Microsoft site (http://msdn2.microsoft.com/en-us/library/ms996486.aspx).

This section contains the following topics:

Supported Technologies

The following specification features are currently supported:

- WSDL 1.2
- SOAP 1.1
- Simple and Complex Types based on XML Schema 2001
- SOAP binding with the HTTP(S) protocol only
- SOAP with Attachments is not supported
- Nested WSDL
- WSDL with multi-ports and multi-services

Note: The monitor does not support SOAP 1.2.

Important: SOAP and WSDL technologies are evolving. As a result, some WSDL documents may not parse accurately and some SOAP requests may not interact with all Web service providers. When SiteScope is unable to generate the correct skeleton code, for example, if the WSDL file has errors or the complexType element uses schema syntax that is not supported, you can modify the XML argument as necessary. For example, if an argument is displayed like this:

```
parameters[COMPLEX] =<pPatientSSN xsi:type="xs:string">***</pPatientSSN>
```

you can modify it by deleting the **xs:** and **xsi:** as follows:

```
parameters[COMPLEX] =<pPatientSSN type="string">***</pPatientSSN>
```

Status

The status reading shows the most recent result for the monitor. It is also recorded in the SiteScope log files, e-mail alert messages, and can be transmitted as a pager alert. The possible status values are:

- OK
- unknown host name
- unable to reach server
- unable to connect to server
- timed out reading
- content match error
- document moved
- unauthorized
- forbidden
- not found
- proxy authentication required
- server error
- not implemented
- server busy

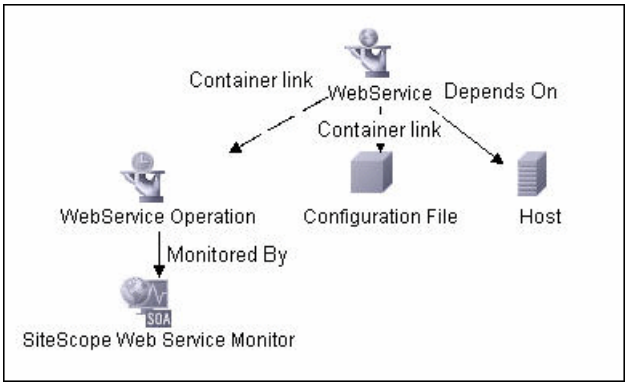
The final status result is either OK, error, or warning based on the threshold established for these conditions.

Integration with HP Business Availability Center for SOA

If SiteScope is reporting to HP Business Availability Center, the monitor sends SOA samples, in addition to the regular samples it sends, for use in HP Business Availability Center for SOA. If the logging setting in **HP BAC Integration Settings** is set to **Disable reporting to BAC**, the monitor does not send any samples to HP Business Availability Center.

Web Service Topology Settings

The Web Service monitor can identify the topology of the Web Service being monitored. If **Include topology data when reporting to BAC** is selected in **HP BAC Integration Settings** (the default setting), the monitor creates the following topology in Business Availability Center's CMDB.



The CIs are created only for the monitored entities according to the counters that you select.

Note:

- This direct integration between SiteScope and Business Availability Center is available only when the Business Availability Center for SOA license is installed.
- The SiteScope Web Service Monitor CI replaces the legacy SiteScope Monitor CI for the Web Service monitor instances when upgrading from previous versions of SiteScope to SiteScope 9.50. The SiteScope Monitor CI is removed from CMDB, which causes it to be removed from views that included it or from SLAs to which it was attached.

For information about retrieving topologies and reporting them to Business Availability Center, see "Reporting Discovered Topologies to HP Business Availability Center" on page 141.

For information about the SOA topology, see "SOA Views and Their Components" in *Solutions and Integrations*.

For details on configuring this monitor, see "Web Service Monitor Settings" on page 623.

XML Metrics Monitor Overview

Use the XML Metrics Monitor to monitor metrics for systems that make performance data available in the form of an XML file or page. The XML Metrics Monitor gathers information from a source, organizes it into a browsable tree structure, and allows you to choose which items in the tree should be monitored. It works by requesting an XML file that is accessible by an URL. When the monitor runs, the XML metrics file is parsed to extract values for each of the counters selected during setup.

The XML metrics must be in a format where each metric is a separate, unique entity in the tree/leaf format. An optional XSL facility can help with formatting.

XML Requirements

A monitor instance must be defined and run against the same XML metrics file format. That is, when running this monitor, SiteScope expects the XML file it is monitoring to have the same format that was used when defining that monitor.

SiteScope parses the input XML content according to the following assumptions:

- The XML content has only one root node. This means that all of the XML content is encapsulated within a single parent element and not multiple instances of a repeating root element.
- A leaf node, an element containing only character data and no child elements, is considered a counter and must be of the form:

  <node_tag>node_value</node_tag>

  where <node_tag> becomes the counter name, and <node_value> is reported as the counter value.
- Each leaf node (and therefore each counter) must have a unique path within the hierarchy of the XML content.
- The XML metric file should contain at least one leaf node.

If your XML metric file does not conform to these rules, you can specify an XSLT (eXtensible Stylesheet Language: Transformations) file that transforms your XML file into a file that does conform. Such a file usually has a file extension of .xsl.

If you need to develop a XSLT file to transform the XML content for this monitor, SiteScope includes a Tools page you can use to verify the transformation output. For more information, see the section "XSL Transform Tool" on page 214.

For details on configuring this monitor, see "XML Metrics Monitor Settings" on page 629.

Generic Monitors User Interface

This section describes:

Composite Monitor Settings

Description	Designed to simplify the monitoring of complex network environments by checking the status readings of a set of other SiteScope monitors and/or monitor groups. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Composite Monitor Overview" on page 570

Composite Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Items	Click the **Add** button to open the Add Items dialog box, and select the monitors and/or groups that you want in the Composite Monitor. For details on the Add Items dialog box, see "Add Items Dialog Box" on page 595. To remove items from the list, select the monitors and/or groups you want to remove (you can select multiple items using the CTRL or SHIFT keys), and click the **Delete** button.
Run monitors	Select if you want the Composite Monitor to control the scheduling of the selected monitors, as opposed to just checking their status readings. Monitors that are to be run this way should not also be run separately, so edit the individual monitors, set the **Frequency** box for that monitor to zero ("0"), and save the changes. Those monitors then run only when scheduled by the Composite Monitor. This is useful if you want the monitors to run one after another or run at approximately the same time. **Default value:** Not selected
Monitor delay (seconds)	If **Run monitors** is checked, this is the number of seconds to wait between running each monitor. This setting is useful if you need to wait for processing to occur on your systems before running the next monitor. **Default value:** 0 seconds
Check all monitors in group(s)	When selected, all of the monitors in selected groups (and their subgroups) are checked and counted. **Default value:** Not selected (each group is checked and counted as a single item when checking status readings).

Add Items Dialog Box

Description	Enables you to select the monitors and/or groups that you want in the Composite Monitor. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the **Composite** monitor from the New Monitor Page, and click the **Add Items** button.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278
Useful Links	"Composite Monitor Overview" on page 570

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Add Selected Items	Click to add the selected groups and/or monitors to the Composite monitor.
SiteScope	Represents the SiteScope root directory.
	Represents a SiteScope monitor group or subgroup (with enabled monitors/with no monitors or no enabled monitors). If a group alert has been set up for the monitor group or subgroup, the alert symbol is displayed next to the group icon.
	Represents a SiteScope monitor (enabled/disabled). If an alert has been set up for the monitor, the alert symbol is displayed next to the monitor icon.

Directory Monitor Settings

Description	The Directory Monitor watches an entire directory and reports on the total number of files in the directory, the total amount of disk space used, and the time (in minutes) since any file in the directory was modified. This information is useful if you have limited disk space, you want to monitor the number of files written to a specific directory, or you want to know the activity level in a certain directory. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Directory Monitor Overview" on page 570

Directory Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the directory you want to monitor is running. Select a server from the server list (only those remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note:** Monitoring log files using SSH on Windows platforms is supported for this monitor only if the remote SSH server supports SSH File Transfer Protocol. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

GUI Element	Description
Add Remote Server	Click to open the Add Remote Server dialog box. Select the type of remote you want to add (Windows or UNIX), and enter the configuration details. For details on the Microsoft Windows Remote Servers user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. For details on the UNIX Remote Servers user interface, see "UNIX Remote Servers User Interface" on page 1032.
Directory path	Enter the directory that you want to monitor. ➤ To monitor directories on a remote Windows NT/2000 server through NetBIOS, the path should contain the name of the shared folder for remote NetBIOS servers. You can also specify an absolute path of the directory on the remote machine without specifying the server name. For example, if you type c:\test, the remote directory is accessed as \\Server\C$\test. ➤ To monitor a directory on a remote Windows SSH machine, the path must be relative to the home directory of the user account used to log in to the remote machine. ➤ To monitor a directory on remote UNIX machines, the path must be relative to the home directory of the UNIX user account used to log in to the remote machine. You must also select the corresponding remote UNIX server in the **Servers** box described above. For details on which UNIX user account to use for the applicable remote server, see "Remote Servers Overview" on page 1014. To monitor a directory that is created automatically by some application and the directory path includes date or time information, you can use SiteScope's special data and time substitution variables in the path of the directory. For details, see "SiteScope Date Variables" on page 230.
No subdirectories	Select this box if you do not want SiteScope to count subdirectories.

GUI Element	Description
File name match	Enter text or an expression to match against (optional). Only file names which match are counted in the totals.

File Monitor Settings

Description	Use the File Monitor to read a specified file and check the size and age of the file. This helps you verify the contents of files by: ➤ Matching the contents for a piece of text, or by, ➤ Checking to see if the contents of the file have changed. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"File Monitor Overview" on page 571

File Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the file you want to monitor is located. Select a server from the server list (only UNIX remote servers that have been configured in SiteScope and the local SiteScope machine are displayed) or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Add Remote Server	Click to open the New UNIX Remote Server dialog box, and enter the configuration details. For details on the user interface, see "UNIX Remote Servers User Interface" on page 1032.

GUI Element	Description
File name	Enter the path and name to the file you want to monitor. For reading files on remote UNIX machines, the path must be relative to the home directory of the UNIX user account being used to login to the remote machine. **Example:** It may be necessary to provide the full path to the target file, such as /opt/application/logs/user.log. You must also select the corresponding remote UNIX server in the **Server** box described above. For details on which UNIX user account to use for the applicable remote server, see "Remote Servers Overview" on page 1014. For reading files on remote Windows NT/2000 servers, you use NetBIOS to specify the server and UNC path to the remote log file. **Example:** \\remoteserver\sharedfolder\filename.log. You can also monitor files local to the server where SiteScope is running. **Example:** C:\application\appLogs\access.log. Optionally, you can use regular expressions for special date and time variables to match on log file names that include date and time information. **Example:** You can use a syntax of s/ex$shortYear$$0month$$0day$.log/ to match a current date-coded file. For details on using regular expressions and dates, see "SiteScope Date Variables" on page 230.
File encoding	If the file content to be monitored uses an encoding that is different than the encoding used on server where SiteScope is running, select the code page or encoding to use. This may be necessary if the code page which SiteScope is using does not support the character set used in the target file. This enables SiteScope to match and display the encoded file content correctly. **Default value:** windows-1252

GUI Element	Description
Match content	Enter a string of text to check for in the returned page. If the text is not contained in the page, the monitor displays **no match on content**. The search is case sensitive. HTML tags are part of a text document, so include them if they are part of the text you are searching for. This works for XML pages as well. **Example:** <B> Hello</B> World You may also perform a regular expression match by enclosing the string in forward slashes, with an i after the trailing slash indicating case-insensitive matching. **Example:** /href=Doc\d+\.html/ or /href=doc\d+\.html/i To save and display a particular piece of text as part of the status, use parentheses in a Perl regular expression. **Example:** /Temperature: (\d+). This returns the temperature as it appears on the page and this could be used when setting an Error if or Warning if threshold. For details on regular expressions, see “Using Regular Expressions” on page 217. You can also use the Regular Expression Test tool to check your regular expressions. For details, see “Regular Expression Tool” on page 197.

GUI Element	Description
Check for content changes	Unless this is set to "no content checking" (the default) SiteScope records a checksum of the document the first time the monitor runs and then does a checksum comparison each subsequent time it runs. If the checksum changes, the monitor has a status of "content changed error" and goes into error. If you want to check for content changes, you should use "compare to saved contents". The options for this setting are: ➤ **No content checking** (default). SiteScope does not check for content changes. ➤ **Compare to last contents.** The new checksum is recorded as the default after the initial error **content changed error** occurs, so the monitor returns to OK until the checksum changes again. ➤ **Compare to saved contents.** The checksum is a snapshot of a given page (retrieved either during the initial or a specific run of the monitor). If the contents change, the monitor gets a **content changed error** and stays in error until the contents return to the original contents, or the snapshot is update by resetting the saved contents. ➤ **Reset saved contents.** Takes a new snapshot of the page and saves the resulting checksum on the first monitor run after this option is chosen. After taking the snapshot, the monitor reverts to **compare to saved contents** mode.
No error if file not found	Select if you want this monitor to remain in Good status if the file is not found. The monitor status is Good regardless of how the monitor's thresholds have been configured.

JMX Monitor Settings

Description	Allows you to monitor the performance statistics of those Java-based applications that provide access to their statistics by using the standard JMX remoting technology. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"JMX Monitor Overview" on page 572

JMX Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
JMX URL	The URL to gather JMX statistics. Typically the URL begins with service:jmx:rmi:///jndi, followed by information specific to the application. **Note:** When creating a JMX monitor for a WebLogic 9.x or 10.x server, enter the following URL: service:jmx:rmi:///jndi/iiop://localhost:7001/weblogic.management.mbeanservers.runtime
Domain filter	Domain filter to show only those counters existing within a specific domain (optional).
User name	User name for connection to the JMX application (optional).

GUI Element	Description
Password	Password for connection to the JMX application (optional).
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters. When the server being monitored is a WebLogic 9.x or 10.x server, see "Creating a JMX Monitor for a WebLogic 9.x or 10.x Server" on page 574 for further details.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Log File Monitor Settings

Description	The Log File Monitor checks for specific entries added to a log file by looking for entries containing a text phrase or a regular expression. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Log File Monitor Overview" on page 576

Log File Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
Server	The server where the file you want to monitor is located. Select a server from the server list (only those remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note:** If using NetBIOS to connect to other servers in an NT domain, use the UNC format to specify the path to the remote log file. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

GUI Element	Description
Add Remote Server	Click to open the Add Remote Server dialog box. Select the type of remote you want to add (Windows or UNIX), and enter the configuration details. For details on the Microsoft Windows Remote Servers user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. For details on the UNIX Remote Servers user interface, see "UNIX Remote Servers User Interface" on page 1032.
Log file path	Enter the path to the log file you want to monitor. ➤ For reading log files on remote UNIX machines, the path must be relative to the home directory of the UNIX user account being used to log in to the remote machine. ➤ For reading log files on remote Windows NT/2000 servers using the NetBIOS method, use UNC to specify the path to the remote log file. **Example:** \\remoteserver\sharedfolder\filename.log ➤ For reading log files on remote Windows NT/2000 servers using the SSH method, specify the local path of the remote log file on the remote machine. **Example:** C:\Windows\System32\filename.log You must also select the corresponding remote Windows SSH server in the **Servers** box. For details on configuring a remote Windows server for SSH, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015. You can also monitor files local to the server where SiteScope is running. **Example:** C:\application\appLogs\access.log Optionally, you can use special date and time regular expression variables to match log file names that include date and time information. For example, you can use a syntax of s/ex$shortYear$$0month$$0day$.log/ to match a current date-coded log file. For details on using regular expressions, refer to "SiteScope Date Variables" on page 230.

GUI Element	Description
Run alerts	Select the method for running alerts for this monitor. ➤ If the **For each log entry matched** option is chosen, the monitor triggers alerts for every matching entry found. When the Log File monitor is run, the monitor never reports a status of error or warning, regardless of the results of the content match. For details on how to create a Log File monitor that triggers customized alerts for content matches, see "Customizing Log File Content Matches and Monitor Alerts" on page 577. ➤ If the **Once, after all log entries have been checked** option is chosen, then the monitor counts up the number of matches and then triggers alerts. **Note:** The **status** category is resolved according to the last content that matched the regular expression. If the last matched content does not meet the threshold measurement, an alert is not triggered.
Check from beginning	Select the file checking option for this monitor instance. This setting controls what SiteScope looks for and how much of the target file is checked each time that the monitor is run. ➤ **Never.** Checks newly added records only. ➤ **First time only.** Checks the whole file once, and then newly added records only. ➤ **Always.** Always checks the whole file. **Default value:** Never

GUI Element	Description
Content match	Enter the text to look for in the log entries. You can also use a regular expression in this entry to match text patterns. Unlike the content match function of other SiteScope monitors, the Log File Monitor content match is run repeatedly against the most recent content of the target log file until all matches are found. This means the monitor not only reports if the match was found but also how many times the matched pattern was found. To match text that includes more than one line of text, add an **s** search modifier to the end of the regular expression. For details, see "Using Regular Expressions" on page 217. You can also use the Regular Expression Test tool to check your regular expressions. For details, see "Regular Expression Tool" on page 197. **Note:** If you enter more than four values in this box, when you create a report by clicking the monitor title, the report includes only the first four values.
Advanced Settings	
Log file encoding	If the log file content to be monitored uses an encoding that is different than the encoding used on server where SiteScope is running, select the code page or encoding to use. This may be necessary if the code page which SiteScope is using does not support the character sets used in the target log file. This enables SiteScope to match and display the encoded log file content correctly. **Default value:** windows-1252
Rules file path	In rare cases, it may be necessary to create a custom rules file to specify the log entries to match and the alerts to send. An example rules file is located in **<SiteScope root directory>\conf\examples\sample.rules**. Make a copy of this file and rename. There is no required naming convention. Open the file with the editor of your choice, and using the comments as a guideline, edit the file to meet your needs. When you are finished, enter the full path to your rules file in this box.

GUI Element	Description
Match value labels	Use this option to enter labels for the matched values found in the target log file. The match value labels are used as variables to access retained values from the **Content match** expression for use with the monitor threshold settings. Separate multiple labels with a comma (,). The labels are used to represent any retained values from the **Content match** regular expression in the parameters available for the status threshold settings (Error if, Warning if, and Good if). These labels are also displayed as the text labels in graphs generated for the retained values in management reports for this monitor. **Note:** If you enter more than four values in this box, when you create a report by clicking the monitor title, the report includes only the first four values.
Multi-line match	Select to run a regular expression match on multiple lines of text. **Default value:** Not selected

GUI Element	Description
No error if file not found	Select if you want this monitor to remain in Good status if the file is not found. The monitor status remains Good regardless of the monitor threshold configuration. **Default value:** Not selected
Server-side processing	Select to process log file data on the server-side. Benefits include low memory usage and low CPU utilization on the SiteScope server, and faster monitor run. Server-side processing does however cause high CPU utilization on the remote server when processing the file. **Default value:** Not selected (we recommend using this option only if SiteScope performance is affected by large amounts of data being appended to the target log file between monitor runs, and the Log File monitor is performing badly in regular mode). **Note:** ➤ Server-side processing is enabled for remote Linux, RedHat Enterprise Linux, and Sun Solaris servers only. Windows SSH is not supported. ➤ "Rule files" are not supported in this mode. ➤ The encoding for the remote server must be Unicode, or match the encoding of the log file (if the remote file is in Unicode charset).

Multi Log Monitor Settings

Description	The Multi Log Monitor checks for specific entries added to a log file by looking for entries containing a text phrase or a regular expression. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor is available only when SiteScope is configured with System Health. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Multi Log File Monitor Overview" on page 578

Multi Log Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the files you want to monitor are located.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the Add Remote Server dialog box. Select the type of remote you want to add (Windows or UNIX), and enter the configuration details. For details on the Microsoft Windows Remote Servers user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. For details on the UNIX Remote Servers user interface, see "UNIX Remote Servers User Interface" on page 1032.

GUI Element	Description
Log file directory	Enter the path to the log file you want to monitor. The monitor runs on all files in the directory. ➤ For reading log files on remote UNIX machines, the path must be relative to the home directory of the UNIX user account being used to log into the remote machine. ➤ For reading log files on remote Windows NT/2000 servers using the NetBIOS method, use UNC to specify the path to the remote log file. **Example:** \\remoteserver\sharedfolder\filename.log ➤ For reading log files on remote Windows NT/2000 servers using the SSH method, specify the local path of the remote log file on the remote machine. **Example:** C:\Windows\System32\filename.log You must also select the corresponding remote Windows SSH server in the **Servers** box. For details on configuring a remote Windows server for SSH, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015. You can also monitor files local to the server where SiteScope is running. **Example:** C:\application\appLogs\access.log Optionally, you can use special date and time regular expression variables to match log file names that include date and time information. For example, you can use a syntax of s/ex$shortYear$$0month$$0day$.log/ to match a current date-coded log file. For details on using regular expressions, refer to "SiteScope Date Variables" on page 230.

GUI Element	Description
Content match	Enter the text to look for in the log entries. You can also use a regular expression in this entry to match text patterns. Unlike the content match function of other SiteScope monitors, the Log File Monitor content match is run repeatedly against the most recent content of the target log file until all matches are found. This means the monitor not only reports if the match was found but also how many times the matched pattern was found. To match text that includes more than one line of text, add an **s** search modifier to the end of the regular expression. For details, see "Using Regular Expressions" on page 217. You can also use the Regular Expression Test tool to check your regular expressions. For details, see "Regular Expression Tool" on page 197. **Note:** If you enter more than four values in this box, when you create a report by clicking the monitor title, the report includes only the first four values.
File name match	Enter the file name to look for in the log entries. You can also use a regular expression in this entry to match text patterns.
Search from start	Select to search for the specified content from the beginning of the directory. **Default value:** Cleared
Match value labels	Use this option to enter labels for the matched values found in the target log file. The match value labels are used as variables to access retained values from the **Content match** expression for use with the monitor threshold settings. Separate multiple labels with a comma (,). The labels are used to represent any retained values from the **Content match** regular expression in the parameters available for the status threshold settings (Error if, Warning if, and Good if). These labels are also displayed as the text labels in graphs generated for the retained values in management reports for this monitor. **Note:** If you enter more than four values in this box, when you create a report by clicking the monitor title, the report includes only the first four values.

Script Monitor Settings

Description	The Script Monitor runs an external command and reports the result. It is one way to integrate existing system management scripts into the SiteScope environment. The Script Monitor can be tailored to run scripts at regular intervals. In addition to reporting the command result, the Script Monitor can also parse and report a specific value from the command output. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When deploying a Script monitor from a template, the case of the remote script name must match that of the script in the scripts subdirectory. Otherwise, the selected script is shown as 'none'.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Script Monitor Overview" on page 579

Script Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the script you want to run is stored. Select a server from the server list (only those Windows and UNIX remote servers configured in SiteScope via SSH are displayed). The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Add Remote Server	Click to open the Add Remote Server dialog box. Select the type of remote you want to add (Windows or UNIX), and enter the configuration details. For details on the Microsoft Windows Remote Servers user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. For details on the UNIX Remote Servers user interface, see "UNIX Remote Servers User Interface" on page 1032.

GUI Element	Description
Script	Select the script to run. Only scripts placed into the <**SiteScope root directory**>**scripts** directory may be used. In that directory, there are several examples scripts with comments describing each one. If you choose USE COMMAND, your must also specify a USE COMMAND script file name in the **Remote script command file** field below. SiteScope sends the command or commands found in the USE COMMAND script file to be run as a command line on the remote UNIX Machine. Script files for the USE COMMAND option must be created in the <**SiteScope root directory**>**scripts.remote** directory. **Example:** Create a file named **test.sh** and save it in the <**SiteScope root directory**>**scripts.remote** directory. Edit **test.sh** to include the command syntax ps -ef;echo "all done" as the content of the file. Then create a Script monitor with the USE COMMAND option selected, select a remote UNIX machine, and select test.sh as the USE COMMAND script to run. **Note:** The **diskSpace.bat** script accepts only two required parameters: host name and physical drive name. Because the connection to the remote host is made using the current SiteScope account, you can only use this script if SiteScope can access this account. If the specified account does not have the privileges to access the remote host, we recommend that you use the Disk Space monitor instead.
Parameters	Use to specify any additional parameters to pass to the script. Optionally, you can use a regular expression or one of SiteScope's date variables to insert date and time into the parameters box. **Example:** s/$month$ day $year$/ passes the current month, day and year to the script. **Syntax exceptions:** SiteScope cannot pass the following characters to scripts: ` ; & | < >

GUI Element	Description
Output encoding	If the command output uses an encoding that is different than the encoding used on the server where SiteScope is running, select the code page or encoding to use. This enables SiteScope to match and display the encoded file content correctly. **Default value:** windows-1252
Match value labels	Enter labels for the matched values found in the script output. The matched value labels are used as variables to access retained values from the match expression for use with the monitor threshold settings. These labels are also displayed as the text labels in graphs generated for the retained values in management reports for this monitor. **Example:** Enter Copyright_start, Copyright_end to represent the copyright date range used in the **Match expression** field. After the monitor runs, these labels are displayed in the Condition list in Threshold Settings, enabling you to set status threshold settings (Error if, Warning if, and Good if) for the matched value. **Note:** ➤ Separate multiple labels with a comma (,). ➤ You can set up to 10 labels.

GUI Element	Description
Match expression	To retrieve a value from the script output, enter a regular expression in this box. For example, the expression: /(\d+)/ matches one or more digits returned by the script. Use parentheses to allow the monitor to retrieve these values as counters. By using the labels in **Match value labels**, these counters can be automatically assigned with a customized name and you can define thresholds for them. The retrieved value can be used to set the error or warning status of the monitor and to trigger alerts. SiteScope checks up to four values returned. **Example:** /([UDTCP]{3,4})\s*([\w\d\W]{5,35}\:\d+)\s*([\w\d\W]{5,35}\:\d+)\s*([A-Z]{5,35})/s could be used to match and retain values from the four columns of the following command output: TCP planetcom:2664 COMSRVF01:2412 ESTABLISHED **Note:** ➤ If this item is left blank, no value is retrieved from the script. ➤ You can use up to 10 sets of parentheses to retain multiple values from the script output.

GUI Element	Description
Remote script command file	If you have selected the USE COMMAND as the Script option and a remote machine as the Server, select the script file that contains the commands that SiteScope should send to the remote machine. You can save one or more commands in the text script file and save the file in the <**SiteScope root directory**>**scripts.remote** directory. SiteScope opens this file and runs the command at the command line of the remote server chosen in the **Choose Server** option above. You can then use the Match Expression option to parse the output of the command and display valuable information. The USE COMMAND script can make use of positional parameters such as $1, $2 (or alternatively %1, %2), and so on, inside the script. Enter the parameters you want SiteScope to pass to the script in the Parameters box provided above. You can use one or more commands per USE COMMAND script file. **Default value:** none **Syntax exception:** Do not include any carriage returns or any command that would normally discontinue script processing (for example, do not use the exit command).
Cache life (seconds)	Use this option only if you want to use multiple Script monitor instances to check or match on content returned by a single run of a script. ➤ Enter a time value (in seconds) greater than zero to have SiteScope cache the output of the script execution. Each time the monitor is run, SiteScope checks if the cache life has expired. If it has not, then the monitor uses the cached script output data, otherwise the script is run again to update the cache and the monitor. ➤ Enter a value of **0** (zero) to disable the cache function. This causes the monitor to run the script each time that it runs. **Default value:** 0

GUI Element	Description
Measurement maximum (milliseconds)	Enter a maximum value, in milliseconds, for creating the gauge display. **Example:** If the runtime of the script is 4 seconds, and this value is set to 8 seconds (8000 milliseconds), the gauge shows at 50%. **Default value:** 0

Web Service Monitor Settings

Description	The Web Service Monitor is used to check Simple Object Access Protocol (SOAP) enabled Web services for availability and stability. The Web Service Monitor sends a SOAP based request to the server and checks the response to verify that the service is responding. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Web Service Monitor Overview" on page 586

Web Service Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
WSDL Settings	
Web Service Descriptor Language	Select one of the following options: ➤ **File.** Select the WSDL file to be used for this monitor. This list reflects the files found by searching on **<SiteScope root directory>\templates.wsdl/*.wsdl**. ➤ **URL.** Enter the URL of the WSDL file to be used for this monitor. Your WSDL files must have the extension **.wsdl**.
Service name	Select the name of the service to be invoked. During initial setup, this is extracted from the WSDL file.
Port name	Select the name of the port to be invoked. During initial setup, this is extracted from the WSDL file.
Method name	Select the name of the method to be invoked. During initial setup, this is extracted from the WSDL file. Clicking the **Get Methods** button causes the specified WSDL file to be retrieved and analyzed for method arguments. The ensuing page displays the argument list and structure, if any, that needs actual input values.
Method name space	The XML name space for the method in the SOAP request. During initial setup, this value is extracted from the WSDL file.
Schema name space	The XML name space for the schema in the SOAP request. During initial setup, this value is extracted from the WSDL file.
SOAP action	The SOAP action URL in the header of the SOAP request to the Web Service. During initial setup, this is extracted from the WSDL file.

GUI Element	Description
Name of arguments	Shows the name and type/structure of the arguments to the method specified above. SiteScope supports both simple (primitive) and complex (user-defined using XML schema) types. Simple type arguments appear in the form: parm-name(parm-type) = where you need to enter the parameter value to be used in invoking the Web service after the equal sign. Strings with embedded spaces should be enclosed in double quotes. Each parameter must be in a separate line, that is, do not remove the carriage return at the end of each parameter. A complex type parameter is displayed as one long string, with needed input fields marked with asterisks (***). An example of a complex type parameter is shown below: stocksymbol[COMPLEX] =<stocksymbol xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:fw100="urn:ws-stock" xsi:type="fw100:getQuote"> <ticker xsi:type="xsd:string">***</ticker></stocksymbol> You must replace these occurrences of asterisks with meaningful values of the required type (in the example above, xsd:string), otherwise the Web service request may fail. Do not add any carriage returns within a complex type parameter. If the Web service method does not take any parameters, the text box must be empty.
Use user-defined SOAP XML	Select this check box to use the XML in the **Use SOAP XML** box. This enables you to use XML that has been manually defined.

GUI Element	Description
Use SOAP XML	Displays the SOAP XML for the selected Web service extracted from the WSDL file. You can make changes to the default XML, and use the manually defined XML in this box by selecting the **Use User-Defined SOAP XML** check box.
Main Settings	
Request's schema	The request schema. Currently SiteScope only supports SOAP.
Timeout (seconds)	Enter the total time, in seconds, that SiteScope should wait for the Web service request to complete. **Default value:** 5 seconds
Use .NET SOAP	Select this check box if the Web service is based on Microsoft .NET.
Content match	Enter a string of text to check for in the returned page or frameset. If the text is not contained in the page, the monitor displays the message no match on content. HTML tags are part of a text document, so include the HTML tags if they are part of the text you are searching for. This works for XML pages as well. **Example:** "< B> Hello< /B> World" You may also perform a regular expression match by enclosing the string in forward slashes, with an i after the trailing slash to indicate that the search is not case sensitive. **Example:** /href=Doc\d+\.html/ or /href=doc\d+\.html/i If you want a particular piece of text to be saved and displayed as part of the status, use parentheses in a Perl regular expression. **Example:** /Temperature: (\d+) **Note:** The search is case sensitive.

GUI Element	Description
HTTP Settings	
Web service server URL	Shows the URL of the Web service server to be monitored.
HTTP user agent	The HTTP user agent for the SOAP request.
HTTP content type	The content type of the HTTP request.
Proxy Settings	
HTTP proxy	(Optional) A proxy server can be used to access the URL. Enter the domain name and port of an HTTP Proxy Server.
Proxy server user name	If the proxy server requires a name and password to access the URL, enter the name here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy server password	If the proxy server requires a name and password to access the URL, enter the password here. **Note:** Your proxy server must support Proxy-Authentication for these options to function.
Login Settings	
NTLM domain	If the Web service requires NTLM / Challenge Response authentication, a domain name is required as part of your credentials (as well as a user name and password below).

GUI Element	Description
Authorization user name	If the web service requires a user name and password for access (Basic, Digest, or NTLM authentication), enter the user name in this box. Alternately, you can leave this entry blank and enter the user name in the Default Authentication Credentials section on the General Preferences page. You use this alternate method to define common authentication credentials for use with multiple Web Service monitor.
Authorization password	If the web service requires a user name and password for access (Basic, Digest or NTLM authentication), type the password in this box. Alternately, you can leave this entry blank and enter the password in the Default Authentication Credentials section on the General Preferences page. You use this alternate method to define common authentication credentials for use with multiple Web Service monitor.

XML Metrics Monitor Settings

Description	The XML Metrics Monitor allows you to monitor metrics for systems that make performance data available in the form of an XML file or page. The error and warning thresholds for the monitor can be set on one or more different objects. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"XML Metrics Monitor Overview" on page 591

XML Metrics Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
XML URL	Enter the URL of the XML page or file that contains the metrics that you want to monitor.
XSL file	Convert the XML metrics file into a format that SiteScope can use.

GUI Element	Description
Authorization NTLM domain	Enter the domain for NT LAN Manager (NTLM) authorization if it is required to access the URL.
Pre-emptive authorization	Select when the Authorization user name and Authorization password should be sent if SiteScope requests the target URL. ➤ **Use global preference.** Select to have SiteScope use the authenticate setting as specified in the Pre-emptive authorization section of the General Preferences page. This is the default value. ➤ **Authenticate first request.** Select to send the user name and password on the first request SiteScope makes for the target URL. **Note:** If the URL does not require a user name and password, this option may cause the URL to fail. ➤ **Authenticate if requested.** Select to send the user name and password on the second request if the server requests a user name and password. **Note:** If the URL does not require a user name and password, this option may be used. All options use the **Authorization user name** and **Authorization password** entered for this monitor instance. If these are not specified for the individual monitor, the **Default authentication user name** and **Default authentication password** specified in the Main section of the General Preferences page are used, if they have been specified. **Note:** Pre-emptive authorization does not control if the user name and password should be sent, or which user name and password should be sent.
Timeout (seconds)	The number of seconds that the monitor should wait the XML page to complete downloading before timing-out. Once this time period passes, the monitor logs an error and reports an error status. **Default value:** 60 seconds

GUI Element	Description
Authentication Settings	
Authorization user name	If the URL with the XML content you want to monitor requires a user name and password to access it, enter the user name in this box.
Authorization password	If the URL with the XML content you want to monitor requires a name and password for access, enter the password in this box.
Proxy server	If you must use a proxy server to access the XML URL, enter the host or domain name and port of the proxy server in this box.
Proxy server user name	If you use a proxy server and the proxy requires a name and password to access the target URL, enter the user name in this box. **Note:** The proxy server must support Proxy-Authenticate for these options to function.
Proxy server password	If you use a proxy server and the proxy requires a name and password to access the target URL, enter the password in this box. **Note:** The proxy server must support Proxy-Authenticate for these options to function.
Accept untrusted certificates for HTTPS	Check this option if you need to use certificates that are untrusted in the cert chain to access the target XML URL using Secure HTTP (HTTPS). **Default value:** Not selected
Accept invalid certificates for HTTPS	Check this option if you need to accept an invalid certificate to access the target XML URL using Secure HTTP (HTTPS). This may happen, for example, if the current date is not in the date ranges specified in the certificate chain. **Default value:** Not selected

GUI Element	Description
Counter Settings	
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

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Network Monitors

This chapter includes the main concepts and reference information for monitoring network health and availability.

This chapter includes:

Concepts

Reference

DHCP Monitor Overview

Use the DHCP Monitor to monitor your DHCP servers to verify that they are working properly. If your DHCP server fails, machines relying on DHCP are unable to acquire a network configuration when rebooting. Additionally, as DHCP address leases expire on already-configured machines, those machines drop off the network when the DHCP server fails to renew their address lease.

Most networks have a DHCP server listening for DHCP requests. This monitor finds DHCP servers by broadcasting a request for an IP address and waiting for a DHCP server to respond.

Note: This monitor requires that a third-party Java DHCP library be installed on the server where SiteScope is running. The DHCP Monitor type does not appear in the interface until this library is installed. See the section on Installation of DHCP Software Library below for more information.

This section contains the following topics:

Installation of DHCP Software Library

The SiteScope DHCP Monitor uses the jDHCP library, available from http://www.dhcp.org/javadhcp/. After downloading the library (either in .zip or in .tar.gz format), extract the file named **JDHCP.jar** and place it in the **<SiteScope root directory>\WEB-INF\lib** directory, such that the file is located at **<SiteScope root directory>\WEB-INF\lib\JDHCP.jar**. After installing the **JDHCP.jar** file, restart the SiteScope service.

Scheduling This Monitor

Each time the DHCP Monitor runs, it returns a status and writes it in the monitoring log file. It also writes the total time it takes to receive and release an IP address in the log file. Your DHCP server is a critical part of providing functionality to other hosts on your network, so it should be monitored about every 10 minutes.

For details on configuring this monitor, see “DHCP Monitor Settings” on page 657.

DNS Monitor Overview

Use the DNS Monitor to monitor your DNS servers to verify that they are working properly. If your DNS server is not working properly, you cannot get out on the network, and people trying to reach your server are not able to find it using the server name (they can connect to it using the IP address only).

Most companies have both a primary and a secondary DNS server. If your company employs a firewall, these DNS servers may sit outside the firewall with another DNS server located inside the firewall. This internal DNS server provides domain name service for internal machines. It is important to monitor all of these servers to check that each is functioning properly.

Scheduling This Monitor

If you have both a primary and secondary DNS server outside your firewall and an internal DNS server inside your firewall, you should monitor your internal server and your primary DNS server every 2-5 minutes. You can monitor the secondary DNS server less frequently (about every 10-15 minutes).

For details on configuring this monitor, see “DNS Monitor Settings” on page 658.

FTP Monitor Overview

If you provide FTP access to files, it is important to check that your FTP server is working properly. Use the FTP monitor to check FTP servers to insure the accessibility of FTP files.

This section contains the following topics:

Setup Requirements

To use this monitor, you must:

- have network access to an FTP server
- know the relative paths, if any, to the files on the FTP server
- know an applicable user name and password to access the files
- know the filenames of one or more files available for FTP transfer

In addition to retrieving specific files, the FTP Monitor can help you verify that the contents of files, either by matching the contents for a piece of text, or by checking to see if the contents of the file ever changes compared to a reserve copy of the file.

While you may have many files available for FTP from your site, it is not necessary to monitor every one. We recommend that you check one small file and one large file.

A common strategy is to monitor a small file every 10 minutes or so just to verify that the server is functioning. Then schedule a separate monitor instance to FTP a large file once or twice a day. You can use this to test the ability to transfer a large file without negatively impacting your machine's performance. You can schedule additional monitors that watch files for content and size changes to run every 15 minutes to half hour. Choose an interval that makes you comfortable.

If you have very important files available, you may also want to monitor them occasionally to verify that their contents and size do not change. If the file does change, you can create a SiteScope alert that runs a script to automatically replace the changed file with a back-up file.

Status

The reading is the current value of the monitor. Possible values are:

- OK
- unknown host name
- unable to reach server
- unable to connect to server
- timed out reading
- content match error
- login failed
- file not found
- contents changed

The status is logged as either good or error. An error status is returned if the current value of the monitor is anything other than OK.

For details on configuring this monitor, see "FTP Monitor Settings" on page 660.

Formula Composite Monitor Overview

Use this monitor if you have devices or systems in your network that return values that you want to combine in some way to produce a composite value. The following monitor types can be used to build a Formula Composite Monitor:

- Database Query monitor. For more information see “Database Query Monitor Overview” on page 527.
- Microsoft Windows Performance Counter Monitor. For more information see “Microsoft Windows Performance Counter Monitor Overview” on page 705.
- Script Monitor. For more information see “Script Monitor Overview” on page 579.
- SNMP Monitor. For more information see “SNMP Monitor Overview” on page 652.

If you need alert logic that is more complex than SiteScope's standard alerts allow, you can use the Formula Composite Monitor to a create custom alert behavior. For example, if you have two parallel network devices that record network traffic but the values need to be combined to produce an overall figure of network traffic. This monitor may also be used to combine the results returned by scripts run on two different machines.

Each time the Formula Composite Monitor runs, it returns a status based on the measurement results of the two subordinate monitors and the calculation specified for the composite monitor.

Notes and Limitations

- You must create at least two individual Script, SNMP, Database Query or Microsoft Windows Performance Counter monitor instances before you can set up a Formula Composite Monitor for those monitors.
- The monitors you create for use with a Formula Composite monitor should be configured to return a single value per monitor. This is generally simple with SNMP monitors. Database Query and Script monitors should use queries and scripts that return a single value. For Microsoft Windows Performance Counter monitors, you can use the (Custom Object) option for the **PerfMon Chart File** setting and then specify a single performance **Object**, **Counter**, and **Instance** (if applicable) in the Microsoft Windows Performance Counter Monitor Settings section of the monitor setup. If a subordinate monitor is configured to return more than one numeric measurement, only the first numeric measurement from that monitor instance is used by the Formula Composite Monitor.
- You should only use the Formula Composite monitor for calculations that you consider to be compatible data types. The monitor does not verify that the data returned by the subordinate monitors are compatible.
- You can select two different types of monitors as subordinate monitors of a Formula Composite monitor. For example, one monitor may be a Script monitor and the other may be a Database Query monitor.
- Moving any of the monitors being used by the Formula Composite Monitor causes the composite monitor to report an error. If it is necessary to move either of the underlying monitors, recreate or edit the Formula Composite Monitor to select the monitor from its new location.

  For details on configuring this monitor, see “Formula Composite Monitor Settings” on page 663.

Mail Monitor Overview

The Mail Monitor checks that the mail server is accepting requests, and also verifies that a message can be sent and retrieved. It does this by sending a standard mail message using SMTP and then retrieving that same message by using a POP user account. Each message that SiteScope sends includes a unique key that it checks to insure that it does not retrieve the wrong message and return a false OK reading. Each time the Mail Monitor runs, it returns a status and writes it in the log file. It also writes the total time it takes to send and receive the mail message in the log file. If SiteScope is unable to complete the entire loop, it generates an error message.

We recommend that you monitor your primary mail server at least every five minutes. The other mail servers can be monitored less frequently. You may find it useful to set up a special mail account to receive the test e-mail messages send by SiteScope.

For details on configuring this monitor, see “Mail Monitor Settings” on page 665.

MAPI Monitor Overview

The MAPI Monitor checks a Messaging Application Program Interface (MAPI) server to confirm that e-mail operations can be run. The monitor is designed to test the operation of a Microsoft Exchange Server. It verifies that the server is accepting requests, and also verifies that a message can be sent and retrieved. It does this by sending a standard e-mail and deleting the mail if the message is successfully sent and received. If the received part of the monitoring fails (for example, because of a delay in sending the e-mail or due to a short timeout for receiving the mail) the test mail remains in the mailbox. The error and warning thresholds for the monitor are set based on the e-mail delivery time. Create a separate MAPI monitor instance for each Microsoft Exchange server in your environment.

Note: This monitor is supported in SiteScopes that are running on Windows versions only.

This section contains the following topics:

System Requirements

There are several important configuration requirements that must be performed or verified before the MAPI Monitor can be used. This section describes the steps you use to configure your environment for this monitor. The following are several definitions that are used in the steps listed below.

- **Local Administrator.** An account that has administrative privileges on the local machine. An account can have this privilege either implicitly by having Domain Admin privileges or explicitly by adding as a member of the Administrators group on the local machine. Consult your system administrator, if necessary, for help with creating accounts.
- **MailBox Owner.** This is an "owner" account for which an Exchange mailbox has been set up. To use the MAPI Monitor, this account must be a Local Administrator (see definition above) on the SiteScope server.
- **SiteScope User.** This is the account that is used to run the SiteScope service. This account must also be a Local Administrator (see definition above).

Before creating a MAPI Monitor, you must perform the setup steps as described in “Preparing the System for Using the MAPI Monitor” below.

Preparing the System for Using the MAPI Monitor

Before creating a MAPI Monitor, perform the following setup steps:

1 Create mailbox accounts on each Exchange Server to be monitored with the MAPI monitor.

Exchange mailbox accounts are used by SiteScope to measure the roundtrip time for a message to originate and arrive in a mailbox account. The MAPI Monitor setup page supports up to two mailboxes per Exchange Server. If only one mailbox is specified on the MAPI Monitor setup page the same mailbox can be used for the sender and receiver accounts. Consult your Exchange system administrator if you need help setting up mailbox accounts for use with the SiteScope MAPI monitor.

2 Add each Exchange Mailbox Owner to the Administrators users group on the SiteScope server.

The Mailbox Owner accounts setup in step 1, which are by definition domain logons, must be added as to the Administrators group on the SiteScope server.

- Click **Start** > **Settings** > **Control Panel** > **Users and Passwords** > **Advanced tab** or open the Computer Management utility and expand the **Local Users and Groups** folder in the left pane and click the **Groups** folder.
- Double-click the Administrators group icon to open the Administrators Properties window.
- Click the **Add** button to add each Mailbox Owner you expect to use with the MAPI Monitor.

Note: Make sure that the domain logon description is of the form domain\logon.

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3 Install Microsoft Outlook or an equivalent MAPI 1.0 mail client on the SiteScope server.

The SiteScope server requires a MAPI 1.0 client such as Outlook XP or Outlook 2003 or later. Consult your system administrator, if necessary, for help installing a compliant MAPI client.

4 Configure Outlook for the MailBox User.

After logging in to the SiteScope server as the MailBox User created in step 1 the Outlook wizard may start for setting up an Outlook profile for the mail box. If an Outlook client is already installed, then you may run that Outlook client and click **Tools** > **e-mail Accounts** to create a profile for the mailbox/logon you intend to use with the MAPI Monitor. See your Exchange System administrator for help configuring an Outlook client on your SiteScope server if necessary.

Creating an Outlook profile is not necessary, although it may be helpful for the purpose of troubleshooting. Once the wizard prompts you to set up a profile you can cancel to exit the wizard.

5 Verify that the SiteScope user logon is a member of Administrators group or a domain administrator account.

Important: The SiteScope user account must be a Local Administrator or be a member of the domain admins group.

To change the logon account for the SiteScope user:

- Open the **Services** control utility on the SiteScope server.
- Right-click the **SiteScope** service entry and click **Properties**. The SiteScope Properties settings page opens.
- Click the **Log On** tab.
- Verify that the SiteScope user is run as a member of Administrators group or a domain logon account. To change the logon properties, click the **This account** radio button and enter the SiteScope user logon.
- Restart the SiteScope server after making changes to the SiteScope service logon account.

6 Add the SiteScope user account to the "Act as part of the operating system" local security policy.

To add the SiteScope user account to the "Act as part of the operating system" local security policy.

- Click **Start** > **Programs** > **Administrative Tools** > **Local Security Policy**. The Local Security Policy panel opens.
- Click the **Local Policies** folder in the left pane and then click the **User Rights Assignments** folder to display the list of policies.
- Double-click the **Act as part of the operating system** policy item in the right pane. The Local Security Policy Setting list opens.
- If the SiteScope user is not in the list of logons for this security policy setting then it must be added now. Click the **Add** button to bring up the Select Users or Groups window.

- Enter the SiteScope user logon using the **domain\logon** format if the SiteScope user is a domain account.
- After adding the SiteScope service logon, you must reload the security settings. To do this, right-click the **Security Settings** root folder in the left pane and click **Reload**.
- Restart the SiteScope service after making changes to security policy.

For details on configuring this monitor, see "MAPI Monitor Settings" on page 670.

Microsoft Windows Dial-up Monitor Overview

Use the Microsoft Windows Dial-up Monitor to measure the availability and performance of your Internet applications from a dial-up user's perspective. The Microsoft Windows Dial-up Monitor can also be used to monitor the availability and performance of remote access servers.

Note: This monitor is supported in SiteScopes that are running on Windows versions only.

If you are primarily interested in dial-up availability, then you can just have the Microsoft Windows Dial-up Monitor try to connect, and if successful, run one or two low impact monitors to verify that the connection is operating properly. If you are more interested in the perspective of a dialup user, then running a suite of monitors that represent typical user tasks gives you more complete assessment.

To set up the Remote Access Service on a Windows NT machine, go to the Network Control Panel, and add the service. At that time you also have the option of adding one or more modems as Remote Access modems. At least one of the modems has to have dial out capability for this monitor to work.

This section contains the following topics:

Notes and Limitations

- The Microsoft Windows Dial-up Monitor should not be used on a machine that is used for accessing resources outside of the local network. This is because the monitor uses Remote Access, which affects the entire machine's network connectivity when it establishes a connection. For example, if you are using a Web browser on the machine where SiteScope is running a Microsoft Windows Dial-up Monitor, and the Microsoft Windows Dial-up Monitor is connected, all the requests by the browser out to the Internet also use the dial-up connection. This affects the speed of the browser and the reading from the Microsoft Windows Dial-up Monitor.
- The Microsoft Windows Dial-up Monitor prevents the other SiteScope monitors (those not being run by this Dial-up Monitor) from running while the dial-up connection is established (they are held up until the Microsoft Windows Dial-up Monitor is completed).
- No two Microsoft Windows Dial-up Monitors are run at the same time.
- The Microsoft Windows Dial-up Monitor uses the dial-up connection only for requests outside of the local network. If you have monitors that access network resources on the local network, their readings are the same as if the Microsoft Windows Dial-up Monitor was not used. However, monitors that access network resources outside the local network use the dial-up connection. For example, if you ran two Ping monitors in the Microsoft Windows Dial-up Monitor, one of which was yourserver.com (on the local network), and the other of which was externalserver.com (on an external network), the yourserver.com Ping would be very fast, because it would use the LAN, while the externalserver.com Ping would take longer, because it would go through the dial-up connection.

Scheduling This Monitor

The Microsoft Windows Dial-up Monitor stops other monitors from running while it is connected, so you should take into account the number and kinds of monitors that are running while the connection is established as well as the number of other monitors that are running. If SiteScope is running only Microsoft Windows Dial-up Monitors, then you can schedule them more frequently (every 5 or 10 minutes). However, if you are monitoring many other items, choose a large interval (hours), so that other monitoring is not disrupted.

Only one Microsoft Windows Dial-up Monitor can run at a time, so if you have more than one Microsoft Windows Dial-up Monitor, take that into account when scheduling the monitors.

Status

Each time the Microsoft Windows Dial-up Monitor runs, it returns a reading and status message and writes them in the monitoring log file. The reading is the current value returned by the monitor. For example, "5 of 5 monitors OK in 55 sec", or "The line was busy". The status is logged as either OK or warning.

For reports, the Microsoft Windows Dial-up Monitors saves the total time taken (to connect and run the monitors), the connect time (the time for the modem to establish a physical connection), the authorization time (the time after physical connection is established before the connection can actually be used), and the percentage of the monitors run that were OK.

For details on configuring this monitor, see “Microsoft Windows Dial-up Monitor Settings” on page 673.

Network Bandwidth Monitor Overview

Use the Network Bandwidth Monitor to monitor SNMP-enabled network appliances such as routers and switches. The Network Bandwidth Monitor operates like many other browsable monitors to gather information from a source and enable the user to choose which items in the tree it should monitor. It works by connecting to the specified network component and returning a list of interfaces.

The MIB files in <**SiteScope root directory**>**templates.mib** are used to create a browsable tree that contains names and descriptions of the objects found during the traversal. Note that an object may or may not be displayed with a textual name and description, depending on the MIB's available in <**SiteScope root directory**>**templates.mib**. SiteScope does not display objects for user selection when it has no knowledge of how to display those objects. For example, a plain OctetString may contain binary or ascii data, but SiteScope has no way to decode and display this data correctly without more information.

Performing Sanity Checks

By default, SiteScope performs a sanity check for every run of the monitor. This checks that the values returned by the monitor are in the valid range. You can also choose to disable these sanity checks.

To disable the sanity checks, clear the **Network Bandwidth monitor sanity check** box in the Infrastructure Settings page (**Preferences** > **Infrastructure Settings** > **Monitor Settings**).

For details on configuring this monitor, see "Network Bandwidth Monitor Settings" on page 675.

Ping Monitor Overview

The Ping Monitor obtains two of the most common measurements used to determine if your network connection is congested: Round Trip Time and Loss Percentage. An increase of either of these suggests that you are experiencing problems.

In the case of Loss Percentage, you want to see a 0% reading. A 100% reading indicates your link is completely down. Some loss may happen occasionally, but if it becomes common, either some packets are being lost or the router is exceptionally busy and dropping packets.

Each time the Ping Monitor runs, it returns a reading and a status message and writes them in the monitoring log file. It also writes the total time it takes to receive a response from the designated host in the log file.

This section contains the following topics:

What to Monitor

We recommend that you set up monitors that test your connection to the Internet at several different points. For example, if you have a T1 connection to a network provider who in turn has a connection to the backbone, you would want to set up a Ping Monitor to test each of those connections. The first monitor would ping the router on your side of the T1. The second would ping the router on your provider's side of the T1. The third monitor would ping your provider's connection to the backbone.

In addition to these monitors, it is also a good idea to have a couple of other monitors ping other major network providers. These monitors do not really tell you whether the other provider is having a problem, but it does tell you if your network provider is having trouble reaching them.

Scheduling This Monitor

You can monitor your own router as often as every two minutes without compromising system performance. The monitors that watch your provider's connection to your line and to the backbone should only be run every ten minutes or so. This minimizes traffic while still providing you with sufficient coverage.

For details on configuring this monitor, see “Ping Monitor Settings” on page 680.

 Port Monitor Overview

Use the Port Monitor for monitoring network applications that none of the other SiteScope monitors watch such as Gopher and IRC services, some media services, or other custom network applications. You are notified immediately if SiteScope is unable to connect to the monitored port.

This section contains the following topics:

Scheduling This Monitor

Scheduling Port monitors depends on the application or system you are monitoring. The Port Monitor does not use many resources, so you can schedule it to run as often as every 15 seconds if necessary. Monitoring most systems every 10 minutes is normally sufficient.

Status

Each time the Port Monitor runs, it returns a status message and writes it in the monitoring log file. It also writes the total time it takes to receive a response from the remote service.

The reading is the current value of the monitor. The possible values for the Port Monitor are:

- OK
- unknown host name
- unable to reach server
- unable to connect to server
- timed out reading
- match error

The status is logged as either good or error. An error status is returned if the current value of the monitor is anything other than OK.

For details on configuring this monitor, see “Port Monitor Settings” on page 682.

SNMP Monitor Overview

Use the SNMP Monitor to monitor devices that communicate with the SNMP protocol, such as firewalls, routers, and UPS's. Several operating systems suppliers also provide SNMP agents and Management Information Bases (MIB's) for accessing workstation or server performance metrics, interface statistics, and process tables by using SNMP.

You can use the SNMP Monitor to watch any values known by the SNMP agent running on a device, provided that you can supply an OID that maps to that value. If your router supports SNMP, for example, you could have SiteScope monitor for packet errors, bandwidth, or device status.

Note: To have SiteScope listen for SNMP traps from multiple devices, use the SNMP Trap Monitor.

Setup Requirements

Requirements for using the SNMP Monitor include:

- SNMP agents must be deployed and running on the servers and devices that you want to monitor.
- The SNMP agents must be supplied with the necessary Management Information Bases (MIB's) and configured to read those MIB's.
- You must know the Object ID's (OIDs) of the parameters you want to monitor. In some cases, an equipment manufacturer may supply a list of OIDs that are available. Otherwise, you may need to locate a MIB browser utility to parse a MIB and extract the values of interest to you. The monitor supports monitoring agents of SNMP versions 1, 2, and 3. If you want the monitor to get you the next OID of the OID you entered, you can enter the OID with a plus sign (+) at the end of the OID (for example, 1.3.6.1.2.1.4.3+). For each monitor run, the monitor retrieves the next OID value and not the OID that you entered. This may be helpful if you want to reach one of the SNMP table columns.

For information about monitoring SNMP systems, refer to the HP Software Self-solve knowledge base (http://h20230.www2.hp.com/selfsolve/documents). To enter the knowledge base, you must log in with your HP Passport ID.

For details on configuring this monitor, see "SNMP Monitor Settings" on page 684.

SNMP Trap Monitor Overview

Note: To have SiteScope query a specific device for a specific value, use the SNMP Monitor.

Use the SNMP Trap Monitor for automatically collecting SNMP Traps from other devices. With SiteScope doing this for you at set intervals, you can eliminate the need to check for the SNMP Traps manually. In addition, you can be notified of warning conditions that you may have otherwise been unaware of until something more serious happened. Each time that it runs this monitor, SiteScope checks traps that have been received since the last time it ran.

You also must configure the network devices to send SNMP Traps to SiteScope. On Windows 2000 systems, this can be configured by using the **Administrative Tools** > **Services** > **SNMP Service** > **Properties** > **Traps** page. SNMP agents on UNIX platforms usually require that you edit the configuration files associated with the agent. For an example of working with other devices, see the instructions on the Cisco Web site for SNMP Traps and Cisco Devices.

Note: The SNMP Trap Monitor uses port 162 for receiving traps. If another application or process on the machine where SiteScope is running has bound this port, the monitor reports an **Address in use** error.

For details on configuring this monitor, see "SNMP Trap Monitor Settings" on page 689.

SNMP by MIB Monitor Overview

The SNMP by MIB Monitor gathers information from a source, organizes it into a browsable tree structure, and allows you to choose which items in the tree it should monitor. It works by connecting to the specified SNMP agent and performing a full traversal of the MIB's implemented by the agent. Thus, you do not need to know which objects are present on the agent in advance. The monitor supports agents of version 1, 2, and 3.

The MIB files in <**SiteScope root directory**>**templates.mib** are then used to create a browsable tree that contains names and descriptions of the objects found during the traversal. An object may or may not be displayed with a textual name and description, depending on the MIB's available in **templates.mib**. SiteScope does not display objects for user selection when it has no knowledge of how to display those objects. For example, a plain OctetString may contain binary or ascii data, but SiteScope has no way to decode and display this data correctly without more information.

Troubleshooting MIB Compilation

As mentioned above, you can add to the MIBs of which SiteScope is aware by putting new MIB files in the **templates.mib** directory. To recompile any new MIBs, you must restart SiteScope. Unfortunately, because MIB files may depend on other MIB files, and because ASN.1 syntax is not always obeyed completely by vendors, you may encounter compilation errors with some MIBs. Below is a series of steps you can follow when compiling new MIBs and troubleshooting compilation failures:

- To check compilation of the new MIB, you can use the command line tool, which is located in **<SiteScope root directory>\tools \SNMPMIBCompilation**. This tool enables you to check the new MIB compilation, so that you do not need to restart SiteScope for every change you make in the MIB file. The directory also contains a **ReadMe** file which explains how to use the tool.
- If the MIB is compiled using another tool (for example, MG-SOFT or iReasoning), you are not notified that the MIB file is compiled in SiteScope. The different compilers have different behaviors. Some are more restrictive than others.
- Add new MIB files to the **templates.mib** directory. SiteScope only compiles MIBs in ASN.1 format which abide by the SMIv1 or SMIv2 standards.
- Restart SiteScope.
- Proceed as if to add a new SNMP by MIB Monitor. Before adding the monitor, check to see that your new MIB files are listed in the MIB File drop-down box. If they are, then they were successfully compiled and you may now use the SNMP by MIB monitor and the SNMP by MIB tool to browse devices that implement these MIBs. If your newly added MIBs are not listed in the MIB File drop-down box, then proceed to the next step.
- Open the file **error.log** in the logs directory. Look for error messages about MIB compilation near the time of your most recent restart. The error messages in the file contain descriptions of compilation errors encountered in each file, together with the line number that helps you identify the source of the errors.

- Correct the errors found in **error.log**. Usually, these errors can be fixed by one of the following:
  - Adding a MIB to **templates.mib** on which some of the new MIBs depend.
  - Removing a MIB from **templates.mib** which is duplicated or upgraded in the new MIBs.
  - Fixing broken comments in the new MIBs. Note that a comment is defined as follows: "ASN.1 comments commence with a pair of adjacent hyphens and end with the next pair of adjacent hyphens or at the end of the line, whichever occurs first." This means that a line containing only the string "-----" is a syntax error, whereas the a line containing only the string "----" is a valid comment. Beware of lines containing only hyphens, as adding or subtracting a single hyphen from such lines may break compilation for that MIB.
  - Fixing missing IMPORT statements. Some MIBs may neglect to import objects that they reference which are defined in other MIBs. You can also search in Web sites for the error that you get in **error.log**. There is a lot of information about these errors on the Web.
- After correcting the errors described in **error.log**, restart SiteScope and follow the procedure above to verify that the new MIB files compiled correctly.

  For details on configuring this monitor, see "SNMP by MIB Monitor Settings" on page 692.

Network Monitors User Interface

This section describes:

- Microsoft Windows Dial-up Monitor Settings on page 673
- Network Bandwidth Monitor Settings on page 675
- Ping Monitor Settings on page 680
- Port Monitor Settings on page 682
- SNMP Monitor Settings on page 684
- SNMP Trap Monitor Settings on page 689
- SNMP by MIB Monitor Settings on page 692

DHCP Monitor Settings

Description	Checks a DHCP Server by using the network. It verifies that the DHCP server is listening for requests and that it can allocate an IP address in response to a request. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	This monitor requires that a third-party Java DHCP library be installed on the server where SiteScope is running. The DHCP Monitor type does not appear in the interface until this library is installed. For more information, see "Installation of DHCP Software Library" on page 634. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"DHCP Monitor Overview" on page 634

DHCP Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Timeout	Enter the time, in seconds, to wait for an IP address. **Default value:** 10 seconds
Requested client address	Optionally, the IP address to request from the DHCP server.

 DNS Monitor Settings

Description	➤ Checks a Domain Name Server by using the network. ➤ Verifies that the DNS server is accepting requests. ➤ Verifies that the address for a specific domain name can be found. Returns a status and writes it in the monitoring log file with each running. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"DNS Monitor Overview" on page 635

DNS Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
DNS server address	Enter the IP address of the DNS server that you want to monitor. **Example:** 206.168.191.1
Host to resolve	Enter the host name to lookup. If you only want to verify that your DNS server is operating, the host name you enter here can be any valid host name or domain name. **Example:** demo.thiscompany.com To verify that a domain name resolves to a specific IP address, enter the IP address that corresponds to the host name you enter in the **Expected IP address** box.
Expected IP address	(Optional) You can use the DNS monitor to verify that a host name or domain name resolves to the correct IP address or addresses. Enter the IP address or addresses that are mapped to the **Host to resolve** (domain name) entered above. **Note:** If you enter more than one IP address, the monitor reports a status of good, even if only one of the IP addresses that you enter is mapped correctly to the **Host to resolve**. When using this option, the monitor only reports an error if none of the IP addresses entered in this box are mapped to the given **Host to resolve**. When entering multiple IP addresses, separate them with a comma (",").

FTP Monitor Settings

Description	The FTP Monitor attempts to log in to an FTP server and retrieve a specified file. A successful file retrieval indicates that your FTP server is functioning properly. Use this page to add a monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"FTP Monitor Overview" on page 636

FTP Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Basic FTP Settings	
FTP server	Enter the IP address or the name of the FTP server that you want to monitor. **Example:** 206.168.191.22 or ftp.thiscompany.com (ftp.thiscompany.com:<port number> to specify a different port)
File	Enter the file name to retrieve in this box. **Example:** /pub/docs/mydoc.txt

GUI Element	Description
User name	Enter the name used to log into the FTP server in this box. A common user name for general FTP access is user name anonymous.
Password	Enter the password used to log into the FTP server in this box. If using the anonymous login, the password is also anonymous.
Passive mode	Select this box if you want SiteScope to use FTP passive mode. You use this mode to enable FTP to work through firewalls.
Advanced FTP Settings	
Match content	Enter a string of text to check for in the returned file. If the text is not contained in the file, the monitor displays **no match on content**. The search is case sensitive. You may also perform a regular expression match by enclosing the string in forward slashes, with an "i" after the trailing slash indicating case-insensitive matching. **Example:** "/Size \d\d/" or "/size \d\d/i"

GUI Element	Description
Check for content changes	SiteScope records a checksum of the document the first time the monitor runs and then does a checksum comparison each subsequent time it runs. If the checksum changes, the monitor has a status of **content changed error** and go into error. If you want to check for content changes, you usually want to use compare to saved contents. The options for this setting are: ➤ **No content checking** (default). SiteScope does not check for content changes. ➤ **Compare to last contents.** Any changed checksum is recorded as the default after the change is detected initially. Thereafter, the monitor returns to a status of **OK** until the checksum changes again. ➤ **Compare to saved contents.** The checksum is a snapshot of a given page (retrieved either during the initial or a specific run of the monitor). If the contents change, the monitor gets a **content changed error** and stays in error until the contents return to the original contents, or the snapshot is update by resetting the saved contents. ➤ **Reset saved contents.** Takes a new checksum of the file and saves the resulting checksum on the first monitor run after this option is chosen. After taking the updated checksum, the monitor reverts to **compare to saved contents** mode.
Timeout (seconds)	The number of seconds that the FTP monitor should wait for a file to complete downloading before timing out. Once this time period passes, the FTP monitor logs an error and reports an error status. **Default value:** 60 seconds
Connection timeout (seconds)	The number of seconds that the FTP monitor should wait to connect to the FTP server before timing out. Once this time period passes, the FTP monitor logs an error and reports an error status. **Default value:** 30 seconds

GUI Element	Description
HTTP Proxy Settings	
FTP proxy	You may instruct SiteScope to run the FTP through an HTTP proxy. Generally, if you use an HTTP proxy you have it set up in your browser. Enter that same information here. Remember to include the port. **Example:** proxy.thiscompany.com:8080 **Note:** The FTP Monitor does not support an FTP Proxy server.
Proxy user name	If the proxy server requires a name and password to access the file, enter the name here. The proxy server must support Proxy-Authenticate for these options to function.
Proxy password	If the proxy server requires a name and password to access the file, enter the password here. The proxy server must support Proxy-Authenticate for these options to function.

Formula Composite Monitor Settings

Description	Simplifies the monitoring of complex network environments by checking the status readings of two SNMP, Script, Database Query, or Microsoft Windows Performance Counter monitors and performing an arithmetic calculation on their results. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.

Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Formula Composite Monitor Overview" on page 638

Formula Composite Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Monitors	Click the **Add** button, and select two SNMP monitors, two Script monitors, two Database monitors, or two Microsoft Windows Performance Counter monitors that the Formula Composite Monitor should operate on. Click **Add Selected Monitors** to display the selected monitors in the Monitors box. To remove monitors from the list, select the monitors and click the **Delete** button.
Run monitors	Select if you want the Formula Composite Monitor to control the scheduling of the selected monitors, as opposed to just checking their status readings. This is useful if you want the monitors to run one after another or run at approximately the same time. **Note:** Any monitors that are to be run this way should not also be run separately, so set **Frequency** in Monitor Run Settings to 0. Those monitors then only run when scheduled by the Formula Composite Monitor.
Monitor delay (seconds)	If **Run monitors** is selected, this is the number of seconds to wait between running each monitor. **Default value:** 0 seconds
Operation	Select the arithmetic operation to be performed on the results of the two monitors selected above. You can add the results, multiply the results of the two monitors, subtract the results of the first from the second, divide the second by the first, and so on.

GUI Element	Description
Constant	Enter an operator and a constant to operate on the result of the calculation specified in the **Operation** item above. For example, if an **Operation** of Add is selected above, entering the characters *8 in the **Constant** box multiplies the result of the Add operation by 8. The syntax for this box should be <operator> <number>. Valid operators are + (addition), - (subtraction), * (multiplication), and / (division). Numbers may be integers or decimals.
Result label	Enter a name for the result of the formula calculation.

Mail Monitor Settings

Description	The Mail Monitor checks to see that the mail server is both accepting and delivering messages. Use this monitor to verify that all your mail servers, including internal servers where a firewall is used, are working properly. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Mail Monitor Overview" on page 640

Mail Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Action	Select the action the Mail Monitor should take with respect to the mail server: ➤ **Send and receive.** This option allows you to send a test message to an SMTP server and then to receive it back from the POP3 or IMAP4 server. This checks that the mail server is up and running. ➤ **Receive only.** This option allows you to check the incoming POP3 or IMAP4 mail servers for a message that was sent previously. This check is done by matching the content of the previously sent message. **Note:** If the this option is selected, the **Match content** box must have a value to match against. Also, if this option is selected, you should use this monitor for a dedicated mail account that is not being accessed by any other mail client. If another mail client attempts to retrieve mail messages from the account that the Mail Monitor is monitoring in **Receive only** mode, the monitor and the other mail client may lock each other out of the account, and neither is able to retrieve the messages. ➤ **Send only.** This option checks that the receiving mail server has accepted the message.
Sending e-mail server (SMTP)	Enter the host name of the SMTP mail server to which the test mail message should be sent. **Example:** mail.thiscompany.com
Send to address	Enter the mail address to which the test message should be sent. This should be the address for the POP account that you specified in the Mail Server User Name box. **Example:** If you specified support as the Mail Server User Name, the To Address may be support@mycompany.com.

GUI Element	Description
Receiving protocol	Select the protocol used by the receiving mail server. You use the POP3 option to check the POP3 mail server for a sent message. You use the IMAP4 option to check the IMAP mail server for a sent message.
Receiving e-mail server	Enter the host name of the POP3/IMAP4 mail server that should receive the test message. This can be the same mail server to which the test message was sent. **Example:** mail.thiscompany.com
Receiving e-mail server user name	Enter a POP user account name on the receiving mail server. A test e-mail message is sent to this account and the Mail monitor logs in to the account and verifies that the message was received. No other mail in the account is touched; therefore you can use your own personal mail account or another existing account for this purpose. **Example:** support **Note:** If you use a mail reader that automatically retrieves and deletes messages from the server, there is a chance that the Mail Monitor won't see the mail message and therefore reports an error.
Receiving e-mail server password	Enter a password, if necessary, for the receiving mail account.

GUI Element	Description
Receive only content match	Enter a string of text to match against the contents of the incoming message. If the text is not contained in the incoming message, the monitor is in error. This is for the receiving only option. The search is case sensitive. **Example:** Subject:MySubject HTML tags are part of a text document, so include the HTML tags if they are part of the text you are searching for (for example, < B> Hello< /B> World). This works for XML pages as well. You may also perform a regular expression match by enclosing the string in forward slashes, with an i after the trailing slash indicating case-insensitive matching. **Example:** /href=Doc\d+\.html/ or /href=doc\d+\.html/i If you want a particular piece of text to be saved and displayed as part of the status, use parentheses in a regular expression. **Example:** /Temperature: (\d+)/ This would return the temperature as it appears on the page and this could be used when setting an Error if or Warning if threshold.
Attachment	Enter the full path of a file to add as an attachment to the e-mail message. Use this option to check that your e-mail server can accept and forward messages with attached files. Optionally, you can use a regular expression to insert date and time variables to create a filename or file path. **Example:** s/C:\firstdir\$shortYear$$0month$$0day$/
Attachment encoding	If the attachment file content uses an encoding that is different than the encoding used on server where SiteScope is running, enter the code page or encoding to use. This may be necessary if the code page which SiteScope is using does not support the character sets used in the attachment file. **Default value:** windows-1252

GUI Element	Description
Timeout (seconds)	The number of seconds that the Mail monitor should wait for a mail message to be received before timing-out. Once this time period passes, the Mail monitor logs an error and reports an error status. **Default value:** 300 seconds
POP check delay (seconds)	After SiteScope sends the test message, it immediately logs into the mail account to verify that the message has been received. If the message has not been received, SiteScope automatically waits 10 seconds before it checks again. You can adjust this wait time by indicating an alternate number of seconds to wait in this box. **Default value:** 10 seconds
SMTP user	Enter the user name required for SMTP authentication if the SMTP server requires authentication before sending messages.
SMTP password	Enter the password for the SMTP authentication (if required).
NTLM authentication	If NTLM authentication is used by the e-mail server, choose if you need version 1 or version 2. **Default value:** none

MAPI Monitor Settings

Description	Use the MAPI Monitor to monitor the availability of Microsoft Exchange 5.5 and above. The monitor checks for e-mail delivery time. This allows you to verify availability of the MAPI server by sending and receiving a test message in a Microsoft Exchange e-mail account. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"MAPI Monitor Overview" on page 641

MAPI Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Receiver server	Enter the host name or address of a Microsoft Exchange Server. The name can be an IP address or other name that can be resolved by the DNS server. We recommend that you copy the server name as it appears in the Properties of the e-mail account you are using with this monitor.
Receiver mailbox	Enter the name (alias) of the mailbox to be used for this monitor. This is often the e-mail account name but it may be a different name. We recommend that you copy the mailbox name as it appears in the E-Mail Account properties for the e-mail account you are using with this monitor.
Receiver domain	Enter the domain to which both the owner of the mailbox being used and the Microsoft Exchange server belong. **Note:** The owner of the mailbox to be used by this monitor must also have administrative account privileges on the machine where SiteScope is running. SiteScope also needs user account access to the domain where the Microsoft Exchange server is running.
Receiver user name	Enter the NT account login name for the user associated with the above e-mail account.
Receiver password	Enter the NT account login password for the user name above.
Sender server	Enter the sender's Microsoft Exchange server name. **Note:** ➤ The MAPI sender is ignored if an SMTP sender is specified in the **Sender** box below. ➤ If any of the SMTP sender values are not specified, the receiver values are used instead.

GUI Element	Description
Sender mailbox	Enter the alias of the sending mailbox.
Sender domain	Enter the domain to which both the sending mailbox owner and the sending Microsoft Exchange server belong.
Sender user name	Enter the login name for the NT account of the sending mailbox owner.
Sender password	Enter the NT account login password for the sender account above.
Transaction timeout (seconds)	Enter the number of seconds for the monitor to wait for the message to arrive before the monitor should timeout. The monitor reports an error if timeout value is met before the e-mail message is delivered. **Default value:** 25 seconds
SMTP server	Enter the SMTP server through which an outgoing message is sent. **Note:** If you set any of the SMTP values (**SMTP server**, **Sender** or **Receiver**) they override the MAPI sender options.
Sender	Enter the e-mail address of the SMTP sender.
Receiver	Enter the e-mail address of the receiver. This must match the **Receiver mailbox** alias specified above.
Attachment	Enter the full path of a file to attach to the outgoing SMTP message.

Microsoft Windows Dial-up Monitor Settings

Description	The Windows Dial-up Monitor (available only on the Windows NT version of SiteScope) uses the Windows NT Remote Access Service to connect to an Internet Service Provider or Remote Access server and optionally runs a user-defined set of monitors. The monitor confirms that the dial-up connection can be established, and measures the performance of the connection and of the network services using the dial-up connection. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Microsoft Windows Dial-up Monitor Overview" on page 645

Microsoft Windows Dial-up Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Account Settings	
Phone number	Enter the phone number for the dial-up account, adding any extra modem digits or pauses that are required. **Example:** 9,4432266 includes a "9," for getting an outside line. Insert a comma wherever you need a short pause.
Account user name	The login name for the dial-up account.
Account password	The password for the dial-up account.
Advanced Settings	
Timeout (seconds)	The timeout limits the total time that the Microsoft Windows Dial-up Monitor takes to connect, authenticate, and run each of it is monitors. If the time ever exceeds this time, then the connection is hung up, and the monitor completes with a timeout error. **Default value:** 60 seconds
Monitor Settings	
Monitor(s) to run	Select the groups and/or monitors that you want to run while the dial-up connection is established. Monitors that are used by Microsoft Windows Dial-up Monitors should not be scheduled to run by themselves because some of their data would be through the dial-up connection, and some of their data would be through the local connection. Make sure that the **Frequency** box for these monitors is set to 0. For details, see "Monitor Run Settings" on page 305.

Network Bandwidth Monitor Settings

Description	You use the Network Bandwidth Monitor to monitor SNMP-enabled network appliances such as routers and switches. The error and warning thresholds for the monitor can be set on one or more different objects. This monitor type also provides a Real-time metrics report, available as a link in the More column on the Group Detail Page. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. **Note when working in template mode:** The monitor's non-default thresholds are not copied properly to a template.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Network Bandwidth Monitor Overview" on page 648

Network Bandwidth Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SNMP Connection Settings	
Server	Enter the name of the server you want to monitor.
SNMP version	Select the version of SNMP to use when connecting. SiteScope supports SNMP versions 1, 2, and 3. Selecting V3 enables you to enter V3 settings in the SNMP V3 settings panel. **Default value:** V1
Community	Enter the community string (valid only for version 1 or 2 connections). **Default value:** public
Timeout (seconds)	Enter the total time, in seconds, that SiteScope should wait for all SNMP requests (including retries) to complete. **Default value:** 5 seconds
Retries	Enter the number of times each SNMP GET request should be retried before SiteScope considers the request to have failed. **Default value:** 1
Port	Enter the port to use when requesting data from the SNMP agent. **Default value:** 161

GUI Element	Description
Starting OID	Use this option when selecting counters for this monitor. When the monitor attempts to retrieve the SNMP agent's tree, it starts with the OID value that is entered in this box. You should edit this box only when attempting to retrieve values from an application that does not handle OIDs starting with 1. If the default value did not enable retrieving any counters, then you may have to enter a different value in this box. **Default value:** 1
V3 SNMP Settings (This panel is enabled only if V3 is selected in the SNMP version field)	
SNMP V3 authentication type	Select the type of authentication to use for version 3 connections. **Default value:** MD5
SNMP V3 user name	Enter the user name for version 3 connections.
SNMP V3 authentication password	Enter the authentication password to use for version 3 connections.
SNMP V3 privacy password	Enter the privacy password if DES privacy encryption is desired for version 3 connections. Leave blank if you do not want privacy.
SNMP V3 context engine ID	Enter a hexadecimal string representing the Context Engine ID to use for this connection.
SNMP V3 context name	Enter the Context Name to use for this connection.
Network Counters	
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.

GUI Element	Description
Get Counters	Click to open the Get Counters dialog box. Select the counters you want to monitor. **Note:** ➤ The counters displayed are those received during the timeout period, and may not include all the counters available on the server. Specifying a longer timeout in the Timeout (seconds) field in the SNMP Connection Settings panel may result in receiving more counters. ➤ The total time for receiving the counters may be longer than the timeout specified, due to additional processing time not part of the request/response period. ➤ Due to third-party counter restrictions, the total number of counters that can be monitored is limited to 32.
Advanced Network Settings	
Device type	Select an optional device type for device specific monitoring. By specifying a device type, you enable the Network Bandwidth monitor to watch certain device-specific metrics. For information about controlling the metrics associated with these device types and on adding new device types, see the section entitled Device Specific Metrics Config File. **Default value:** Do not monitor device-specific metrics

GUI Element	Description
Duplex or half-duplex	Select the duplex state (**Half-duplex** or **Full-duplex**) to use when calculating percent bandwidth utilized for all selected interfaces on this device. **Default value:** Full-duplex
Interface index	Metrics for network interfaces on an SNMP-enabled device are presented as a table of management information (the ifTable). Each row corresponds to a different interface. There is no requirement that the mappings from interface-to-row in this table remain constant across device reboots. The Interface Index parameter may help prevent the interfaces SiteScope is monitoring from becoming confused after a device restarts. The three possible options are: ➤ **Indexed by interface name.** The ifDescr field of the ifTable is used to maintain monitoring consistency across device reboots. ➤ **Indexed by physical address.** The ifPhysAddr field of the ifTable is used to maintain monitoring consistency across device reboots. ➤ **Indexed by ifTable row number.** SiteScope assumes that the interfaces remain in the same row in the ifTable across device reboots. **Note:** Some devices (for example, Cisco) may have a configuration option to not jumble the position of interfaces in the ifTable during reboot. This may be the safest option, as not all interfaces may always have a unique ifDescr, and not all interfaces may have an ifPhysAddr (loopback interfaces do not typically have a physical address). **Default value:** Indexed by ifTable row number.
Show bytes in/out	Select this option to display a graph for bytes in/out along with the percent bandwidth utilized on the Real-Time Metrics page. **Default value:** Not selected

GUI Element	Description
Real-Time data vertical axis	Enter the maximum value on the vertical axis for real-time graphs (leave blank to have this automatically calculated by SiteScope).
Real-Time data time window (hours)	Enter the number of hours for which real-time graph data should be stored. **Default value:** 24 hours

Ping Monitor Settings

Description	The Ping Monitor checks the availability of a host by using ICMP (Internet Control Message Protocol). Use this monitor to check network connectivity and response time. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Ping Monitor Overview" on page 649

Ping Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Host	Enter the IP address or the name of the host that you want to monitor. **Example:** 206.168.191.21 or demo.thiscompany.com
Packet size (bytes)	The size, in bytes, of the ping packets sent. To change the threshold, enter the new value in the text box. **Default value:** 32 bytes
Timeout (milliseconds)	The time, in milliseconds, that should pass before the ping times out. To change the threshold, enter the new value in the text box. **Default value:** 5000 milliseconds

Port Monitor Settings

Description	The Port Monitor verifies that a connection can be made to a network port and measures the length of time it takes to make the connection. Optionally, it can look for a string of text to be returned or send a string of text once the connection is made. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Port Monitor Overview" on page 650

Port Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Host name	Enter the IP address or the name of the host that you want to monitor. **Example:** 206.168.191.21 or demo.thiscompany.com
Port number	Choose the port number to connect to from the list of **Commonly used ports**, or enter a port number in the **Other ports** text box. Additional entries can be added to the list by editing the **<SiteScope root directory>\groups\master.config** file.
Timeout (seconds)	The number of seconds that the Port monitor should wait for the connection to the port, and for any sending and receiving to complete. Once this time period passes, the Port monitor logs an error and reports an error status. **Default value:** 60 seconds
Send string	Customize the string sent to the host after a connection is made.
Match string	Check for a string of text after a connection is made. If the text is not received, the monitor displays the message no match on content. **Note:** ➤ The search is case sensitive. ➤ You cannot use regular expressions in this field.

SNMP Monitor Settings

Description	The SNMP Monitor reads a value from an SNMP device. Many network devices support the SNMP protocol as a way of monitoring them. You must know the OIDs (Object ID's) for the device you want to monitor. These may be available in the product documentation or in the form of a MIB file. **Note:** To have SiteScope listen for SNMP traps from multiple devices, use the SNMP Monitor (see "SNMP Monitor Overview" on page 652). Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"SNMP Monitor Overview" on page 652

SNMP Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Basic SNMP Settings	
Host name	Enter the host name or IP address of the SNMP device that you want to monitor (for example, demo.thiscompany.com). If your SNMP device is using a different port, add it to the host name using **:port**. **Example:** demo.SiteScope.com:170 (to use port 170)

GUI Element	Description
Object ID	Select one of the following object ID settings: ➤ **Commonly used values.** Select the Object ID mnemonic from the drop-down list. (This is the default option with **system.sysDescr** set as the default value.) ➤ **Other values.** Enter the Object Identifier (OID) for the SNMP value you want to retrieve. The OID specifies which value should be retrieved from the device. **Example:** 1.3.6.1.2.1.4.3 **Tip:** To troubleshooting basic connectivity to the device and to confirm that the SNMP agent is active, select the **system.sysDescr** object from the drop-down list if other objects cannot be found. **Note:** SiteScope version 7.1 and later supports SNMP version 1 and version 2. To send a trap using snmpv2, you must select the version number in the SNMP Connection Settings. If you receive the error message **error - noSuchName**, it means SiteScope was able to contact the device but the OID given is not know by the device. You must provide an OID that is valid to the device to obtain a value. If you have a MIB file for the device you want to monitor, you can copy the *.mib (or *.my) file into the **<SiteScope root directory>\templates.mib** subdirectory and use the MIB Help utility to compile the MIB and browse the OIDs for the device. To use the MIB Helper tool, select **Tools** > **MIB Browser** and enter the connection details. After copying a new MIB file to SiteScope, SiteScope must be restarted. Select the MIB file to browse using the drop-down list. Click the **browse** button to show the OIDs from the selected MIB file. A tree is displayed that represents the chosen MIB on the specified server. You can browse that tree to find the OID that you want to monitor. **Note:** It is not necessary to browse a MIB file with the SiteScope Mib Helper to monitor a device. The MIB Helper is provided simply as a tool to help you discover OIDs available on a device, but it is not the only tool available. You can find other alternative tools on the Web (for example, MG-SOFT or iReasoning).

GUI Element	Description
Index	The index of the SNMP object. Values for an OID come as either scalar or indexed (array or table) values. ➤ For a scalar OID, the index value must be set to 0. ➤ For an indexed or table value, you must provide the index (a positive integer) to the element that contains the value you want. For example, OID 1.3.6.1.2.1.2.2.1.17 is an indexed value that contains four elements. To access this second element of this OID, enter an index of 2 in the **Index** text box. To access the fourth element, enter an Index value of 4. In some vendor specific MIB's, the indexed entries (often referred to in tables) can have compound index values. For example, the OID for the process entry table in a Sun MicroSystems server MIB may be: .1.3.6.1.4.1.42.3.12.1.1. This indexed or table object may have up to eleven nodes with OIDs ranging from .1.3.6.1.4.1.42.3.12.1.1.1 to .1.3.6.1.4.1.42.3.12.1.1.11. Each of these nodes contains an indexed list of entries with index values that range from 0 to over 27300 where the Index value represents the process ID number used by the operating system (view examples using the ps -ef command in UNIX). In this example, the index values may not be consecutive from 0 to 27300. **Default value:** 0
Community	Enter the Community string for the SNMP device. The Community string provides a level of security for a SNMP device. Most devices use **public** as a community string. However, the device you are going to monitor may require a different Community string to access it. If you try to monitor an SNMP agent through specific community, you must make sure that the SNMP agent is familiar with that community. For example, if you try to monitor a Windows 2003 server through public community, you must make sure that the SNMP agent has this community configured. Otherwise, the monitor cannot connect to the agent. **Default value:** public **Note:** The field is valid only for version 1 or 2 connections.

GUI Element	Description
SNMP Connection Settings	
Timeout (seconds)	Enter the total number of seconds SiteScope should wait for a successful reply. **Default value:** 5 seconds
Retry delay (seconds)	Enter the number of seconds SiteScope should wait before retrying the request. It continues to retry at the interval specified here until the Timeout threshold is met. **Default value:** 1 second
SNMP version	Select the SNMP version used by the SNMP host you want to monitor. SiteScope supports SNMP version 1, version 2, and version 3. **Default value:** V1
SNMP V3 user name	If you are using SNMP version 3, enter the user name to be used for authentication. **Note:** SiteScope only supports MD5 authentication for SNMP V3.
SNMP V3 password	If you are using SNMP version 3, enter the password to be used for authentication for SNMP V3.
SNMP Data Manipulation Settings	
Scaling	If you choose a scaling option from the **Commonly used values** list, SiteScope divides the returned value by this factor before displaying it. Alternatively, you can specify a factor by which the value should be divided in the **Other values** box. **Default value:** No scaling
Match content	Use this item to match against an SNMP value, using a string or a regular expression or XML names.
Units	Enter an optional units string to append when displaying the value of this counter.
Measurement label	Enter an optional text string to describe the measurement being made by the monitor.

GUI Element	Description
Measure as delta	Select this option to have SiteScope report the measurement as the difference between the current value and the previous value.
Measure as rate per second	Select this option to have SiteScope divide the measurement by the number of seconds since the last measurement.
Percentage base	Select a value to use for calculating the percentage base from the **Commonly used values** list or by typing a number or SNMP object ID in the **Other values** box. If entered, the measurement is divided by this value to calculate a percentage. If an object ID is entered, the **Index** value from the SNMP Monitor Settings pane is used. **Default value:** No percentage base
Measure base As Delta	Select this option to have SiteScope calculate the Percentage Base as the difference between the current base and the previous base. Use this option when an SNMP object ID is used for Percentage Base and the object is not a fixed value.
Gauge maximum	Enter a maximum value for the Object ID. The maximum is calculated to create the gauge display (Optional).
Secondary SNMP Settings (To enable secondary object changes, you must set **_enableSecondSNMP=true** in the **master.config** file.)	
Secondary object ID	Select the object ID of the secondary SNMP object to be queried from the **Commonly used values** drop-down list, or enter the Object Identifier (OID) for the SNMP value you want to query in the **Other values** box.
Secondary match content	Use this item to set up a secondary SNMP index. Match this item against the main SNMP value using a string, regular expression (see "Using Regular Expressions" on page 217), or XML names (see "Monitoring XML Documents" on page 861). **Example:** /(\d)/ gets the first digit and uses it in the secondary index.

SNMP Trap Monitor Settings

Description	The SNMP Trap Monitor watches for SNMP Traps received by SiteScope from other devices. The agents for the SNMP enabled devices must be configured to send traps to the SiteScope server. **Note:** To have SiteScope query a specific device for a specific value, use the SNMP Monitor, "SNMP Monitor Overview" on page 652. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"SNMP Trap Monitor Overview" on page 653

SNMP Trap Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Content match	Enter the text to look for in SNMP Traps. Regular expressions may also be used in this box for pattern matching. By default, all SNMP traps received will be matched. All SNMP Traps received by SiteScope are logged to **<SiteScope root directory>\logs\SNMPTrap.log** file. **Example:** The following shows two traps received from one router and another trap received from a second router: 09:08:35 09/10/2001 from=router1/10.0.0.133 oid=.1.3.6.1.4.1.11.2.17.1 trap=link down specific=0 traptime=1000134506 community=public agent=router1/10.0.0.133 var1=The interface Serial1 is down 09:08:45 09/10/2001 from=router1/10.0.0.133 oid=.1.3.6.1.4.1.11.2.17.1 trap=link up specific=0 traptime=1000134520 community=public agent=router1/10.0.0.133 var1=The interface Serial1 is up 09:10:55 09/10/2001 from=router2/10.0.0.134 oid=.1.3.6.1.4.1.11.2.17.1 trap=enterprise specific specific=1000 traptime=1000134652 community=public agent=router2/10.0.0.134 var1=CPU usage is above 90% The examples shown here may wrap across multiple lines to fit on this page. The actual traps are in a single extended line for each trap.

GUI Element	Description
Match value labels	Use this option to enter labels for the matched values found in the trap. The match value labels are used as variables to access retained values from the Content Match expression for use with the monitor threshold settings. You can set up to four labels. The labels are used to represent any retained values from the Content Match regular expression in the parameters available for the status threshold settings (Error if, Warning if, and Good if). These labels are also displayed as the text labels in graphs generated for the retained values in management reports for this monitor. **Note:** Separate multiple labels with a comma (,).
Run alerts	Select the method for running alerts: ➤ If **For each SNMP Trap matched** is chosen, then the monitor triggers alerts for every matching entry found. When the SNMP Trap monitor is run for each SNMP Trap received, the monitor never reports a status of error or warning, regardless of the results of the content match or even if the target SNMP Trap is not found. ➤ If **Once, after all SNMP Traps have been checked** is chosen, then the monitor counts up the number of matches and triggers alerts based on the **Error if** and **Warning if** thresholds defined for the monitor in the Threshold Settings section. **Default value:** For each SNMP Trap matched

SNMP by MIB Monitor Settings

Description	The SNMP by MIB Monitor allows you to monitor objects on any SNMP agent. The error and warning thresholds for the monitor can be set on one or more different objects. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"SNMP by MIB Monitor Overview" on page 654

SNMP by MIB Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SNMP Connection Settings	
Server	Enter the name of the server you want to monitor.
SNMP version	Select the version of SNMP to use when connecting. SiteScope supports SNMP version 1, version 2, and version 3. Selecting V3 enables you to enter V3 settings in the SNMP V3 settings panel. **Default value:** V1

GUI Element	Description
Community	Enter the community string. If you try to monitor SNMP agent through a specific community, you must make sure that the SNMP agent is familiar with that community. If you try to monitor Windows 2003 server through public community, you must make sure that the SNMP agent has this community configured. Otherwise, the monitor cannot connect to the agent. **Note:** This is valid only for version 1 or 2 connections. **Default value:** public
Timeout (seconds)	Enter the total time, in seconds, that SiteScope should wait for all SNMP requests (including retries) to complete. **Default value:** 5 seconds
Retries	Enter the number of times each SNMP GET request should be retried before SiteScope considers the request to have failed. **Default value:** 1
Port	Enter the port to use when requesting data from the SNMP agent. **Default value:** 161
Starting OID	Use this option when selecting counters for this monitor. When the monitor attempts to retrieve the SNMP agent's tree, it starts with the OID value that is entered in this box. **Default value:** 1 **Note:** You should edit this box only when attempting to retrieve values from an application that does not handle OIDs starting with 1. If the default value of 1 did not enable retrieving any counters, then you may have to enter a different value in this box.

GUI Element	Description
MIB File	Select the MIB file that contains the objects you want to monitor. If you select a specific MIB file, then only the objects described in that MIB file are displayed. If you select **All MIBs**, then all objects retrieved from the agent during the MIB traversal are displayed. If no MIB information is available for an object, it is still displayed but with no textual name or description. To make this monitor aware of new or additional MIBs, place new MIB files in the **<SiteScope root directory>\ templates.mib** directory and restart SiteScope. **Default value:** All MIBs
Counter calculation mode	Use this option to perform a calculation on objects of type Counter, Counter32, or Counter64. The available calculations are: ➤ **Calculate delta.** Calculates a simple delta of the current value from the previous value. ➤ **Calculate rate** Calculates a rate calculation using the delta of current value from previous value, divided by the time elapsed between measurements. ➤ **Do not calculate.** No calculation is performed. **Note:** This option only applies to the aforementioned object types. An SNMP by MIB Monitor that monitors Counter objects as well as DisplayString objects only performs this calculation on the Counter objects. **Default value:** Do not calculate
V3 SNMP Settings (This panel is enabled only if V3 is selected in the SNMP version field)	
SNMP V3 authentication type	Select the type of authentication to use for version 3 connections. **Default value:** MD5
SNMP V3 user name	Enter the user name for version 3 connections.

GUI Element	Description
SNMP V3 authentication password	Enter the authentication password to use for version 3 connections.
SNMP V3 privacy password	Enter the privacy password if DES privacy encryption is desired for version 3 connections. Leave blank if you do not want privacy.
SNMP V3 context engine ID	Enter a hexadecimal string representing the Context Engine ID to use for this connection. This is applicable for SNMP V3 only.
SNMP V3 context name	Enter the Context Name to use for this connection. This is applicable for SNMP V3 only.
SNMP Counters	
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note:** ➤ The counters displayed are those received during the timeout period, and may not include all the counters available on the server. Specifying a longer timeout in the Timeout (seconds) field in the SNMP Connection Settings panel may result in receiving more counters. ➤ The total time for receiving the counters may be longer than the timeout specified, due to additional processing time not part of the request/response period. ➤ Due to third-party counter restrictions, the total number of counters that can be monitored is limited to 32. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

15

Server Monitors

This chapter includes the main concepts and reference information for monitoring server health and availability.

This chapter includes:

Concepts

Reference

Browsable Windows Performance Counter Monitor Overview

Use the Browsable Windows Performance Counter Monitor to monitor the values of Windows performance statistics. Each time the Browsable Windows Performance Counter Monitor runs, it returns readings and a status message and writes them in the monitoring log file. The status is displayed in the group detail table for the monitor which represents the current value returned by this monitor. The status is logged as either OK or warning. A count of the number of counters that could not be read is also kept, and error conditions can be created depending on this count.

Note:

- The Browsable Windows Performance Counter Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- This monitor can only be added by deploying a Microsoft Exchange Solution Template. For information about using templates to deploy monitors, see "SiteScope Solution Templates" on page 1341.
- This monitor is supported in SiteScopes that are running on Windows versions only.

For details on configuring this monitor, see "Browsable Windows Performance Counter Monitor Settings" on page 714.

CPU Utilization Monitor Overview

Use the CPU Monitor to monitor the percentage of CPU time that is currently being used on the server. By monitoring CPU usage, you can prevent poor system response times and outages before they occur.

Whether the servers in your infrastructure are running with a single CPU or with multiple CPUs, you only need to create one CPU monitor per remote server. If you have multiple CPUs, SiteScope reports on the average usage for all of them, as well as each individual CPU usage.

This section contains the following topics:

Scheduling This Monitor

In general, the CPU Monitor does not need to be run as often as some of the other monitors. If you do not usually suffer from CPU problems, you can run it less frequently, perhaps every half hour or so. If you are prone to CPU usage problems, you should run it more frequently. All machines have short spikes of CPU usage, but the primary thing that you are looking for is high usage on a regular basis. This indicates that your system is overloaded and that you need to look for a cause.

Status

The Status reading is the current value returned by this monitor; for example, 68% used. SiteScope displays an average for multiple CPU systems. On NT, this is the average CPU usage between runs of the monitor. On UNIX, this is the instantaneous CPU when the monitor runs.

The status is logged as either OK or warning. A warning status is returned if the CPU is in use more than 90% of the time.

Troubleshooting

Problem: Unable to monitor CPU usage on a clean installation of Linux RedHat 4.

Cause: The mpstat command that SiteScope runs on the monitored server as depicted in **<SiteScope root directory>\Templates.os** folder (/usr/bin/mpstat), is not deployed by default on a Linux machine. Linux installations come with a sysstat package.

Solution: In a terminal window, type up2date sysstat to deploy the mpstat package.

For details on configuring this monitor, see "CPU Utilization Monitor Settings" on page 717.

 Disk Space Monitor Overview

Use the Disk Space Monitor to monitor the amount of disk space that is currently in use on your server. Having SiteScope verify that your disk space is within acceptable limits can save you from a crashed system and corrupted files.

The disk space monitor does not require many resources, so you can check it as often as every 15 seconds, but every 10 minutes should be sufficient. You may want to have SiteScope run a script (using a Script Alert) that deletes all files in certain directories, such as /tmp, when disk space becomes constrained. For details on using a Script Alert, see "Working with Script Alerts" on page 1597.

For details on configuring this monitor, see "Disk Space Monitor Settings" on page 720.

IPMI Monitor Overview

The Intelligent Platform Management Interface (IPMI) provides an interface for reporting on device operations, such as whether fans are turning and voltage flowing within server hardware. You use the IPMI Monitor to monitor server and network element platforms to get a more complete view of component health and operation statistics for IPMI enabled devices running version 1.5.

You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch key operational factors that can seriously effect availability and degrade performance. Create a separate monitor instance for each server you are running.

System Requirements

The following are requirements for using the IPMI Monitor:

- The device you want to monitor has to be IPMI-enabled. In most cases, this means that the device must be designed for IPMI sensing and include a separate, dedicated IPMI network adapter. The monitor supports IPMI version 1.5 only.
- You must know the IP address of the IPMI network adapter for the device you want to monitor. In many cases, this IP address is different than the IP address used for other network communication to and from the device. Use an applicable IPMI utility to query for the IP address or contact the applicable system administrator.

For details on configuring this monitor, see “IPMI Monitor Settings” on page 723.

Memory Monitor Overview

Memory is one of the primary factors that can affect your server's performance. Use the Memory Monitor to monitor how much virtual memory is currently in use on a server. Use the Pages per Second, Percentage of Virtual Memory Used, and Value of Free Memory measurements to help detect problems in this area. Each time the Memory Monitor runs, it collects the measurements and displays the status in the Dashboard.

This section contains the following topics:

Scheduling This Monitor

In most environments, the Memory Monitor does not put a heavy load on your server. For monitoring remote UNIX servers, SiteScope needs to open the connection, while getting the data from the remote server. While the monitor actions generally do not load the either server, managing a large number of remote connections can results in some performance problems. You can use the error and warning thresholds to have SiteScope notify you if memory on a remote server starts to get low.

Common Problems and Solutions

This section contains the following problems and solutions for the Memory monitor:

Pages Per Second is Affecting System Performance

Problem: The number of Pages per second is consistently high (>10 pages/sec) and is affecting system performance. Pages per second measures the number of virtual memory pages that are moved between main memory and disk storage.

Solution 1: Add more memory.

Solution 2: Turn off non-critical services that are using memory, or move these services to a different machine. The SiteScope Service Monitor measures the memory usage for each service.

Percentage of Virtual Memory Used Reaches 100%

Problem: The number of Percentage of Virtual Memory Used reaches 100%, and services that are running may fail and new ones are unable to start. Percentage of Virtual Memory Used measures the percentage of memory and paging file space used.

Solution 1: Increase the size of the paging file. This may solve the immediate problem but may decrease performance by increasing paging. A slow increase in Virtual Memory Used is often caused by a memory leak in a service. Use the **Processes Tool** to view the memory used by each service. For details on using the tool, see "Processes Tool" on page 196.

Solution 2: An interim solution is to use the Service Monitor to measure the service size and run a SiteScope Script Alert to restart the service when it becomes too large. If restarting the service does not fix the leak, it may be necessary to add a Script Alert to restart the server when memory usage is too high. For details on using a Script Alert, see "Working with Script Alerts" on page 1597. For details on using the Service Monitor, see "Service Monitor Overview" on page 711.

Solution 3: Install an upgraded version of the service without the leak.

Note: When deploying the Memory monitor on a remote UNIX machine, the monitor displays swap memory usage and not virtual memory usage. To monitor virtual memory usage, deploy the UNIX Resources monitor. For details, see "UNIX Resources Monitor Overview" on page 712.

For details on configuring this monitor, see "Memory Monitor Settings" on page 725.

Microsoft Windows Event Log Monitor Overview

Use the Microsoft Windows Event Log Monitor to monitor added entries in one of the Microsoft Windows Event Logs (System, Application, or Security). The Microsoft Windows Event Log Monitor examines only log entries made after the time that the monitor is created. Each time the monitor runs thereafter, it examines only those entries added since the last time it ran. You can choose to filter out messages that are not important by using the boxes listed under Monitor Settings to specify values that must appear in the event entry for the entry to match.

Note: This monitor is supported in SiteScopes that are running on Windows versions only.

This section contains the following topics:

Configuring SiteScope Alerts

When setting up SiteScope alerts for Microsoft Windows Event Log Monitors that are set to alert **For each event matched**, it is most useful to select the NTEventLog template for the e-mail, pager, SNMP, or script alert. This alert template sends the alert with the event entry fields broken out. The type of SiteScope alert triggered depends on the type of the log event entry:

Event Log Entry Type	SiteScope Alert Type
Error	Error
Warning	Warning
Information	OK

Each time the Microsoft Windows Event Log Monitor runs, it returns a reading and status message and writes them in the **<SiteScope root directory\logs\SiteScopeyyyy_mm_dd.log** file.

Status

The status for the Microsoft Windows Event Log Monitor includes the number of entries examined, and the number of entries matched. If an interval is specified, the number of events in that interval is also displayed. Matched entries and interval entries can trigger alerts.

For details on configuring this monitor, see "Microsoft Windows Event Log Monitor Settings" on page 728.

Microsoft Windows Performance Counter Monitor Overview

Use the Microsoft Windows Performance Counter Monitor to monitor the values of any Windows performance statistic. Each time the Microsoft Windows Performance Counter Monitor runs, it returns a reading and a status message and writes them in the monitoring log file. The status is displayed in the group details table for the monitor which represents the current value returned by this monitor. The status is logged as either good, warning, or error. An error occurs if the counter could not be read, or if measurements are within the error threshold range.

Note: This monitor is supported in SiteScopes that are running on Windows versions only.

For details on configuring this monitor, see "Microsoft Windows Performance Counter Monitor Settings" on page 734.

Microsoft Windows Resources Monitor Overview

Use the Microsoft Windows Resources Monitor to monitor the server performance statistics from remote Windows servers. This allows you to watch server loading for performance, availability, and capacity planning. You can monitor multiple parameters or counters on a single, remote server with each monitor instance. Create one or more Microsoft Windows Resources Monitor instances for each remote server in your environment.

Note: This monitor is supported in SiteScopes that are running on Windows versions only.

The Microsoft Windows Resources Monitor uses performance counters to measure application server performance. SiteScope needs to be running under an account that has the necessary administrative security privileges to access performance counter data from remote servers. If the servers you want to monitor are in a different domain, are governed under a different policy, or require a unique login different than the account SiteScope is running under, then you must define the connection to these servers under the Microsoft Windows Remote Servers option in the SiteScope Preferences container. For details, see “Configure SiteScope to Monitor a Remote Microsoft Windows Server” on page 1015.

You can create a Server-Centric Report for the Windows server by clicking the server name in the Target column of the row corresponding to the Microsoft Windows Resources Monitor in Dashboard. For details, see “Server-Centric Report” on page 1524.

Note: When monitoring Windows servers configured using SSH, you must use the **Direct registry queries** option for the **Collection method** in the Monitor Settings panel when you configure the monitor.

Configuring the Microsoft Windows Resources Monitor to Run on Windows 2003 as a Non-Administrator User

For the Microsoft Windows Resources Monitor to monitor a Windows 2003 machine if the SiteScope user account is not in the Administrators group, you must either:

- Use the same domain account on both the SiteScope and the remote monitored system, or
- Use local accounts on both systems, provided that the user accounts have the same name and password and are always synchronized on both systems. You cannot use **Local System** or other similar system predefined accounts that do not enable you to specify a password for them.

  In addition, you must configure the user account settings on SiteScope and the remote monitored machine to log on using the selected non-administrator user account (domain or local account). You can then use a standard Windows perfmon utility to verify that it works.

To configure user account settings on SiteScope:

1. In the **Services** control panel, right-click the **SiteScope** service, and then click **Properties**. The SiteScope Properties dialog box opens.
2. Click the **Log On** tab, and configure the user account to log on using the selected non-administrator user account (domain or local account).

To configure user account settings on the remote monitored machine:

1. Check that you can access the remote machine. Perform a ping test and check DNS resolves the server name with its IP address.

   We recommend that you check there are no other network-related problems by using the selected user account to map a network drive of the monitored machine to the drive used on the SiteScope machine.

2 In the **Services** control panel, check that the **RemoteRegistry** service is running and that the selected user account has access to it. You can use the following command from the Windows 2003 Resource Kit (run it under an administrator account):

subinacl /service RemoteRegistry /grant=tester=f

This command grants Full Access to the RemoteRegistry service for the local user tester.

3 Add the domain or local user account to be used into the **Performance Monitor Users** and **Performance Log Users** local user groups. Make sure that these groups have at least read permissions for the following registry key (and all its subkeys):

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Perflib]

Tip: To check read permissions, select **Start** > **Run**, and type **Regedt32.exe**. In the Registry Editor, select the registry key, click **Security**, and select **Permissions**. In the Name pane, highlight the user SiteScope uses to access the remote machine, and make sure that the **Allow** check box for **Read** is selected in the **Permissions** pane.

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4 Make sure that the domain or local user account to be used has at least read permissions on the following objects:

- Registry key: [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurePipeServers\winreg]
- Files in **%WINDIR%\System32\perf?XXX.dat**, where **XXX** is the basic language ID for the system. For example, 009 is the ID for the English version.

Note: If the required Performance Counter Library Values are missing or are corrupted, follow the instructions in Microsoft knowledge base article KB300956 (http://support.microsoft.com/kb/300956/en-us) to manually rebuild them.

To verify that the non-administrator user account works:

1. Launch a standard Windows perfmon utility. You can either:
   - Launch it interactively when logged on to the SiteScope machine with the selected user account by typing perfmon.
   - Launch it when logged on to the SiteScope machine with some other account through the RunAs command, which allows you to launch commands under different user account. Enter the following command:

     runas /env /netonly /user:tester "mmc.exe perfmon.msc"

     Then enter the password (in this example, for the tester account), and the command is run under the tester user account.
2. After the Performance window opens, right-click in the right graph area and select **Add Counters**. The Add Counters dialog box opens.
3. Select **Choose counters from computer** and enter the remote monitored machine name or its IP address in the box.
4. Press the TAB key. If the perfmon utility is able to connect to the remote machine, the Performance object box is filled in with the performance objects that can be monitored from the remote machine.

   For details on configuring this monitor, see "Microsoft Windows Resources Monitor Settings" on page 738.

Microsoft Windows Services State Monitor Overview

Use the Microsoft Windows Services State Monitor to monitor the services installed and running on remote Windows servers. By default, the monitor returns a list of all of the services that are set to be run automatically on the remote server. You can filter the list of services returned by the monitor using regular expressions. The monitor displays the number of services running and related statistics along with a summary listing of the services installed on the remote server.

Note:

- This monitor is supported in SiteScopes that are running on Windows versions only.
- The Microsoft Windows Services State Monitor only retrieves a list of installed services. It does not query the list of processes that may be running on the remote machine (use the Service Monitor for this).

To use this monitor to create event alerts, configure alert definitions associated with this monitor to alert **Once, after the condition has occurred exactly 1 times**. This is because the Microsoft Windows Services State Monitor only signals a change in state for services relative to the previous run of the monitor. For example, if the monitor is set to signal an error if a service has changed from running to not running, the monitor only signals an error status for one monitor run cycle. The number of services running and not running is reset for each monitor run and this number is used for comparison with the next monitor run.

For details on configuring this monitor, see "Microsoft Windows Services State Monitor Settings" on page 741.

Service Monitor Overview

The Service Monitor verifies that specific processes are listed as running, and optionally, it can also check to see how much CPU and memory (Page File Bytes) a process is using. If a process that should be running does not show up or if it is using too much memory, SiteScope can either alert you to the problem so that you can address it yourself, or it can run a script to automatically restart the process to help minimize the effect on other operations and downtime.

You should create a Service Monitor for any service or process that should be running on a consistent basis. You can also create a Script Alert that restarts the service automatically if the service monitor in SiteScope cannot find it. The **restartService.bat** script, located in the **<SiteScope root directory>\scripts** directory, is a template that you can customize to create a script for SiteScope to run in the event your monitor fails. For details on using a Script Alert, see "Working with Script Alerts" on page 1597.

This section contains the following topics:

Scheduling This Monitor

The Service Monitor does not put a heavy load on your server. For monitoring remote UNIX servers, SiteScope usually needs to open a telnet or SSH connection to the remote server. While the monitor actions generally do not load either server, managing a large number of remote connections can results in some performance problems. You probably want to monitor critical services and services that have a history of problems every five minutes or so. Less critical services and processes should be monitored less frequently.

Status

Each time the Service Monitor runs, it returns a reading and a status message and writes them in the monitoring log file.

The reading is the current value of the monitor. For this monitor, the possible readings are:

- Running
- Not found

The status is logged as either OK or error. An error status is returned if the service is not found.

For details on configuring this monitor, see "Service Monitor Settings" on page 744.

UNIX Resources Monitor Overview

Use the UNIX Resources Monitor to monitor the server system statistics on UNIX servers. You can monitor multiple parameters or measurements with a single monitor instance. This allows you to monitor the remote server for loading, performance, and availability at a basic system level. See the list of example system measurements that can be monitored. Create a separate UNIX Resources monitor instance for each UNIX server in your environment.

The UNIX Resources Monitor queries the list of UNIX servers currently configured in the UNIX Remote Servers container. To monitor a remote UNIX server, you must define a UNIX Remote connection profile for the server before you can add a UNIX Resources Monitor for that server. For details, see "Remote Servers Overview" on page 1014.

You can create a Server-Centric Report for the UNIX Server by clicking the server name in the Target column of the row corresponding to the UNIX Resources Monitor in Dashboard. For details, see "Server-Centric Report" on page 1524.

For details on configuring this monitor, see "UNIX Resources Monitor Settings" on page 747.

Web Server Monitor Overview

The Web Server Monitor gathers information about a Web Server by reading the server log files. Using this information, you can see how busy your Web site is, and plan hardware upgrades and configuration changes to improve performance.

It is most effective if you create a separate Web Server Monitor for each Web server you are running. If you are running multiple Web servers, each one should have its own log file so that SiteScope can report on them separately. For information about what data is recorded, see "SiteScope Log File Columns" on page 1547.

For details on configuring this monitor, see "Web Server Monitor Settings" on page 750.

Server Monitors User Interface

This section describes:

Browsable Windows Performance Counter Monitor Settings

Description	The Browsable Windows Performance Counter Monitor tracks the values of Windows performance statistics. These are the same statistics that can be viewed using the Performance Monitor application under Windows. This monitor is only available on the Windows version of SiteScope. Use this page to add the monitor or edit the monitor's properties. **To access:** Click the **Templates**  button to display the template tree, and expand the **Solution Templates** container. Right-click the required Microsoft Exchange Solution Template, and select **Deploy Template**. Select the SiteScope group container into which you want to deploy the solution template, and enter the deployment values.
Important Information	This monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP Sales representative for more information. This monitor can only be added by deploying a Microsoft Exchange Solution Template. For more information, see "SiteScope Solution Templates" on page 1341. Once the monitor has been created, you can edit the monitor configuration in the same way as other monitors. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Browsable Windows Performance Counter Monitor Overview" on page 698

Browsable Windows Performance Counter Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	Enter the server where the performance counters you want to monitor are found. **Note:** After deployment, you can use the drop-down list to select a server from the list of Microsoft Windows remote servers that are available to SiteScope. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Counter file	The file that contains a list of counters from which to choose to monitor. Use the drop-down list to select a server from the list of remote servers that are available to SiteScope. The files in this list all reside in the **<SiteScope root directory>\templates.perfmon\browsable** directory under SiteScope. There are a number of default files in the standard SiteScope distribution.

GUI Element	Description
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters. **Note when working in template mode:** To update counters in template browsable monitors that need a target server, click the **Select measurement from** button and add the required server and counters. Any server that is accessible in the domain can be used. If a server is not in the domain, you must manually add the server to the remote server tree before adding counters, and then specify the newly created server name in the **Server** field.
Get Counters	Click to open the Select Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

CPU Utilization Monitor Settings

Description	Reports the percentage of CPU time that is currently being used on the server. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"CPU Utilization Monitor Overview" on page 699

CPU Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the CPU utilization you want to monitor is running. Select a server from the server list (only those remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.

GUI Element	Description
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of Windows servers in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the Add Remote Server dialog box. Select the type of remote you want to add (Windows or UNIX), and enter the configuration details. For details on the Microsoft Windows Remote Servers user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. For details on the UNIX Remote Servers user interface, see "UNIX Remote Servers User Interface" on page 1032.

Disk Space Monitor Settings

Description	The Disk Space Monitor tracks how much disk space is currently in use on your server. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Disk Space Monitor Overview" on page 700

Disk Space Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the disk space you want to monitor is running. Select a server from the server list (only those remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

GUI Element	Description
Add Remote Server	Click to open the Add Remote Server dialog box. Select the type of remote you want to add (Windows or UNIX), and enter the configuration details. For details on the Microsoft Windows Remote Servers user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. For details on the UNIX Remote Servers user interface, see "UNIX Remote Servers User Interface" on page 1032.
Disk/File system	Select the disk drive that you want to monitor from the list. **Note:** Disk performance counters are unavailable by default in standard Windows 2000 installations. To monitor disk drives on servers running Windows 2000, you must enable these disk counters. Use the diskperf -y command line on each Win2000 machine you want to monitor disk space and then reboot each server. You should then be able to select the disk drives for those servers in the Disk Space Monitor page.

IPMI Monitor Settings

Description	Monitors component health and operation statistics for Intelligent Platform Management Interface (IPMI) enabled devices running version 1.5. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"IPMI Monitor Overview" on page 701

IPMI Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server name	Enter the IPMI server name or IP address of the IPMI network adapter. **Note:** The IP address is normally not the same as the ordinary ethernet NIC adapter address.
Port number	Enter the port number of the IPMI device. **Default value:** 623
Credentials	Select the option for providing the user name and password to be used to access the IPMI server. ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Memory Monitor Settings

Description	The Memory Monitor provides a tool for you to track how much virtual memory is currently in use on a server. Running out of memory can cause server applications to fail and excessive paging can have a drastic effect on performance. Use this page to add a monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Memory Monitor Overview" on page 702

Memory Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the memory you want to monitor is running. Select a server from the server list (only those remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.

GUI Element	Description
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the Add Remote Server dialog box. Select the type of remote you want to add (Windows or UNIX), and enter the configuration details. For details on the Microsoft Windows Remote Servers user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. For details on the UNIX Remote Servers user interface, see "UNIX Remote Servers User Interface" on page 1032.

Microsoft Windows Event Log Monitor Settings

Description	The Microsoft Windows Event Log Monitor watches one of the Microsoft Windows Event Logs (System, Application, or Security) for added entries. This monitor is only available on the Windows version of SiteScope. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Microsoft Windows Event Log Monitor Overview" on page 704

Microsoft Windows Event Log Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the event log you want to monitor is running. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.

GUI Element	Description
Log name	Choose from the following logs: ➤ Application ➤ Directory Service ➤ DNS ➤ File Replication Service ➤ Security ➤ System **Note:** This is a static list of those logs available when deploying this monitor. These log files do not necessarily exist on the server you are monitoring.
Event type	Select the event type: ➤ Any ➤ Error ➤ Warning ➤ Error or warning ➤ Information
Run alerts	Select the method for running alerts. ➤ If **For each event matched** is chosen, then the monitor triggers alerts for every matching entry found regardless of the defined threshold settings and the monitor status (good, warning, or error). ➤ If **Once, after all events have been checked** is chosen, then the monitor counts up the number of matches and triggers alerts based on the warning and error threshold settings.

GUI Element	Description
Source and ID match	Enter the match string identifying the source of the event and the event ID in the form: <Event Source>:<Event ID>. **Example:** Print:20 matches event source named Print and event ID of 20. To match against all events from a specific source, enter just the event source name. **Example:** W3SVC To match an exact event ID from an event source, specify both. **Example:** Service Control Mar:7000 You can also use a regular expression for more complex matches. You can also use the Regular Expression Test tool to check your regular expressions. For details, see "Regular Expression Tool" on page 197.

GUI Element	Description
Source and ID do not match	Enter the match string identifying the source of the event to NOT MATCH in the form: <Event Source>:<Event ID>. **Example:** Print:20 ignores all events of Print source and event ID 20. To ignore all events from a particular source, specify just the source name. **Example:** W3SVC To ignore an exact event ID from an event source, specify both. **Example:** Service Control Mar:7000 You can also use a regular expression for a more complex NOT MATCH. **Example:** ➤ to ignore all Perflib sources from 200 to 299 use: /Perflib:2\d\d/ ➤ to ignore all events from the Perflib source, use: Perflib:* You can also use the Regular Expression Test tool to check your regular expressions. For details, see "Regular Expression Tool" on page 197.
Description match	Enter the text string to match against the description text for the event entry. The description text is the same as the description that is displayed when viewing the detail of an event log entry in the Windows Event Viewer. You can also enter a regular expression in this box to match on patterns. You can also use the Regular Expression Test tool to check your regular expressions.

GUI Element	Description
Description does not match	Microsoft Windows Event Log Monitor triggers an alert only if the text entered in this box does not appear in the event entry's description text. The description text can be viewed in the detail view of the event log entry by using the Windows Event Viewer. You can also enter a regular expression in this box to match on patterns. You can also use the Regular Expression Test tool to check your regular expressions. For details, see "Regular Expression Tool" on page 197.
Event category	Match the category number of the event entry.
Event machine	Match against the machine that added the entry to the log file.
Interval (minutes)	Enter a time period for which matching event log entries are totaled. This is useful when the case you are interested in is a quantity of events happening in a given time period. **Example:** If you wanted to detect a succession of service failures, 3 in the last 5 minutes, you would specify 5 minutes for the interval, and then change the **Error If** threshold to **matches in interval >= 3**. **Note:** This field is not available when **For each event matched** is selected in the **Run alert** field.

Microsoft Windows Performance Counter Monitor Settings

Description	The Microsoft Windows Performance Counter Monitor tracks the values of any Windows performance statistic. These are the same statistics that can be viewed using the Microsoft Management Console under Windows. This monitor is only available on the Windows version of SiteScope. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Microsoft Windows Performance Counter Monitor Overview" on page 705

Windows Performance Counter Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server on which you want to monitor Windows performance statistics. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. When using a settings file from the Microsoft Windows Performance Counter Monitor, all counters are measured on the server specified by this entry. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

GUI Element	Description
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.
PerfMon chart file	Select the Microsoft Windows Performance Counter Monitor setting file you want to use for your settings. These files can be saved in the Microsoft Management Console (perfmon) and have either a .pmc or .pmw extension. On Windows 2000 Platform these can be saved using the .htm format. The files in this list all reside in the **<SiteScope root directory>\ templates.perfmon** directory. There are a number of default files in the standard SiteScope distribution. **Note:** If you make your own settings file, it must be placed in the **<SiteScope root directory>\ templates.perfmon** directory. You can optionally specify the settings directly for a single counter in the **Counter** box below. If you create your own .pmc file, any server specified in the .pmc file is ignored by SiteScope. The queried server is the one in the **Server** box (see above). Therefore, do not include identical counters directed at different servers in a single .pmc file. One .pmc file can be used by more than one Microsoft Management Console instance, but any single instance of the Microsoft Management Console only queries one server regardless of the servers assigned in the .pmc. If you have specified the settings directly in the **Object** box below, this list displays **(Custom object)**.
Object	Enter the name of the high level item that is being measured, such as Processor or Server. It is the same as the Object in the Microsoft Management Console. The object name is case sensitive. If you are using a Performance Monitor file for counter settings, leave this item blank.

GUI Element	Description
Counter	Enter the specific aspect of the Object that is measured, such as Interrupts/sec. It is the same as the Counter in the Performance Monitor application. The counter name is case sensitive. If you are using a Performance Monitor file for counter settings, leave this item blank.
Units	Enter the units to be displayed with the counter's values to make them more readable.
Instance	Some counters can have multiple instances, for example, on machines with two CPUs, there are two instances of the Processor object. Enter the instance in the Performance Monitor application. The instance name is case sensitive. If you are using a Performance Monitor file for counter settings, leave this item blank.
Scale	If you want the raw performance counter value scaled to make it more readable, select one of the predefined choices using the **Commonly used values** list, or enter a numeric value in the **Other values** box. The raw value of the counter is multiplied by the scale to determine the value of the monitor. The kilobytes option divides the raw value by 1,024 (the number of bytes in 1 K), and the megabytes option divides the raw value by 1,048,576 (the number of bytes in 1 MB). If there are multiple counters specified by using a Performance Monitor file, this scaling applies to all counters. **Default value:** 1

Microsoft Windows Resources Monitor Settings

Description	The Microsoft Windows Resources Monitor enables you to monitor system performance data using the Performance Data Helper (PDH) interface on Windows systems. The error and warning thresholds for the monitor can be set on one or more performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	The performance parameters or counters available for the Microsoft Windows Resources Monitor vary depending on what operating system options and applications are running on the remote server. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Microsoft Windows Resources Monitor Overview" on page 706

Microsoft Windows Resources Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The Microsoft Windows server that you want to monitor. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.

GUI Element	Description
Server to get measurements from	Enter the name of any SiteScope remote server from which you want to get counters (it must be accessible in the domain using NETBIOS), and click **Apply**.
Available Measurements	Displays the available measurements for this monitor. For each measurement, select the **Object**, **Instances** and **Counters** you want to check with the Microsoft Windows Resources Monitor, and click the **Add Selected Measurements** button. The selected measurements are moved to the Selected Measurements list.
Selected Measurements	Displays the measurements currently selected for this monitor, and the total number of selected counters. To remove measurements selected for monitoring, select the required measurements, and click the **Remove Selected Measurements** button. The measurements are moved to the Available Measurements list.
Collection method	Select the collection method from the following options: ➤ **Microsoft Windows PDH Library**. This is the default and most common option. ➤ **Use global setting**. Instructs the monitor to use the value configured in the **master.config** file for the **_wrmCollectionMethod** property. If this property has not been added to the **master.config** file, the default option is used. ➤ **Direct registry queries**. Use this option if Windows PDH library is not accessible or if the monitor is having trouble using the Windows PDH library. You must use this option when monitoring Windows servers configured using SSH.
Enable Server-Centric Report	Select to enable collecting data specifically for generating the Server-Centric Report. The report displays various measurements for the server being monitored. For details, see "Generating a Server-Centric Report" on page 1490.

Microsoft Windows Services State Monitor Settings

Description	The Microsoft Windows Services State Monitor is used to monitor a list of services running on Windows systems and report changes in the number of services that are running and list the services that changed state. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Microsoft Windows Services State Monitor Overview" on page 710

Microsoft Windows Services State Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The Windows server you want to monitor. Select a server from the server list (only those remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the Add Remote Server dialog box. Select **Add New Windows Remote**, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.

GUI Element	Description
Services to include	Enter an optional regular expression to filter the list of services returned by the monitor. **Default value:** All of the services detected on the remote machine. When you use a regular expression to filter the list of services, the monitor calculates changes in state (that is, running or not running) based only on the services matched by the regular expression. **Examples:** The following are examples of services that can be monitored: ➤ Services added ➤ Services changed to not running ➤ Services changed to running ➤ Services currently not running ➤ Services currently running ➤ Services deleted ➤ Services last running ➤ Number of services added ➤ Number changed to not running ➤ Number of services currently not running ➤ Number of services currently running ➤ Number of services deleted
Services to ignore	Enter an optional regular expression to filter the list of services matched by the expression used in the **Services to include** setting. When you use a **Services to ignore** regular expression to filter the list of **Services to include**, the monitor calculates changes in state (that is, running or not running) based only on the services matched by the **Services to ignore** regular expression.
Include driver services	Select this box to have the monitor include all low-level driver services. This generally increases the size of the list. You use the **Services to include** and **Service to ignore** options to filter the list of services returned using this option.

Service Monitor Settings

Description	The Service Monitor checks to see if a service (Windows environment) or a specific process (UNIX and Windows) is running. There are many services or processes that play an important role in the proper functioning of your server, including Web server, Mail, FTP, News, Gopher, and Telnet. Web environments which support e-commerce transactions may have other important processes that support data exchange. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. In Threshold Settings, the CPU amd memory (Page File Bytes) measurements are relevant only for processes and not for system services. If the selected service is a process name, CPU amd memory (Page File Bytes) measurements are in the drop-down list. If the selected service is a system service, such as Event Log, CPU amd memory (Page File Bytes) measurements are not listed. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Service Monitor Overview" on page 711

Service Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the service you want to monitor is running. Select a server from the server list (only those remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

GUI Element	Description
Add Remote Server	Click to open the Add Remote Server dialog box. Select the type of remote you want to add (Windows or UNIX), and enter the configuration details. For details on the Microsoft Windows Remote Servers user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. For details on the UNIX Remote Servers user interface, see "UNIX Remote Servers User Interface" on page 1032.
Service	Select the service (or process in UNIX) that you want to monitor from the services list. To monitor an NT process, select **(Using Process Name)** in the drop-down list and enter the name in the **Process name** box. **Note:** The CPU amd memory (Page File Bytes) counters are relevant for processes and not for services, and it is displayed only if the selected service is by process name.
Other service	Enter the name of the service you want to monitor if it is not listed in the services list.
Process name	(For NT only) If you want to get information about the percentage of CPU amd memory (Page File Bytes) being used by a specific process and/or the number of a specific type of process running, enter the name of the process here. **Note:** The name of the process must be as it appears in NT Task Manager. **Example:** explorer.exe
Measure process memory use	(For UNIX only) Select this box if you want SiteScope to report the amount of virtual memory being used by a specific process.

UNIX Resources Monitor Settings

Description	The UNIX Resources Monitor enables you to monitor multiple system statistics on a single UNIX system. The error and warning thresholds for the monitor can be set on one or more server system statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"UNIX Resources Monitor Overview" on page 712

UNIX Resources Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The UNIX server that you want to monitor. Select a server from the server list (only those remote servers that have been configured in SiteScope are displayed), or use the **Add Remote Servers** button to add a UNIX server. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Server to get measurements from	Enter the name of any SiteScope remote server from which you want to get counters (it must be accessible in the domain using NETBIOS), and click **Apply**.
Add Remote Server	Click to open the New UNIX Remote Server dialog box and enter the configuration details. For details on the user interface, see "UNIX Remote Servers User Interface" on page 1032.
Available Measurements	Displays the available measurements for this monitor. For each measurement, select the **Object**, **Instances** and **Counters** you want to check with the UNIX Resources Monitor, and click the **Add Selected Measurements**  button. The selected measurements are moved to the Selected Measurements list.

GUI Element	Description
Selected Measurements	Displays the measurements currently selected for this monitor, and the total number of selected counters. To remove measurements selected for monitoring, select the required measurements, and click the **Remove Selected Measurements** button. The measurements are moved to the Available Measurements list.
Enable Server-Centric Report	Select to enable collecting data specifically for generating the Server-Centric Report. The report displays various measurements for the server being monitored. For details, see "Generating a Server-Centric Report" on page 1490.

Web Server Monitor Settings

Description	The Web Server Monitor reports information about a Web server by reading the server log files. Each time the Web Server Monitor runs, it writes the current hits per minute and bytes per minute in the monitor status string and in the SiteScope logs. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Web Server Monitor Overview" on page 713

Web Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the Web server instance you want to monitor is running. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note:** The Server option exists for SiteScope running on Windows platforms only. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.

GUI Element	Description
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of Windows servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** ➤ This button is available for SiteScope running on Windows platforms only. ➤ To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025. **Note:** This button is available for SiteScope running on Windows platforms only.
Web server	Select a Web server type for the selected Web server from the list of accessible server types. **Default value:** Microsoft IIS **Note:** This field is available for SiteScope running on Windows platforms only.

GUI Element	Description
Log file path	For SiteScope running on UNIX platforms: To monitor Web server statistics, enter the full path of the Web server log file. For SiteScope running on Windows platforms: If your Web server does not appear in the Web Server list, you may still monitor it by entering the full path to the Web server log file. **Example:** c:/ns-home/httpd-test/logs/access For servers that dynamically create the filename for log files, you can include regular expression as part of the log file path definition. The SiteScope can then retrieve data from a range of filenames based on evaluation of the regular expressions.
Request size column	If your Web server saves information in a custom format. Enter the column number which contains the Request Size. If this item is blank, the common log file format is assumed.

16

Stream Monitors

This chapter includes the main concepts and reference information for monitoring applications that play media files and stream data.

This chapter includes:

Concepts

Reference

Microsoft Windows Media Player Monitor Overview

Use the Microsoft Windows Media Player Monitor to monitor availability and delivery quality parameters for media files and streaming data compatible with Windows Media Servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to report on delivery performance. Create a separate monitor instance for files or data streams that are representative of the content available from the site you want to monitor.

Note:

- This monitor is supported in SiteScopes that are running on Windows versions only.
- You should monitor only video streams, not audio streams, with this monitor.

You must have an instance of Windows Media Player installed on the machine where SiteScope is running to use this monitor.

For a list of the Media Player performance parameters or counters you can check with the Microsoft Windows Media Player Monitor, see "Performance Counters" on page 762.

For details on configuring this monitor, see "Microsoft Windows Media Player Monitor Settings" on page 760.

Microsoft Windows Media Server Monitor Overview

Use the Microsoft Windows Media Server Monitor to monitor the server performance parameters for Microsoft Windows Media Servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate monitor instance for each Windows Media Server you are running.

Note:

- This monitor is supported in SiteScopes that are running on Windows versions only.
- By default, SiteScope monitors the Microsoft Windows Media Server default services, **Windows Media Station Service** and **Windows Media Unicast Service**. To monitor other services, add the service names to the _counterObjectsWindowsMediaMonitor property in the **<SiteScope root directory>\groups\master.config** file.

The Microsoft Windows Media Server Monitor uses performance counters to measure application server performance. SiteScope must be running under an account that has the necessary administrative security privileges to access performance counter data from remote servers. If the servers you want to monitor are in a different domain, are governed under a different policy, or require a unique login different than the account SiteScope is running under, then you must define the connection to these servers under the Microsoft Windows Remote Servers container in the remote server tree. For details, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

For details on configuring this monitor, see "Microsoft Windows Media Server Monitor Settings" on page 764.

Real Media Player Monitor Overview

Use the Real Media Player Monitor to monitor availability and delivery quality parameters for media files and streaming data compatible with RealNetworks Real Media Players. You can monitor multiple parameters or counters with a single monitor instance. This allows you to report on delivery performance. Create a separate monitor instance for files or data streams that are representative of the content available from the site you want to monitor.

Note: This monitor is supported in SiteScopes that are running on Windows versions only.

Before you can use the Real Media Player Monitor, Real Media Player client libraries must be installed on the server where SiteScope is running. Normally, it is sufficient to download and install a Real Media Player client on the server.

For details on configuring this monitor, see "Real Media Player Monitor Settings" on page 767.

Real Media Server Monitor Overview

Use the Real Media Server Monitor to monitor the server performance parameters for RealNetworks Real Media Servers. You can monitor multiple parameters or counters with a single monitor instance. This allows you to watch server loading for performance, availability, and capacity planning. Create a separate monitor instance for each RealSystem Server you are running.

Note:

- This monitor is supported in SiteScopes that are running on Windows versions only.
- By default, SiteScope monitors the Real Media Server default service, **RMServer**. To monitor other services, add the service names to the _counterObjectsRealMonitor property in the **<SiteScope root directory>\groups\master.config** file.

The Real Media Server Monitor makes use of Performance Counters to measure application server performance. SiteScope needs to be running under an account that has the necessary administrative security privileges to access performance counter data from remote servers. If the servers you want to monitor are in a different domain, are governed under a different policy, or require a unique login different than the account SiteScope is running under, you must define the connection to these servers under the Microsoft Windows Remote Servers container in the remote server tree.

The Remote Registry service must be running on the machine where the Real Media server is running if the Real Media Server is running on Windows 2000.

For details on configuring this monitor, see “Real Media Server Monitor Settings” on page 769.

Stream Monitors User Interface

This section describes:

Microsoft Windows Media Player Monitor Settings

Description	The Microsoft Windows Media Player Monitor allows you to emulate a user playing media or streaming data from a Windows Media Server. The error and warning thresholds for the monitor can be set on one or more Windows Media Player performance statistics. This monitor does not support the .asx or .mov formats. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Microsoft Windows Media Player Monitor Overview" on page 756

Microsoft Windows Media Player Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
URL	Enter the URL of the media file or streaming source you want to monitor. This should be the URL of the media file. **Example:** mms://<servername>/sample.asf for a unicast stream or http://<servername>/stationid.nsc for a multicast stream using a Windows Media Server multicast station program. **Note:** This monitor does not support the .asx or .mov formats.
Duration (seconds)	Enter the playback duration that the monitor should use for the media file or streaming source. The duration value does not need to match the duration of the media contained in the file. If the media content of the file or source you are monitoring is less than the duration value selected for the monitor, the monitor plays the entire media content and reports the results, including the time required to play the media content. **Default value:** 15 seconds
Counters	Select the media player performance parameters or counters you want to check with the Microsoft Windows Media Player Monitor. For details on the available parameters or counters, see "Performance Counters" on page 762.

Performance Counters

The media player performance parameters or counters you can check with the Microsoft Windows Media Player Monitor include:

GUI Element	Description
Buffering count	The number of times the Player had to buffer incoming media data due to insufficient media content.
Buffering time	The time spent waiting for sufficient media data to continue playing the media clip.
Interrupts	The number of interruptions encountered while playing a media clip. This includes buffering and playback errors.
Packets lost	The number of lost packets not recovered (applicable to network playback).
Packets recovered	The number of lost packets successfully recovered (applicable to network playback).
Packet quality	The percentage ratio of packets received to total packets.
Ratio bandwidth	The ratio (as a percentage) of the actual bandwidth used to the recommended bandwidth. **Example:** If the recommended bandwidth is 100 bps and the actual bandwidth is 50 bps, the ratio bandwidth is 50%. If the recommended bandwidth is 50 bps and the actual bandwidth is 100 bps, the ratio bandwidth is 200%.
Recommended bandwidth	The recommended bandwidth in bits per second. When a .wmv file is opened in Media Player, the property **bitrate** is the recommended bandwidth. This bandwidth is embedded in the stream itself.
Recommended duration	The total duration of the media clip in seconds. This value is not effected by what was already played.
Sampling rate	The sampling rate in milliseconds, for collecting statistics.
Stream count	The packet count.

GUI Element	Description
Stream max	The maximum number of packets.
Stream min	The minimum number of packets.
Stream rate	The packet rate indicating the speed at which the clip is played: 1 is the actual speed, 2 is twice the original speed, and so on.
Time quality	The percentage of stream samples received on time (no delays in reception).

Microsoft Windows Media Server Monitor Settings

Description	The Microsoft Windows Media Server Monitor allows you to monitor the availability of a Microsoft Windows Media server on Windows NT systems. The error and warning thresholds for the monitor can be set on one or more Windows Media server performance statistics. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Microsoft Windows Media Server Monitor Overview" on page 757

Microsoft Windows Media Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the Windows Media Server you want to monitor is running. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.

GUI Element	Description
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters. **Note when working in template mode:** To update counters in template browsable monitors that need a target server, click the **Select measurement from** button and add the required server and counters. Any server that is accessible in the domain can be used. If a server is not in the domain, you must manually add the server to the remote server tree before adding counters, and then specify the newly created server name in the **Server** field.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor.

Real Media Player Monitor Settings

Description	The Real Media Player Monitor allows you to emulate a user playing media or streaming data from a Real Media Server. The error and warning thresholds for the monitor can be set on one or more Real Media Player performance statistics. This monitor does not support metadata files such as the .smi format. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Real Media Player Monitor Overview" on page 758

Real Media Player Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
URL	Enter the URL of the media file or streaming source you want to monitor. This should be the URL of the media file. **Note:** ➤ Only monitor video, not audio, streams with this monitor. ➤ This monitor does not support metadata files such as the .smi format.
Duration (seconds)	Enter the playback duration that the monitor should use for the media file or source. The duration value does not need to match the duration of the media contained in the file. If the media content of the file or source you are monitoring is less than the duration value selected for the monitor, the monitor plays the entire media content and reports the results, including the time required to play the media content. **Default value:** 15 seconds
Counters	Select the server performance counters you want to check with this monitor. The list displays the available counters and those currently selected for this monitor.

Real Media Server Monitor Settings

Description	The Real Media Server Monitor allows you to monitor the availability of a Real Media Server on Windows NT systems. The error and warning thresholds for the monitor can be set on one or more Real Media Server performance statistics. Use this page to add a monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. When configuring this monitor in template mode, some fields that contain drop-down lists may be displayed as text boxes, and the **Browse Servers** and **Add Remote Server** buttons are not displayed.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Real Media Server Monitor Overview" on page 759

Real Media Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	The server where the Real Media Server you want to monitor is running. Select a server from the server list (only those Windows remote servers that have been configured in SiteScope are displayed). Alternatively, use the **Browse Servers** button to select a server from the local domain, or **Add Remote Server** to add a new server. The default is to monitor the server on which SiteScope is installed. **Note when working in template mode:** You can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box.
Browse Servers	Click to open the Select Server dialog box. Select the server you want to monitor by: ➤ **Browse servers.** Select a server from the drop-down list of servers visible in the local domain. ➤ **Enter server name.** If the server you want to monitor does not appear in the Servers list because it has not been identified in the network or has not been configured in Remote Servers, enter the IP address or name of the server to monitor. **Note:** To monitor a remote Windows server, you must have domain privileges or authenticated access to the remote server. For details on how to configure a remote Windows server, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
Add Remote Server	Click to open the New Microsoft Windows Remote Server dialog box, and enter the configuration details. For details on the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025.

GUI Element	Description
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters. **Note when working in template mode:** To update counters in template browsable monitors that need a target server, click the **Select measurement from** button and add the required server and counters. Any server that is accessible in the domain can be used. If a server is not in the domain, you must manually add the server to the remote server tree before adding counters, and then specify the newly created server name in the **Server** field.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor.

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Web Transaction Monitors

This chapter includes the main concepts, tasks, and reference information for monitoring Web-based applications.

This chapter includes:

Concepts

Tasks

Reference

e-Business Transaction Monitor Overview

Use this monitor to verify that an end-to-end transaction and associated processes complete properly. For example, you could use this monitor to verify that the following steps, each of which is a step in a single transaction, run properly:

- Place an order on a Web site (Working with the URL Sequence Monitor)
- Check that the order status was updated (Working with the URL Sequence Monitor)
- Check that a confirmation e-mail was received (Mail Monitor Overview)
- Check that the order was added to the order database (Database Query Monitor Overview)
- Check that the order was transferred to a legacy system (Script Monitor Overview)

You should monitor any multi-step transaction process that causes other updates or actions in your systems. Monitor each of the actions taken to check that updates were performed properly and that actions were carried out successfully.

Using this example, you would first create the URL Sequence monitor, Mail monitor, Database monitor, and applicable Script monitor needed to verify each step of the chain. Then you would create an e-Business Transaction Monitor and select each of these SiteScope monitors as a group in the order they should be run. If any one monitor indicates a failure, the e-Business Transaction Monitor reports an error.

Each time the e-Business Transaction Monitor runs, it returns a status based on the number and percentage of items in the specified monitors and/or groups currently reporting an error, warning, or OK status. It writes the percentages reported in the monitoring log file.

This section contains the following topics:

- "Editing the Order of the Monitors in the Chain" on page 775
- "Setting up Monitors for the e-Business Chain" on page 775

Editing the Order of the Monitors in the Chain

By default, the Add e-Business Transaction Monitor page lists monitor groups and individual monitors in the order they are created. To have the e-Business Transaction Monitor run the chain of monitors in the proper order, they must appear in the proper order in the selection menu on the New e-Business Transaction Monitor page. You can do this by creating the individual monitors in the order in which they should be run.

Note: To control the order of the monitors in the chain, you should select monitors and not groups. If you select groups to run in the E-Business Transaction monitor, they are run at random and not by group order.

Setting up Monitors for the e-Business Chain

Before you can add an e-Business Transaction Monitor, you must define other SiteScope monitors that report on the actions and results of the steps in the sequence chain. Using the example from the usage guidelines above, you may create one or more URL Sequence Monitor for verifying the sequence of online actions, a Mail Monitor to confirm that an e-mail acknowledgement is sent, and a Database Query monitor to see that information entered online is logged into a database. To facilitate administration, use the following steps.

To set up a URL sequence chain monitor:

1. Create a new group that contains all the individual monitors to be included in the sequence chain.
2. Open the new monitor group, and add the first individual monitor type needed to for the sequence (for example, URL Sequence Monitor).

Note: Monitors should be added in the order that they are run in the chain. For example, create a URL Sequence Monitor which triggers an e-mail event before you create the Mail Monitor to check for the e-mail. For details, see "Editing the Order of the Monitors in the Chain" above.

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3. If necessary, set up the values to be passed from one monitor to another in the chain. For information about how this works see the section on passing variables between monitors below.
4. Add the other monitors for this transaction chain in the required order of execution into the group.

Note: The individual monitors run by the e-Business Transaction Monitor should generally not be run separately by SiteScope. You should make sure that the **Frequency** setting for each of these monitors is set to zero ("0").

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5. Create a new group or open an existing group that contains the e-business transaction chain monitor you are creating.
6. Click **New** > **Monitor** and select the **e-Business Transaction** monitor.
7. Complete the e-Business Transaction Monitor configuration.

   For details on configuring this monitor, see "e-Business Transaction Monitor Settings" on page 815.

Link Check Monitor Overview

Use the Link Check Monitor to check the internal and external links on a Web page to insure that they can be reached. Each time the Link Check Monitor runs, it returns a status and writes it in a link report log file named LinkReport_<group name><number>.log (this should not be confused with the daily logs). It also writes the total number of link errors, the total number of links, the total number of graphics, and the average time for retrieving a page.

You should monitor the Web site for the availability of key content. This includes checking that image files and linked HTML files are accessible as referenced within the Web pages. Starting with your home page, the Link Check Monitor branches out and checks every link available on your entire site by default. If you only want it to check a portion of your site, specify the URL that links into the targeted area. You can limit the number of linked hops the monitor follows in the **Maximum hops** box of the Monitor Settings panel.

You probably only need to run the link monitor once a day to check for external links that have been moved or no longer work and internal links that have been changed. You can also run it on demand any time you do a major update of your Web site.

For details on configuring this monitor, see “Link Check Monitor Settings” on page 817.

URL Monitor Overview

The URL Monitor is used to monitor a specified Web page to verify that it can be retrieved. You can also use the URL Monitor to do the following:

- Check secure pages using SSL, 128 bit SSL, and client certificates
- Check for specific content on the retrieved Web page
- Check the Web page for change
- Check for specific error messages
- Check the Web page for a value
- Retrieve detailed download information
- Check XML

When the URL Monitor retrieves a Web page, it retrieves the page's contents. A successful page retrieval is an indication that your Web server is functioning properly. The URL Monitor does not automatically retrieve any objects linked from the page, such as images or frames. You can, however, instruct SiteScope to retrieve the images on the page by selecting **Retrieve images** or **Retrieve frames** in the HTTP Settings pane.

In addition to retrieving specific Web pages, the URL Monitor can verify that CGI scripts and back-end databases are functioning properly. You must input the complete URL used to retrieve data from your database or trigger one of your CGI scripts. The URL monitor verifies that the script generates a page and returns it to the user. For example, you can verify that your visitors are receiving a thank you page when they purchase something from your site. The URL monitor's string matching capability allows you to verify that the contents of the page are correct.

This section contains the following topics:

What to Monitor

You can create URL monitors to watch pages that are critical to your Web site (such as your home page), pages that are generated dynamically, and pages that depend on other applications to work correctly (such as pages that utilize a back-end database). The goal is to monitor a sampling of every type of page you serve to check that things are working. There is no need to verify that every page of a particular type is working correctly.

When you choose which pages to monitor, select pages with the lowest overhead. For example, if you have several pages that are generated by another application, monitor the shortest one with the fewest graphics. This puts less load on your server while still providing you with the information you need about system availability.

Scheduling This Monitor

Each URL Monitor puts no more load on your server than someone accessing your site and retrieving a page, so in most cases you can schedule them as closely together as you want. Keep in mind that the length of time between each run of a monitor is equal to the amount of time that can elapse before you are notified of a possible problem.

A common strategy is to schedule monitors for very critical pages to run every 1 to 2 minutes, and then schedule monitors for less critical pages to run only every 10 minutes or so. Using this strategy, you are notified immediately if a critical page goes down or if the entire Web site goes down, but you do not have an excessive number of monitors running simultaneously.

Status

Each time the URL Monitor runs, it returns a reading and a status and writes it in the monitoring log file. It also writes in the log file the total time it takes to receive the designated document. This status value is also displayed in the SiteScope Monitor tables and is included as part of alert messages sent by using e-mail.

The status reading shows the most recent result for the monitor. This status value is displayed in the URL Group table within SiteScope. It is also recorded in the SiteScope log files, e-mail alert messages, and can be transmitted as a pager alert. The possible status values are:

- OK
- unknown host name
- unable to reach server
- unable to connect to server
- timed out reading
- content match error
- document moved
- unauthorized
- forbidden
- not found
- proxy authentication required
- server error
- not implemented
- server busy

The status is logged as either good, warning, or error in the Dashboard. A warning status or error status is returned if the current value of the monitor is a condition that you have defined as other than OK.

SSL Connectivity

Web servers are generally configured to use SSL encryption for administrative connections. This can be determined by the prefix of the Web service URL. The http:// prefix means that the server uses a non-encrypted connection. The https:// prefix means that it is a secure, encrypted connection.

Monitoring a Web server which uses an encrypted connection, requires that you either:

- Select the **Accept untrusted certificates for HTTPS** option in the Authentication Settings section of the Monitor Settings panel. For details, see "URL Monitor Settings" on page 820.
- Import the server certificate. See below for details.

To import a server certificate:

1. Check the certificates already in the keyStore, from the **<SiteScope root directory>\java\lib\security** directory, by entering:

   ../../bin/keytool -list -keystore cacerts

2. Import the certificate, into **<SiteScope root directory>\java\lib\security**, by entering:

   ../../bin/keytool -import -file myCert.cer -alias myalias -keystore cacerts

   where myCert.cer is the certificate file name and myalias is the certificate alias.

   Make sure that you specify a unique alias for every certificate you add. If you do not, the keytool uses an automatic alias and once you attempt to add more than one custom certificate, the new certificate overwrites the old and keeps the default alias.

   The word changeit is the default password for the **jssecacerts** file.

3 Make a copy of **<SiteScope root directory>\java\lib\security\cacerts** and rename it **<SiteScope root directory>\java\lib\security\jssecacerts**. After doing this, manually check to make sure the file **jssecacerts** is located in the **<SiteScope root directory>\java\lib\security** directory. The reason for creating the **jssecacerts** file is that the default **cacerts** file is overwritten every time SiteScope is upgraded or re-installed. Creating a copy with a different name allows new certificates to be imported and not be overwritten with future installations or upgrades.

For details on configuring this monitor, see "URL Monitor Settings" on page 820.

URL Content Monitor Overview

The URL Content Monitor is primarily used to monitor Web pages that are generated dynamically and display statistics about custom applications. By monitoring these pages, these statistics can be retrieved and integrated into the rest of your SiteScope system.

You should use the URL Content Monitor if you need to verify multiple values (up to 10 variables) from the content of a single URL. Otherwise, the standard URL Monitor is normally used. One use for this monitor is to integrate SiteScope with other applications that export numeric data through a Web page. The content values are matched using regular expressions. The monitor includes the matched values as part of the monitor status which are written to the log. If the matched values are numeric data, the results can be plotted in a report.

This section contains the following topics:

Scheduling This Monitor

The frequency depends on the statistics being monitored. For most statistics, every several minutes is often sufficient.

Status

Each time the URL Content Monitor runs, it returns a status and several match values and writes them in the monitoring log file. It also writes the total time it takes to receive the designated document in the log file.

The reading is the current value of the monitor. Possible values are:

- OK
- unknown host name
- unable to reach server
- unable to connect to server
- timed out reading
- content match error
- document moved
- unauthorized
- forbidden
- not found
- proxy authentication required
- server error
- not implemented
- server busy

The status is displayed as good, warning, or error in the Dashboard dependent on the results of the retrieval, content match, and the error or warning status criteria that you select.

SSL Connectivity

Web servers are generally configured to use SSL encryption for administrative connections. This can be determined by the prefix of the Web service URL. The http:// prefix means that the server uses a non-encrypted connection. The https:// prefix means that it is a secure, encrypted connection.

Monitoring a Web server which uses an encrypted connection, requires that you either:

- Import the server certificate as described below.
- Select the **Accept untrusted certificates for HTTPS** option in the Authentication Settings section of the Monitor Settings panel as described in "URL Content Monitor Settings" on page 830.

To import a server certificate:

1. Check the certificates already in the keyStore, from the **<SiteScope root directory>\java\lib\security** directory, by entering:

   ../../bin/keytool -list -keystore cacerts

2. Import the certificate, into **<SiteScope root directory>\java\lib\security**, by entering:

   ../../bin/keytool -import -file myCert.cer -alias myalias -keystore cacerts

   where myCert.cer is the certificate file name and myalias is the certificate alias.

   Make sure that you specify a unique alias for every certificate you add. If you do not, the keytool uses an automatic alias and once you attempt to add more than one custom certificate, the new certificate overwrites the old and keeps the default alias.

   The word changeit is the default password for the **jssecacerts** file.

3 Make a copy of **<SiteScope root directory>\java\lib\security\cacerts** and rename it **<SiteScope root directory>\java\lib\security\jssecacerts**. After doing this, manually check to make sure the file **jssecacerts** is located in the **<SiteScope root directory>\java\lib\security** directory. The reason for creating the **jssecacerts** file is that the default **cacerts** file is overwritten every time SiteScope is upgraded or re-installed. Creating a copy with a different name allows new certificates to be imported and not be overwritten with future installations or upgrades.

For details on configuring this monitor, see "URL Content Monitor Settings" on page 830.

URL List Monitor Overview

You can use the URL List Monitor to check the availability of a list of URLs without having to create a separate URL monitor for each one. For example, this is useful if you host several Web sites and simply want to see that they are each serving pages as expected. The URL List Monitor is not used to confirm links between pages (see the "Link Check Monitor Overview" on page 777) or other Web transaction processes (see "URL Sequence Monitor Overview" on page 788).

A URL List is specified by giving a filename containing the list of URLs to check. The URLs that you want to monitor are saved in a plain text file. There is virtually no limit to the number that you can list though the run interval selected for the monitor may require that the number of URLs be limited. For each URL included in the URL list file, the monitor retrieves the contents of the URL or the server response to the request.

This section contains the following topics:

Scheduling This Monitor

This is strictly dependent on how often you want to check to see if the URLs are working. Once an hour is common, but you can schedule it to run more often.

There are a few factors that affect how long it takes the URL List Monitor to complete a run:

- number of URLs in the list
- URL retrieval time
- the number of threads used

In some cases this may lead to the monitor not running as expected. As an example, assume you have a list of 200 URLs that you want to monitor every 10 minutes, but, due to Internet traffic, SiteScope is not able to complete checking all of the 200 URLs in that amount of time. The next time the monitor was scheduled to run, SiteScope would see that it did not complete the previous run and would wait for another 10 minutes before trying again.

The error log marks this as a "skip". If this happens 10 times, SiteScope restarts itself, and SiteScope Health shows an error status. There are several things you can do to try to resolve this issue:

- Schedule the monitor to run less frequently. If this conflicts with some other objective, use the other options.
- Split the URLs that you want to check into more than one list, and add additional monitors to monitor each list.
- Increase the number of threads that SiteScope can use when checking the URLs. The more threads, the quicker SiteScope can check them. Increasing the number of threads can adversely affect SiteScope's performance.

  Ideally, you want SiteScope to have just completed checking the URLs in the list when it is time to start checking again. This would indicate that the load was evenly balanced.

  Each time the URL List Monitor runs, it returns the number of errors, if any, and writes it into the monitoring log file. It also writes the total number of URLs checked and the average time, in milliseconds, to retrieve each URL.

SSL Connectivity

Web servers are generally configured to use SSL encryption for administrative connections. This can be determined by the prefix of the Web service URL. The http:// prefix means that the server uses a non-encrypted connection. The https:// prefix means that it is a secure, encrypted connection.

Monitoring a Web server which uses an encrypted connection, requires that you either:

- Import the server certificate as described below.
- Select the **Accept untrusted certificates for HTTPS** option in the Authentication Settings section of the Monitor Settings panel as described in "URL List Monitor Settings" on page 839.

To import a server certificate:

1. Check the certificates already in the keyStore, from the **<SiteScope root directory>\java\lib\security** directory, by entering:

   ../../bin/keytool -list -keystore cacerts

2. Import the certificate, into **<SiteScope root directory>\java\lib\security**, by entering:

   ../../bin/keytool -import -file myCert.cer -alias myalias -keystore cacerts

   where myCert.cer is the certificate file name and myalias is the certificate alias.

   Make sure that you specify a unique alias for every certificate you add. If you do not, the keytool uses an automatic alias and once you attempt to add more than one custom certificate, the new certificate overwrites the old and keeps the default alias.

   The word changeit is the default password for the **jssecacerts** file.

3 Make a copy of **<SiteScope root directory>\java\lib\security\cacerts** and rename it **<SiteScope root directory>\java\lib\security\jssecacerts**. After doing this, manually check to make sure the file **jssecacerts** is located in the **<SiteScope root directory>\java\lib\security** directory. The reason for creating the **jssecacerts** file is that the default **cacerts** file is overwritten every time SiteScope is upgraded or re-installed. Creating a copy with a different name allows new certificates to be imported and not be overwritten with future installations or upgrades.

For details on configuring this monitor, see "URL List Monitor Settings" on page 839.

URL Sequence Monitor Overview

You use URL Sequence Monitors to verify that multiple-page Web transactions are working properly. This is an important part of monitoring key business processes and services. For example, you can have SiteScope retrieve a login page, type an account name by using a secure Web form, check an account status for the page that is returned, and then follow a sequence of links through several more pages. URL Sequence Monitors are also useful for checking pages that include dynamically generated information, such as session IDs, that are embedded in the Web pages by using dynamic links or hidden input items.

The core of the URL Sequence Monitor is the sequence of URL and associated action requests that are performed by the monitor. A URL Sequence begins with a URL acting as the starting point or Step 1 for the sequence. This can then be followed by additional URLs that are accessed manually, or more commonly, by links or form buttons that a user would select to navigate or complete a specific transaction.

By default, SiteScope allows you to define up to twenty sequence steps. For each step you may specify a content match to search for, enter a user name and password if required, define custom POST data, as well as other optional criteria for that step.

You can edit the steps in a URL sequence after they have been added. Making changes to a sequence step requires that you update both the individual step and update the monitor as a whole. Editing any step of a URL sequence may affect subsequent steps in the sequence and cause the sequence to fail. It may be necessary to change all of the steps that occur after the step that is changed.

You can delete steps from a URL sequence but they can only be deleted starting from the last step in the sequence. This is to prevent inadvertently breaking a sequence because, in most cases, one step is dependent on data returned by the previous step. When you update or delete steps, SiteScope attempts to run the changes to the step. The results of the monitor run are displayed in SiteScope Dashboard.

This section contains the following topics:

What to Monitor

You should monitor any multi-step Web page sequence that you have made available to general users to verify that they are available and function correctly. Web site visitors often assume that any problems they encounter are due to user error rather than system error, especially if they're not familiar with your application. By using this monitor to perform sequence testing, you can verify that users are able to successfully complete transactions.

Working with the URL Sequence Monitor

The URL Sequence Monitor is more complex than most other SiteScope monitor types and the steps for working with the monitor are different than for other monitors. The following is an overview of key concepts and actions you use when working with the URL Sequence Monitor:

- The URL Sequence Monitor can be configured with between one to forty steps. Each step is defined individually in a sequence of numbered entries in the interface. The steps must be initially configured in the intended sequence as the request for one step provides the content used in the following step.
- When you first configure a URL Sequence Monitor, be sure to configure the steps you want to include in the sequence before you create the monitor.
- You can set thresholds for individual steps or for the whole monitor.
- You configure the URL Sequence Monitor in text mode. The navigation links and form actions are displayed as text parsed from the HTML that is used to construct a page in Web browsers. In some cases, portions of HTML code may also be included. You must be familiar with HTML when working with this monitor.
- Many Web-based systems use session data to identify clients and track the state of a user's interaction with the server application. This session data is often sent back and forth to the client in the HTTP header or Post Data. You should be familiar with the session tracking methods used by the systems you want to monitor to effectively configure this monitor.
- Web-based sequences or transactions can be difficult to navigate when dealing with many Web pages. For example, Web pages that use many graphic images for navigation hyperlinks can present special challenges when configuring URL Sequence monitors. You must be familiar with HTML hyperlink syntax when working with this monitor.

- When you first configure the URL Sequence Monitor, the HTML text content returned from the request made in one step can be displayed in the following step by clicking the **Show Source** button. This can be very useful for finding content on which you want to perform a match. You may also use this to correlate links and forms in the respective selection menus with their relative location on the page. For example, if there is a search entry form near the top of a Web page and another, different search form further down in the page, you can view the raw HTML to help determine the syntax associated with the form that you want to test.
- SiteScope does not parse or interpret embedded scripts or other client-side program code such as Javascript (ECMAscript). Web page content that is generated or controlled by client-side code does not usually appear in the URL Sequence Monitor. For information about dealing with Web page scripts, see "URL Sequence Monitor Settings" on page 843 and Client-side Programs help page.
- You should consider using the VuGen script rather than the URL Sequence monitor in the following circumstances:
  - Where Javascripts are embedded in the HTML being monitored (if they play an important role in the HTML). This is because Javascripts are not supported by the URL monitor.
  - If you experience problems when monitoring HTMLs over the SSL protocol, and these problems persist after you have verified that all monitor settings are correct.

Defining Sequence Steps

The URL sequence must begin with an initial URL. SiteScope makes a request for the URL, and the data returned by this initial request is used for subsequent steps. The HTTP response header and the content of the URL are available in the HTML Source section at the bottom of the subsequent step dialog box.

When you have entered the first step, you can add more steps. You repeat this process depending on the number of Web pages and actions that need to be taken to complete the sequence. The step screens provide access to the available elements on the Web page requested by the previous step. This includes form buttons, hyperlinks, form input elements, and other data. You use these elements to create each subsequent sequence step separately. Most sequence steps involve one of the following elements:

Reference Type	Description
Go to URL Manually	Where the sequence uses the Common Gateway Interface (CGI) for data transmission between the client and the server, it may be useful to specify a particular URL and name-value pairs. You can enter the URL you want to request along with any name-value pairs needed to get to the next sequence step even if those values are available through some other page element (such as a form). This option also allows you to copy URL and CGI strings directly from the location or address bar of another browser client that you may be using to step through the sequence you are building.
Following a Hyperlink	SiteScope parses the content of the URL returned by the previous step and creates a list of hyperlinks that are found on the page. This includes links that are part of an image map that may be virtual "buttons" on a navigation menu. Any links found on this page of the sequence can be viewed and selected using the drop-down list box to the right of the **Link** radio button. Use the following steps to add a link step to the sequence.

Reference Type	Description
Selecting a Form button	SiteScope parses the content of the URL in the current step and creates a list of form elements of the type "Submit". If SiteScope finds any HTML forms on the current page of the sequence, they are displayed in a drop-down list. The listings are in the following format:{[formNumber]FormName}ButtonName **Example:** The Search button on a company's search page might be listed as:{[1]http://www.CompanyName.com/bin/search}search
Selecting a Frame within a frameset	If the URL for a step in the sequence contains an HTML FRAMESET and you need to access a hyperlink, form, or form button that is a page displayed in a frame, you must drill down into the Frameset to the actual page that contains the links or forms that you want before you can proceed with other steps in the sequence.
Following a META REFRESH redirection	If the page for this step of the sequence is controlled by a <META HTTP-EQUIV="Refresh" CONTENT="timedelay; URL=filename.htm"> tag, you can instruct SiteScope to retrieve the specified file as the next step. This sort of construct is sometimes used for intro pages, splash screens, or pages redirecting visitors from an obsolete URL to the active URL.

Note: SiteScope does not parse or interpret embedded scripts or other client-side program code such as Javascript (ECMAscript). Web page content that is generated or controlled by client-side code usually does not appear in the URL Sequence Monitor.

SSL Connectivity

Web servers are generally configured to use SSL encryption for administrative connections. This can be determined by the prefix of the Web service URL. The http:// prefix means that the server uses a non-encrypted connection. The https:// prefix means that it is a secure, encrypted connection.

Monitoring a Web server which uses an encrypted connection, requires that you either:

- Import the server certificate as described below.
- Select the **Accept untrusted certificates for HTTPS** option in the Authentication Settings section of the URL Sequence Monitor Settings panel as described in "URL Sequence Monitor Settings" on page 843.

To import a server certificate:

1. Check the certificates already in the keyStore, from the **<SiteScope root directory>\java\lib\security** directory, by entering:

   ../../bin/keytool -list -keystore cacerts

2. Import the certificate, from the **<SiteScope root directory>\java\lib\security**, by entering:

   ../../bin/keytool -import -file myCert.cer -alias myalias -keystore cacerts

   where myCert.cer is the certificate file name and myalias is the certificate alias.

   Make sure that you specify a unique alias for every certificate you add. If you do not, the keytool uses an automatic alias and once you attempt to add more than one custom certificate, the new certificate overwrites the old and keeps the default alias.

   The word changeit is the default password for the **jssecacerts** file.

3 Make a copy of **<SiteScope root directory>\java\lib\security\cacerts** and rename it **<SiteScope root directory>\java\lib\security\jssecacerts**. After doing this, manually check to make sure the file **jssecacerts** is located in the **<SiteScope root directory>\java\lib\security** directory. The reason for creating the **jssecacerts** file is that the default **cacerts** file is overwritten every time SiteScope is upgraded or re-installed. Creating a copy with a different name allows new certificates to be imported and not be overwritten with future installations or upgrades.

URL Sequences and Dynamic Content

Web pages which include client-side programming or dynamically generated content can present problems in constructing SiteScope URL Sequence monitors. Client-side programs might include Java applets, ActiveX controls, Javascript, or VBScript. Web pages which are generated by server-side programming (Perl/CGI, ASP, CFM, SSI, JSP, and so forth) can also present a problem if link references or form attributes are changed frequently.

SiteScope does not interpret Javascript, VBScript, Java applets, or Active X Controls embedded in HTML files. This may not be a problem when the functionality of the client-side program is isolated to visual effects on the page where it is embedded. Problems can arise when the client-side program code controls links to other URL's or modifies data submitted to a server-side program. Because SiteScope does not interpret client-side programs, actions or event handlers made available by scripts or applets are not displayed in the URL Sequence Step dialog box.

Some Web sites use dynamically generated link references on pages generated by server-side programming. While these Web pages do not contain client-side programs, frequently changing link references or cookie data can make it difficult to set up and maintain a URL Sequence Monitor.

Dynamic Content Workarounds

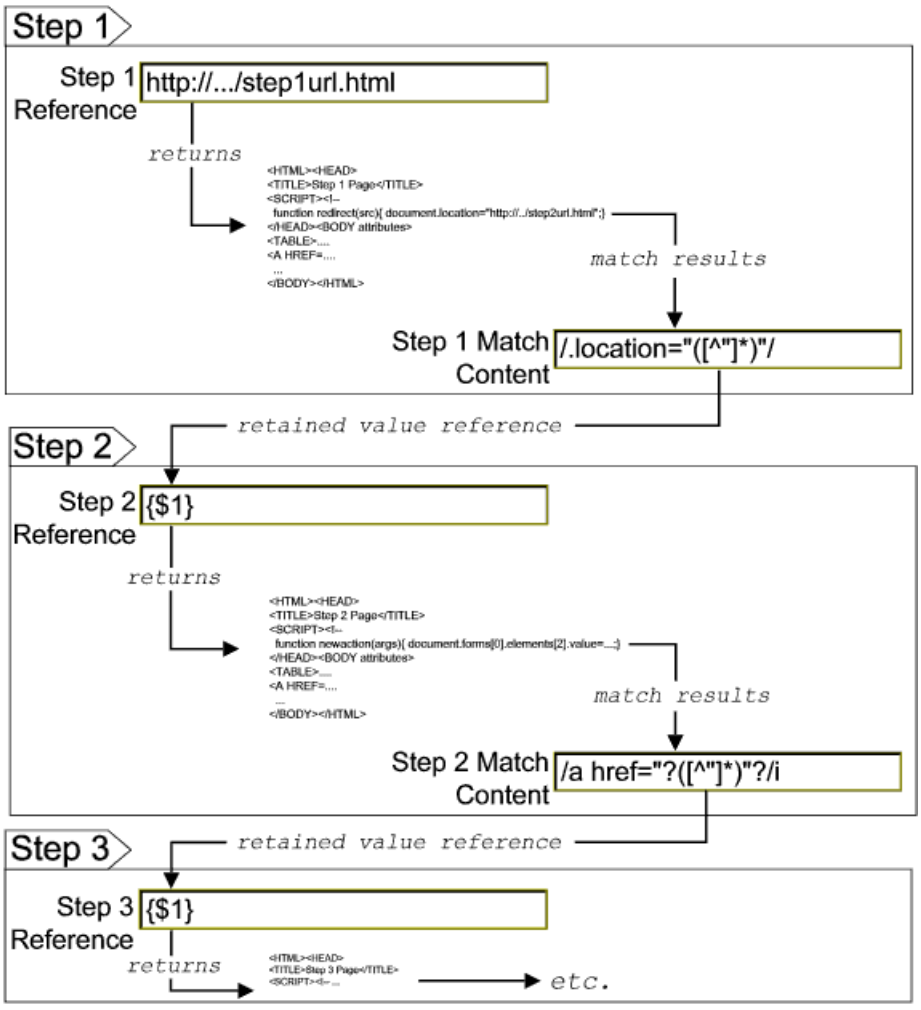
There are several ways to make a SiteScope URL Sequence monitor perform actions controlled by client-side programs and other dynamic content. Several of these workarounds are presented below. The workarounds generally require knowledge of the principles of Web page construction, CGI programming, Perl-style regular expressions, and the programming used to support the Web site being monitored.

Dynamic Content	SiteScope Workaround
A Web page contains a script which controls a link to another URL. **Example:** onClick = "document.location='http://...	Use a match content regular expression in the sequence step for the subject page to retain the **filename.ext** value from the .location="filename.ext" match pattern. The retained value can then be passed as a URL in the **URL** box of the next step of the sequence.
A client-side program reformats, edits, or adds data to a POST or GET data set collected by HTML form inputs.	Manually edit the script changes into the NAME=VALUE pairs displayed for the subject sequence step. This is done in the **POST data** box in the HTTP Settings section of the URL Sequence Step dialog box. This requires familiarity with the script function and CGI request headers.
A client-side program generates HTML content which, after interpretation by a Web browser, includes HTML <A HREF=...> links.	Use a match content regular expression to return the filename.ext value from the HREF="filename.ext" pattern and pass it to the **URL** box of the next sequence step.

Dynamic Content	SiteScope Workaround
A client-side program generates HTML content which, after interpretation by a Web browser, includes forms submitted to a CGI program.	Manually enter the NAME=VALUE pairs for the subject sequence step. This is done in the **POST data** box in the HTTP Settings section of the URL Sequence Step dialog box. This requires familiarity with the script, the form structure, and CGI request headers.
A script dynamically sets the ACTION attribute of an HTML <FORM> tag.	Manually enter the ACTION URL for the next sequence step. This is done in the **URL** box in the Reference Settings section of the URL Sequence Step dialog box. This requires familiarity with the script.
A script dynamically sets the METHOD attribute of an HTML <FORM> tag.	Manually enter the POST or GET data for the next sequence step. For POST methods, enter the data in the **POST data** box in the HTTP Settings section of the URL Sequence Step dialog box. For GET methods, enter the ACTION URL plus the &NAME=VALUE pairs in the **URL** box in the Reference Settings section of the URL Sequence Step dialog box. This requires familiarity with the script, the form structure, and CGI request headers.

The figure below illustrates several of the principles of constructing a URL Sequence Monitor using regular expressions. The regular expression shown in the figure can be used to extract URLs from Javascript or other Web page content. As indicated, content matches for a given step are performed on the content returned for that step. The parentheses used in the regular expressions cause the value matched by the expression inside the parentheses to be remembered or retained. This retained value can be passed on to the next step of the sequence by using the {$n} variable. Because the regular expression can contain more than one set of parentheses, the $n represents the match value from the $nth set of parentheses.

The example in the figure uses only one set of parentheses and thus references the retained value as {$1}.



Web pages containing code that perform the following present additional challenges:

- A script parses a cookie or other dynamic content to be added to a CGI GET request.
- Link information is contained in an external script file accessed by using a HTML <SCRIPT HREF="http://... > tag.

Web pages with dynamically generated link and form content may not be parsed correctly by the SiteScope URL Sequence Monitor.

Retaining and Passing Values Between Sequence Steps

One important function of the match content capability in URL Sequence Monitor is the ability to match, retain, and then reference values from one URL sequence step for use as input in a subsequent step. Using one or more sets of parentheses as part of a match content regular expression instructs SiteScope to remember the values matched by the pattern inside the parentheses. These values can then be referenced using the syntax described in the following example.

Example

Suppose you create a URL Sequence Monitor and include a match content expression for the first step to capture some session information. The Step 1 match content expression could be in the form of

/[\w\s]*?(pattern1)[\/\-\=]*?(pattern2)/

The two sets of parentheses in this expression instruct SiteScope to retain the two values matched by pattern1 and pattern2. To use these values as input to the **next** step in the URL sequence, use the syntax {**$valuenum**}. In this example, the string {$1} references the value matched by pattern1 and {$2} references the value matched by pattern2.Use the above syntax for passing the referenced values to the URL sequence step immediately following the step in which the content match was made (step 1 to step 2 in our example).

You can retain and pass matched values from one step to any other subsequent step by using a compound syntax of {**$$stepnum.valuenum**}. If, in our example, you want to use the value matched by pattern1 in step 1 as input in a FORM or URL request in step 4 of the URL sequence, you would include the syntax {$$1.1} in Step 4. To reference the value matched by pattern2, use the {$$1.2} syntax.

Sharing Cookies Between Monitor Runs and Configured Monitors

The URL Sequence Monitor also supports sharing cookies between monitor runs and between configured monitors. This is done by maintaining a persistency of both session cookies and permanent cookies that can be queried, updated and shared among other URL Sequence monitors.

Suppose you have a number of different URL Sequence monitors that are currently configured on a SiteScope server. Assume that all the monitors simulate a URL transaction in which at least one of the steps uses a session cookie to send to the server instead of logging in each time. Using cookie persistency, you can configure one monitor to save the cookies it receives and configure all the other monitors to load the cookies. This can save system costs if there is a charge for each request to the login server from the monitoring tool. The monitor can 'log in' once and reuse the credentials from the login by other monitor runs and monitor instances. Thus, only one monitor needs to contain a login step. All the others can skip this step and send the login credentials in a cookie instead.

Notes:

- Configure the monitor designated to save cookies to run at a frequency that is not less than the time frame of the session to make sure that cookies remain valid throughout the time frame of a session. A monitor that loads cookies from the persistency file does not check to see whether the cookie it is loading and sending is still valid.
- Configure the monitor designated to save cookies before you configure the loading monitors. This is to make sure that the persistency file exists when you configure monitors to load from the file. Configuring the saving monitor to run at a higher frequency than loading monitors does not assure that the monitor saving cookies runs first.

For details on the steps and settings you use to create a URL sequence, see "Create a URL Sequence" on page 811.

For details on the URL Sequence Monitor user interface, see "URL Sequence Monitor Settings" on page 843.

Web Script Monitor Overview

The Web Script Monitor proactively monitors Web sites in real time, identifying performance problems before users experience them. It enables you to monitor sites from various location where SiteScope is installed, emulating the end-user experience. You can assess site performance from different client perspectives.

Note:

- The Web Script Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information.
- This monitor is supported in SiteScopes that are running on Windows versions only.
- The Web Script Monitor is not supported in template mode.

The Web Script Monitor runs the scripts created in the HP Virtual User Generator (VuGen). You use VuGen to create a script that emulates end-user actions. You can create the script with the steps that you want monitored on target Web sites.

Note to HP Business Availability Center users: The Web Script Monitor is not available when working in HP Business Availability Center. The monitor's data cannot be reported to HP Business Availability Center.

This section contains the following topics:

What to Monitor

You can create transactions to monitor pages that are critical to your Web applications, pages that are generated dynamically, and pages that depend on other applications to work correctly (such as pages that utilize a back-end database).

Counter Measurements and Transaction Breakdown Data

Each time the Web Script Monitor runs the VuGen script, it returns the transaction breakdown and performance data. The VuGen script also includes content match functionality, enabling you to check images, texts, links, and other areas of the Web site.

In addition, the monitor's reported data can include the following measurements:

➤ The amount of time needed to establish an initial connection with the Web server performing the transaction.
➤ The amount of time taken to establish an SSL connection for HTTPS connections.
➤ The time in milliseconds for the transaction to be run.
➤ Whether the transaction passed or failed to connect and perform its required steps.
➤ Number of pages accessed when running the transaction.
➤ Number of errors that occurred during the transaction run.

The monitor can provide early indicators of the following performance issues:

- Excessive connection or retry times.
- Slow DNS resolution or other problems with the DNS server.
- Problems along the network or whether the server is responsive to requests.
- Delays or failures in secured or authorized connections.
- Overall network quality.
- Web server delays.

Each of the measurements is available as a parameter for assigning thresholds. This means that thresholds can be set for specific transactions and measurements, providing status indicators per transaction.

For details on selecting measurement counters, see "Selecting Counters" on page 809.

Setting up the Web Script Monitor

Prior to configuring the Web Script Monitor in SiteScope, you must create the script in VuGen. The monitor runs only those scripts created in VuGen. Here is an overview of the steps necessary to set up the Web Script Monitor.

1 Download HP Virtual User Generator (VuGen).

Go to the HP Software Support site (http://www.hp.com/go/hpsoftwaresupport) and in the **Where do I find** section, click **Software patches**. In the **Product** section, select **SiteScope** and type **VuGen** in the optional search box. Download the required version of VuGen from the results. You must log in with your HP user name and password to access the Software Patches page.

To enable monitoring, you must also download the latest HP Virtual User Generator Feature Pack.

2 Familiarize yourself with how to create scripts.

The script you create in VuGen is run by the Web Script Monitor and must contain transactions.

The VuGen interface is easy-to-use and contains different access points for getting help. For details, see "Getting Started" on page 806.

3 Use the supported protocols in Virtual User Generator to create your script.

We recommend that you use the Web (Click and Script) protocol to create your script for use in SiteScope. For a list of all the supported protocols and for details on the Web (Click and Script) protocol, see "Supported VuGen Protocols" on page 806.

4 Include transactions and content match checkpoints in your script.

The VuGen script must contain transactions to be run by the Web Script Monitor in SiteScope.

Checkpoints are recommended for checking content while running the VuGen script.

For details, see "Inserting Transactions and Creating Checkpoints" on page 808.

5 Save the script's runtime files into a zip file and save the zip file into the required directory.

For details, see "Saving and Storing the Script" on page 808.

6 Make sure that the script runs properly in VuGen before continuing.

For details, refer to "Working with VuGen" > "Running Vuser Scripts in Standalone Mode" in the VuGen guide.

7 Create the Web Script Monitor in SiteScope.

For details, see "Web Transaction Monitors User Interface" on page 814.

Working with VuGen

VuGen can be used to automatically create a transaction script by recording the actual business processes and actions performed by users interacting with a Web application. VuGen captures all end-user activity between the client and the server, thereby capturing the exact tasks and functions users perform.

Note: The Web Script Monitor supports scripts created in HP Virtual User Generator version 9.1 and earlier.

Getting Started

The VuGen help is accessible from the VuGen product once it is downloaded. It can be accessed in the following ways:

- Press F1 for context-sensitive help when working with a specific function.
- Select **Help** > **Contents and Index** > **Contents** tab > **Books Online** > **VuGen** to view the entire online guide. Use this option when searching for a specific topic referred to in the description of this monitor.
- Select **Help** > **Books Online** > **HP Virtual User Generator User's Guide** to access the guide in PDF format.

The VuGen interface includes a detailed workflow that takes the user through the step-by-step process of creating a script. For information about the workflow, refer to "Working with VuGen" > "Viewing the VuGen Workflow" in the VuGen guide.

For more detailed information on creating scripts, refer to "Working with VuGen" > "Recording with VuGen" > "Creating New Virtual User Scripts" in the VuGen guide.

Supported VuGen Protocols

The following are the protocols supported for the Web Script Monitor.

Web (Click and Script) Protocol

This is the recommended protocol to use to record scripts to be run by the Web Script Monitor.

Web (Click and Script) is a new approach to Web scripting. It introduces a GUI-level scripting API, and a quicker way to create scripts.

- Easy-to-use scripting.
- Intuitive API functions describe user actions on Web objects (for example, button and text link).
- In tree view, the steps are grouped according to their pages.
- In snapshot viewer, the object corresponding to the active step is highlighted.

For details on using this protocol, refer to the "Creating Web Vuser Scripts" and "Working with Web (Click and Script) Vuser Scripts" sections under "E-Business Protocols" in the VuGen guide.

Web (Click and Script) Limitations

- Records and emulates on Internet Explorer version 6 only.
- Does not support recording on Microsoft Windows 2003.
- Does not support VBScript and applets.
- Does not support user actions on ActiveX objects and Macromedia Flash.
- Supports only English language applications.

Note: If any of these limitations affect your ability to record a script, use VuGen's Web (HTTP/HTML) Protocol instead. For details, see below. For information about choosing a protocol, refer to "E-Business Protocols" > "Choosing a Web Vuser Type" in the VuGen guide.

Web (HTTP/HTML) Protocol

This is the standard VuGen protocol for recording Web applications.

When recording a Web (HTTP/HTML) script, VuGen records the HTTP traffic and server response over the Internet. The scripts contain detailed information about your actions in the browser.

The Web (HTTP/HTML) Vuser provides two recording levels: HTML-based script and URL-based script. These levels let you specify what information to record and which functions to use when generating a Vuser script.

For details on using this protocol, refer to the "E-Business Protocols" > "Creating Web Vuser Scripts" in the VuGen guide.

Inserting Transactions and Creating Checkpoints

➤ While creating your VuGen script, you must insert transactions into the script. These transactions provide the breakdown performance data reported by the monitor.

For details on transactions, refer to "Working with VuGen" > "Enhancing Vuser Scripts" > "Inserting Transactions into a Vuser Script" in the VuGen guide.

➤ VuGen's Content Check mechanism allows you to check the contents of a page for a specific string. This is useful for detecting non-standard errors. We recommend that you include content check checkpoints in your script.

For details on checkpoints, refer to the "Checking Web Page Content" and "Verifying Web Pages under Load" sections under "E-Business Protocols" in the VuGen guide.

Saving and Storing the Script

The script you create in VuGen must be saved as a zip file. We recommend saving only the runtime files. For details, refer to the "Recording with VuGen" and "Using Zip Files" sections of the VuGen guide.

When saving the zip file:

➤ make sure that the zip file has the same name as the script

➤ make sure that each script used for a Web Script Monitor has a unique name

You can save the script into:

➤ The configured default location for VuGen scripts within the SiteScope root directory is **<SiteScope root directory>\templates.webscripts**. This directory is automatically created.

By default, all the scripts in this directory appear in the drop-down list of available scripts when configuring the monitor.

➤ A different location for VuGen scripts that you configure in SiteScope's General Preferences.

You can change the default location of VuGen scripts by entering a value in the **VuGen scripts path route** box in General Preferences (**Preferences > General Settings > Main Panel**). The scripts stored in the location you enter appear in the drop-down list of available scripts when configuring the monitor.

➤ Any other location accessible to the SiteScope machine.

When configuring the monitor, you can also enter the full directory path and name of the script. The Web Script Monitor can access the script if the machine on which SiteScope is running has file system access to the path location.

Selecting Counters

The Web Script Monitor makes use of performance counters to measure Web sites performance. Select the counter metrics you want to monitor with the Web Script Monitor. For details on adding performance counter metrics, see "Web Script Monitor Settings" on page 855. For details on the counter metrics available for the monitor, see "Web Script Performance Counters" on page 858.

Advanced Information and Troubleshooting

The Web Script Monitor uses an internal engine to run the VuGen scripts you create. This section includes some advanced issues and troubleshooting.

SiteScope makes a copy of the script created in VuGen and stores it in a location within the SiteScope directory. SiteScope makes the necessary modifications for the script to be run properly by the Web Script Monitor. These modifications are automatic and cannot be manually duplicated. They include:

- Disabling the **Download Snapshots** operation.
- Disabling the **Think Time** operation.
- Disabling the **Iterations** operation.

Therefore:

- If there is any change made to the script in VuGen, including the name of the script, and you want the Web Script Monitor to run the revised version of the script, you must edit the monitor in SiteScope and select the edited script in its saved location.
- Each script must have a unique name even if the different zip files for the scripts reside in different directories.
- The name of the zip file selected for the monitor must be the same as the name of the script created in VuGen.

Troubleshooting

- Each time the monitor is run, a log is created. You can view the log to troubleshoot the monitor if you see there is a problem running the scripts. The logs are stored in **<SiteScope root directory>\cache\temp\WebScript\<name of script>\log**. You can search for the required log based on the name of the script run by the monitor and the time the log was created.

  This directory is cleaned out every time SiteScope is restarted, which is every 24 hours by default.

- If the log files do not give you the necessary information to determine why the script is not running properly, run the script in VuGen. For details, refer to "Running Vuser Scripts in Standalone Mode" in the VuGen guide.
- If all the transaction breakdown counters for the monitor are reporting a status of -1 and there is a reported time for the Duration counter (the total running time of the transaction), it could be because the transaction breakdown times exceed the total running time. This can occur in rare cases because of the way the transaction breakdown times are calculated and because the Duration is an actual measurement of the total transaction time from start to finish, with no additional calculations. If the problem persists for a specific transaction, we recommend that you adjust the counters selected for the transaction.
- If you get the message "Error: Fail to get performance data timeout (error)" during the monitor run, add LogFileWrite=1 to the **default.cfg** file of the specific script file to get more details about the error. If the script log shows that some of the resources are taking more time than the monitor timeout, increase the **Web script timeout (sec)** value in the monitor settings.
- The Web Script Monitor supports script names with English characters only.

For details on configuring this monitor, see "Web Script Monitor Settings" on page 855.

Create a URL Sequence

This task describes the steps and settings you use to create a URL sequence.

This task includes the following steps:

1 Add a URL Sequence Monitor

Add the URL Sequence Monitor to a monitor group container and enter a name for the monitor instance in the General Settings panel.

For details on the General Settings panel, see "General Settings" on page 303.

2 Start a New URL Sequence

Configure the first URL in the sequence in the URL Sequence Step dialog box. The URL sequence must begin with an initial URL.

a In the URL Sequence Step Settings panel of the New URL Sequence Monitor dialog box, click the **New Step** button.

b In the URL Sequence Step dialog box, enter the initial URL address in the Reference Settings section. This URL should be the initial Web page that the user is expected to see or the access point for the web-based system you are going to monitor.

c Complete the other sequence step settings as necessary and click **OK**. Generally, the URL is sufficient for the first step of most URL sequences. For details on the user interface, see "URL Sequence Step Dialog Box" on page 850.

3 Define Additional Sequence Steps

Configure the individual steps for the URL sequence in the URL Sequence Step dialog box.

a In the URL Sequence Step Settings panel of the New URL Sequence Monitor dialog box, click the **New Step** button.

b Use the options in the Reference Settings section to select how SiteScope progresses from one step of a URL sequence to the next. The options are:

- **URL.** To go to a URL manually.
- **Link.** To follow a hyperlink.
- **Form.** To select a form button.
- **Frame.** To select a frame within a frameset.
- **Refresh.** To follow a meta refresh redirection.

For details on the reference types, see "Defining Sequence Steps" on page 792.

c Complete the other sequence step settings as necessary and click **OK**. For details on the user interface, see "URL Sequence Step Dialog Box" on page 850.

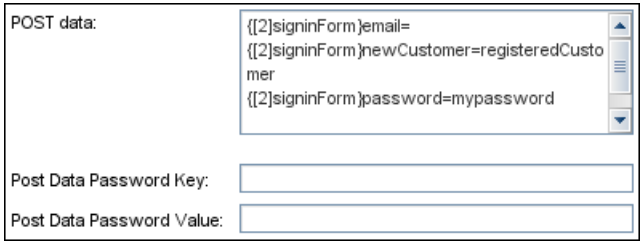
4 Enter an Encrypted or Unencrypted Password (if required)

You can give an encrypted or unencrypted password to the URL monitor in the URL Sequence Step dialog box.

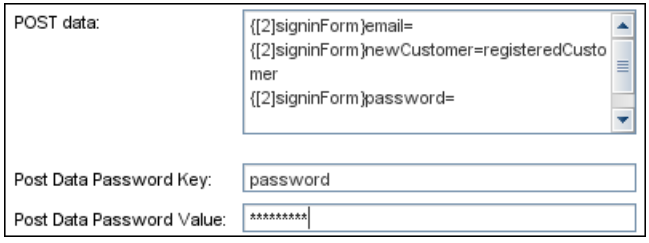
➤ To give an unencrypted password, enter the password in the **password=** line in the **POST data** text box. The password you enter is displayed in the text box.

➤ To give an encrypted password to the URL monitor form, type the string password in the **Post data password key** text box. Enter the password itself in the **Post data password value** text box. The password is encrypted.

Example - Unencrypted Password



Example - Encrypted Password



5 Configure Other Settings for the Monitor

Edit the monitor configuration settings as required.

For details on the URL Sequence Monitor Settings, see "URL Sequence Monitor Settings" on page 843.

Web Transaction Monitors User Interface

This section describes:

e-Business Transaction Monitor Settings

Description	Verifies that the multiple tasks that make up an online transaction are completed properly. This includes: ➤ Successful navigation through a series of URLs ➤ Transmission of an e-mail confirming the sequence. ➤ Logging the information into a database file. Runs a sequence of other SiteScope monitors, checking that each monitor returns a status of OK. Reports an Error status if any monitor in the sequence fails. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"e-Business Transaction Monitor Overview" on page 774

e-Business Transaction Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
Monitor delay (seconds)	Enter a number of seconds to wait between running each monitor. This setting is useful if you need to wait for processing to occur on your systems before running the next monitor. **Default value:** 0 seconds

GUI Element	Description
When error	Choose how you want errors during the sequence to be handled: ➤ **Continue to run the remainder of the monitors.** This runs every monitor no matter what the status of a given monitor is. ➤ **Stop and do not run any of the remaining monitors.** This stops running the list of monitors immediately, if a monitor returns an error. ➤ **Run the last monitor.** This runs the last monitor in the list. It is useful if a monitor is used for closing or logging off a session opened in a previous monitor.
Single session	Select this box if you want any URL monitors to use the same network connection and the same set of cookies. This is useful if you are using the e-Business Transaction Monitor to group several URL Sequence monitors and do not want to include the login steps as part of each transaction.
Item Settings	
Items	Using the control key or equivalent, double-click the set of monitors that make up the e-Business Transaction Monitor to move them to the **Selected** column. Alternatively, you can select monitors and use the move items buttons. As noted in the set up section (see "Editing the Order of the Monitors in the Chain" on page 775), the monitors are run in the order that they are listed in their group. **Note:** To control the order of the monitors in the chain, select monitors and not groups. If you select groups, they are run at random and not by group order.

Link Check Monitor Settings

Description	Checks the internal and external links on a Web page to insure that they can be reached. SiteScope begins checking links from a URL that you specify, verifies that linked graphics can be found, and follows HREF links to the referenced URLs. The monitor can be configured to check all of the links on your site or to check a limited number of hops from the initial URL. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Link Check Monitor Overview" on page 777

Link Check Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
URL	Enter the URL that is the starting point for checking links. The link monitor retrieves the page for this URL and reads the URLs for any links on the page. It continues until it has checked all of the links on the site. Links to other servers are checked but it does not continue and check all the links of those other servers. **Example:** http://demo.thiscompany.com

GUI Element	Description
Search external links	Select to have the monitor follow all links on each page and not just links that contain the original base URL. **Warning:** Using this option may greatly increase the number of links that are tested and the amount of time required for the monitor to run. In some cases this may cause the monitor to run for more than 24 hours without being able to complete all of the link checks. If you select this option, be sure to limit the total number of links to test using the **Maximum links** setting and limit the depth of the search using the **Maximum hops** setting. **Default value:** Not selected
Pause (milliseconds)	The delay, in milliseconds, between each link check. Larger numbers lengthen the total time to check links but decrease the load on the server. **Default value:** 250 milliseconds
Timeout (seconds)	The number of seconds that the URL monitor should wait for a page to begin downloading before timing-out. Once this time period passes, the URL monitor logs an error and reports an error status. **Default value:** 60 seconds
Maximum links	The maximum number of links this monitors checks. When the maximum number of links is reached the monitor stops and reports the results of those links that were checked. Increase this number if you have a large site and want to check every link on the site. **Default value:** 800

GUI Element	Description
Maximum hops	The maximum number of internal links that SiteScope should follow from the starting URL. Limiting the number of links reduces the number of URLs that SiteScope follows and shortens the time to complete the report. SiteScope does not follow any links on external pages. Select one of the predefined choices using the **Commonly used values** list. To enter your own limit, enter a numeric value in the **Other values** box. **Default value:** Main page links **Example:** If you set the number of hops to 3, SiteScope checks all internal pages that can be reached within 3 links from the starting URL.
POST data	Enter any form values required for the first page being checked. This is useful if you need to log in using an HTML form to reach the rest of the site that you are checking. Enter form values in the format key=value (one on each line).
Authorization Settings	
Authorization user name	If the URL specified requires a user name for access, enter the name in this box.
Authorization password	If the URL specified requires a password for access, enter the password in this box.
Proxy Settings	
HTTP proxy	Optionally, a proxy server can be used to access the URL. Enter the domain name and port of an HTTP Proxy Server.
Proxy server user name	If the proxy server requires a name to access the URL, enter the name here. Technical note: your proxy server must support Proxy-Authenticate for these options to function.
Proxy server password	If the proxy server requires a password to access the URL, enter the password here. Technical note: your proxy server must support Proxy-Authenticate for these options to function.

URL Monitor Settings

Description	Provides you with end-to-end verification that your Web server is running, serving pages correctly, and doing so in a timely manner. It tests end-to-end, so it is also able to determine whether back-end databases are available, verify the content of dynamically generated pages, check for changed content, and look for specific values from a page. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"URL Monitor Overview" on page 778

URL Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
URL	Enter the URL that you want to monitor. **Example:** http://demo.thiscompany.com For HTTPS monitoring (secure HTTP), if the URL starts with HTTPS, then a secure connection is made using SSL. SiteScope uses Java SSL libraries for HTTPS monitoring. **Example:** https://www.thiscompany.com

GUI Element	Description
Match content	Enter a string of text to match in the returned page or frameset. If the text is not contained in the page, the monitor displays the message content match error. HTML tags are part of a text document, so include the HTML tags if they are part of the text you are searching for. This works for XML pages as well. **Example:** < B> Hello< /B> World You can also perform a regular expression match by enclosing the string in forward slashes, with a letter i after the trailing slash indicating case-insensitive matching. **Example:** /href=Doc\d+\.html/ or /href=doc\d+\.html/i **Note:** The search is case sensitive.
Match content for error	Enter a string of text to check for in the returned page or frameset. If the text is contained in the page, the monitor indicates an error condition. HTML tags are part of a text document, so include them if they are part of the text for which you are searching. **Example:**< B> Error < /B> Message You may also perform a regular expression match by enclosing the string in forward slashes, with an **i** after the trailing slash indicating case-insensitive matching. **Example:** /href=Doc\d+\.html/ or /href=doc\d+\.html/i **Note:** The search is case sensitive.

GUI Element	Description
Show detailed measurement	Select this box if you want SiteScope to record a detailed breakdown of the process times involved in retrieving the requested URL. These measurements include the following: ➤ **DNS lookup time.** The time it takes to send a name resolution request to your DNS server until you get a reply. ➤ **Connection time.** The time it takes to establish a TCP/IP/Socket connection to the Web server. ➤ **Server response time.** The time after the request is sent until the first byte (rather first buffer full) of the page comes back. ➤ **Download time.** The time it takes to download the entire page.
Timeout (seconds)	The number of seconds that the URL monitor should wait for a page to complete downloading before timing-out. Once this time period passes, the URL monitor logs an error and reports an error status. If you have selected the **Retrieve images** or **Retrieve frames** option, SiteScope waits for these items to be retrieved before considering the page to be fully downloaded. **Default value:** 60 seconds
Retries	Enter the number of times (between 0-10) that SiteScope should retry the request if a recoverable error was encountered. A timeout of the request is a recoverable error. **Default value:** 0

GUI Element	Description
HTTP Settings	
Request headers	The header request lines sent by the HTTP client to the server. **Note:** Although this field is optional, some Web pages behave unexpectedly when the request header is missing (such as performing endless redirects, providing wrong content, and so forth).
URL content encoding	SiteScope retrieves the correct encoding from the server response. The default value appearing in this box should not be edited. **Examples:** Cp1252, Cp1251, Cp1256, Shift_JIS, or EUC_JP. **Default value:** Retrieve encoding from server response

GUI Element	Description
POST data	If the URL is for a POST request, enter the post variables, one per line as name=value pairs. This option is used to verify that a form is working correctly by performing the same request that occurs when a user submits a form. See also the **Match content** item for a way to verify that the correct form response was received. If this item is blank, a GET request is performed. The POST data can be used to send cookie data. To send cookies with the request, use the format Set-cookie: cookieName=cookieValue. To change the content type of a post, use the format Content-Type: application/my-format. To hide values in the POST data, add a line to the **master.config** file, such as: _private=_name=mysecret _value=rosebud _private=_name=mypassword _privateValue=sesame and then use the following form in the POST data: s|username=$private-mysecret$| s|password=$private-mypassword$| and SiteScope substitutes the values from the **master.config** into the POST data.
POST data encoding	Determines if the POST data is encoded. Select from the following options: ➤ **Use content type.** Decide to encode the POST data by the content type header. If the header equals urlencoded then encode, otherwise do not encode. ➤ **Force URL encoding.** Always encode the post data. ➤ **Do not force URL encoding.** Do not encode the POST data.

GUI Element	Description
Check for content changes	SiteScope records a checksum of the document the first time the monitor runs and then does a checksum comparison each subsequent time it runs. If the checksum changes, the monitor has a status of **content changed error** and go into error. If you want to check for content changes, you usually want to use **compare to saved contents**. The options for this setting are: ➤ **No content checking** (default)**.** SiteScope does not check for content changes. ➤ **Compare to last contents.** The new checksum is recorded as the default after the initial error **content changed error** occurs, so the monitor returns to OK until the checksum changes again. ➤ **Compare to saved contents.** The checksum is a snapshot of a given page (retrieved either during the initial or a specific run of the monitor). If the contents change, the monitor gets a **content changed error** and stays in error until the contents return to the original contents, or the snapshot is update by resetting the saved contents. ➤ **Reset saved contents.** Takes a new snapshot of the page and saves the resulting checksum on the first monitor run after this option is chosen. After taking the snapshot, the monitor reverts to **Compare to saved contents** mode. **Default value:** No content checking
HTTP version	Select the HTTP version for SiteScope to use for style request headers (HTTP version 1.1 or 1.0). **Default value:** 1.1

GUI Element	Description
Retrieve images	Select if you want the status and response time statistics to include the retrieval times for all of the embedded images in the page. Embedded images include those referenced by IMG, BODY (from the background property), and INPUT TYPE=IMAGE HTML tags. Images that appear more than once in a page are retrieved only once. **Note:** If this option is checked, each image referenced by the target URL contributes to the download time. However, if a image times out during the download process or has a problem during the download, that time is not added to the total download time. **Default value:** Not selected
Retrieve frames	Select if you want SiteScope to retrieve the frames references in a frameset and count their retrieval time in the total time to download this page. Frames include those referenced by FRAME and IFRAME tags. If **Retrieve images** is also checked, SiteScope attempts to retrieve all images in all frames. **Note:** If this option is checked, each frame referenced by the target URL contributes to the download time. However, if a frame times out during the download process or has a problem during the download, that time is not added to the total download time. **Default value:** Not selected
Error if redirected	Select to have SiteScope generate an error (and notify you) if a URL is redirected. **Default value:** Not selected

GUI Element	Description
Use WinInet	Select to use WinInet as an alternative HTTP client for this monitor. Select this option to use WinInet instead of Apache when: ➤ The Apache HTTP client does not support a specific technology required to access the server you are monitoring. For example, Kerberos authentication is not supported by the Apache library, and is supported by WinInet. WinInet also supports trusted client-side certificates while Apache does not. ➤ You tried running this monitor and the Apache server returned errors. Using WinInet may solve these errors. **Default value:** Not selected
Authentication Settings	
Credentials	If the URL specified requires a name and password for access, select the option to use for authorizing credentials: ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password to access the URL in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password for the URL (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.

GUI Element	Description
Pre-emptive authorization	Select when the authorization credentials should be sent if SiteScope requests the target URL. ➤ **Use global preference.** Select to have SiteScope use the setting specified in the **Pre-emptive authorization** section of the General Preferences page. ➤ **Authenticate first request.** Select to send the user name and password on the first request SiteScope makes for the target URL. **Note:** If the URL does not require a user name and password, this option may cause the URL to fail. ➤ **Authenticate if requested.** Select to send the user name and password on the second request if the server requests a user name and password. **Note:** If the URL does not require a user name and password, this option may be used. All options use the **User name** and **Password** entered for this monitor instance. If these are not specified for the individual monitor, the **Default authentication user name** and **Default authentication password** specified in the Main section of the General Preferences page are used, if they have been specified. **Note:** Pre-emptive authorization does not control if the user name and password should be sent, or which user name and password should be sent.
Accept untrusted certificates for HTTPS	If you are accessing a target URL using Secure HTTP (HTTPS) and SiteScope does not have the required server certificates, you can either select this option or import the related certificates. For details on importing server certificates, see SSL Connectivity in "URL Monitor Overview" on page 778.
Accept invalid certificates for HTTPS	Check this option if you are accessing a target URL using Secure HTTP (HTTPS) and SiteScope has invalid server certificates. This may happen, for example, if the current date is not in the date ranges specified in the certificate chain.

GUI Element	Description
Client side certificate	If you need to use a client side certificate to access the target URL, select the certificate file using the drop down menu. Normally, this is a .pfx (.p12) type certificate, which usually requires a password. You enter the password for the certificate in the **Client side certificate password** box. **Note:** Client side certificate files must be copied into the <SiteScope root directory>\templates.certificates directory.
Client side certificate password	If you are using a client side certificate and that certificate requires a password, enter the password in this box.
Authorization NTLM domain	Enter the domain for NT LAN Manager (NTLM) authorization if it is required to access the URL.
NTLM V2	Select if the URL you are accessing requires authentication using NTLM version 2.
Proxy Settings	
HTTP proxy	A proxy server can be used to access the URL. Enter the domain name and port of an HTTP Proxy Server.
Proxy server user name	If the proxy server requires a user name to access the URL, enter the name here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy server password	If the proxy server requires a password to access the URL, enter the password here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy NTLM V2	Select if the proxy requires authentication using NTLM version 2.

URL Content Monitor Settings

Description	The URL Content Monitor is a specialized variation of the URL Monitor that can match up to ten different values from the content of a specified URL. The matched values are displayed with the status of the monitor in the monitor group table and written to the monitor log. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"URL Content Monitor Overview" on page 782

URL Content Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Setting	
URL	Enter the URL that you want to monitor. **Example:** http://demo.thiscompany.com If you are monitoring a secure URL, the URL must reflect the correct transfer protocol. **Example:** https://demo.thiscompany.com

GUI Element	Description
Match content	Enter an expression describing the values to match in the returned page. If the expression is not contained in the page, the monitor displays the message no match on content. A regular expression is used to define the values to match. Use parentheses to allow the monitor to retrieve these values as counters. By using the labels, these counters can be automatically assigned with a customized name and you can define thresholds for them. You can use up to 10 sets of parentheses. **Example:** The expression /Copyright (\d*)-(\d*)/ would match two values, 1996 and 1998, from a page that contained the string Copyright 1996-1998. The returned values (1996 and 1998) could be used when setting Error if or Warning if thresholds.
Match value labels	Use this option to enter labels for the matched values found in the content. The matched value labels are used as variables to access retained values from the content match expression for use with the monitor threshold settings. These labels are also displayed as the text labels in graphs generated for the retained values in management reports for this monitor. **Example:** Type Copyright_start, Copyright_end to represent the copyright date range used in the **Match content** field. After the monitor runs, these labels are displayed in the Condition list in Threshold Settings, enabling you to set status threshold settings (Error if, Warning if, and Good if) for the matched value. **Note:** ➤ Separate multiple labels with a comma (,). ➤ You can set up to 10 labels.

GUI Element	Description
Match content for error	Enter a string of text to check for in the returned page. If the text is contained in the page, the monitor displays content error found. HTML tags are part of a text document, so include them if they are part of the text for which you are searching. **Example:** < B> Error < /B> Message You can also perform a regular expression match by enclosing the string in forward slashes, with an **i** after the trailing slash, to indicate that there is no case sensitive matching. **Example:** /href=Doc\d+\.html/ or /href=doc\d+\.html/i **Note:** The search is case sensitive.
Show detailed measurement	Select if you want SiteScope to record a detailed breakdown of the process times involved in retrieving the requested URL. These times include the following: ➤ **DNS lookup time.** The time it takes to send a name resolution request to your DNS server until you get a reply. ➤ **Connection time.** The time it takes to establish a TCP/IP/Socket connection to the Web server. ➤ **Server response time.** The time after the request is sent until the first byte (rather first buffer full) of the page comes back. ➤ **Download time.** The time it takes to download the entire page.
Timeout (seconds)	The number of seconds that the URL monitor should wait for a page to begin downloading before timing-out. Once this time period passes, the URL monitor logs an error and reports an error status. If you have selected the **Retrieve frames** or **Retrieve images** option, SiteScope waits for these items to be retrieved before considering the page to be fully downloaded. **Default value:** 60 seconds

GUI Element	Description
Retries	Enter the number of times that SiteScope should retry the request if a recoverable error was encountered. A timeout of the request for is a recoverable error. **Default value:** 0
HTTP Settings	
Request headers	The header request lines sent by the HTTP client to the server. **Note:** Although this field is optional, some Web pages behave unexpectedly when the request header is missing (such as performing endless redirects, providing wrong content, and so forth).
URL content encoding	SiteScope retrieves the correct encoding from the server response. The default value appearing in this box should not be edited. **Example:** Cp1252, Cp1251, Cp1256, Shift_JIS, or EUC_JP. **Default value:** Retrieve encoding from server response
POST data	If the URL is for a POST request, enter the post variables, one per line as name=value pairs. This option is used to verify that a form is working correctly by performing the same request that occurs when a user submits a form. See also the Match Content box for a way to verify that the correct form response was received. If this item is blank, a GET request is performed. **Note:** This item can also be used to pass cookies with the request. **Example:** "Set-cookie:<cookieName>=<cookieValue>"

GUI Element	Description
POST data encoding	Determines if the POST data is to be encoded. Select from the following options: ➤ **Use content type.** Decide to encode the post data by the content type header. If the header equals **urlencoded** then encode, otherwise do not encode. ➤ **Force URL encoding.** Always encode the POST data. ➤ **Do not force URL encoding.** Do not encode the POST data. **Default value:** Use content type
Check for content changes	SiteScope records a checksum of the document the first time the monitor runs and then does a checksum comparison each subsequent time it runs. If the checksum changes, the monitor has a status of **content changed error** and go into error. If you want to check for content changes, you usually want to use **compare to saved contents**. The options for this setting are: ➤ **No content checking** (default)**.** SiteScope does not check for content changes. ➤ **Compare to last contents.** The new checksum is recorded as the default after the initial error **content changed error** occurs, so the monitor returns to OK until the checksum changes again. ➤ **Compare to saved contents.** The checksum is a snapshot of a given page (retrieved either during the initial or a specific run of the monitor). If the contents change, the monitor gets a **content changed error** and stays in error until the contents return to the original contents, or the snapshot is update by resetting the saved contents. ➤ **Reset saved contents.** Takes a new snapshot of the page and saves the resulting checksum on the first monitor run after this option is chosen. After taking the snapshot, the monitor reverts to **Compare to saved contents** mode. **Default value:** No content checking

GUI Element	Description
HTTP version	Select the HTTP version for SiteScope to use for style request headers (HTTP version 1.0 or 1.1). **Default value:** 1.1
Retrieve images	Select if you want the status and response time statistics to include the retrieval times for all of the embedded images in the page. Embedded images include those referenced by IMG, BODY (from the background property), and INPUT TYPE=IMAGE HTML tags. Images that appear more than once in a page are only retrieved once. **Note:** If the Retrieve Images option is checked, each image referenced by the target URL contributes to the download time. However, if an image times out during the download process or has a problem during the download, that time is not added to the total download time.
Retrieve frames	Select if you want SiteScope to retrieve the frames references in a frameset and count their retrieval time in the total time to download this page. Frames include those referenced by FRAME and IFRAME tags. If **Retrieve images** is also checked, SiteScope attempts to retrieve all images in all frames. **Note:** If the **Retrieve frames** option is checked, each frame referenced by the target URL contributes to the download time. However, if a frame times out during the download process or has a problem during the download, that time is not added to the total download time.
Error if redirected	Select if you want SiteScope to notify you if a URL is redirected.

GUI Element	Description
Use WinInet	Select to use WinInet as an alternative HTTP client for this monitor. Select this option to use WinInet instead of Apache when: ➤ The Apache HTTP client does not support a specific technology required to access the server you are monitoring. For example, Kerberos authentication is not supported by the Apache library, and is supported by WinInet. WinInet also supports trusted client-side certificates while Apache does not. ➤ You tried running this monitor and the Apache server returned errors. Using WinInet may solve these errors. **Note:** This field is available on Windows versions of SiteScope only.
Authentication Settings	
Credentials	If the URL specified requires a name and password for access, select the option to use for authorizing credentials: ➤ **Use use name and password.** Select this option to manually enter user credentials. Enter the user name and password to access the URL in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password for the URL. Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.

GUI Element	Description
Pre-emptive authorization	Select when the authorization credentials should be sent if SiteScope requests the target URL. ➤ **Use global preference.** Select to have SiteScope use the **When to Authenticate** setting as specified in the Pre-emptive Authorization section of the General Preferences page. ➤ **Authenticate first request.** Select to send the user name and password on the first request SiteScope makes for the target URL. **Note:** If the URL does not require a user name and password, this option may cause the URL to fail. ➤ **Authenticate if requested.** Select to send the user name and password on the second request if the server requests a user name and password. **Note:** If the URL does not require a user name and password, this option may be used. All options use the **User name** and **Password** entered for this monitor instance. If these are not specified for the individual monitor, the **Default authentication user name** and **Default authentication password** specified in the Main section of the General Preferences page are used, if they have been specified. **Note:** Pre-emptive authorization does not control if the user name and password should be sent, or which user name and password should be sent.
Accept untrusted certificates for HTTPS	If you are accessing a target URL using Secure HTTP (HTTPS) and SiteScope does not have the required server certificates, you can either select this option or import the related certificates. For details on importing server certificates, see SSL Connectivity in "URL Content Monitor Overview" on page 782.
Accept invalid certificates for HTTPS	Check this option if you are accessing a target URL using Secure HTTP (HTTPS) and SiteScope has invalid server certificates. This may happen, for example, if the current date is not in the date ranges specified in the certificate chain.

GUI Element	Description
Client side certificates	If you need to use a client side certificate to access the target URL, select the certificate file using the drop down menu. Normally, this is a .pfx (.p12) type certificate, which usually requires a password. You type the password for the certificate in the **Client side cert password** box. **Note:** Client side certificate files must be copied into the <SiteScope root directory>\templates.certificates directory.
Client side certificates password	If you are using a client side certificate and that certificate requires a password, enter the password in this box.
Authorization NTLM domain	Enter the domain for NT LAN Manager (NTLM) authorization if it is required to access the URL.
NTLM V2	Select if the URL you are accessing requires authentication using NTLM version 2.
Proxy Settings	
HTTP proxy	A proxy server can be used to access the URL. Enter the domain name and port of an HTTP Proxy Server.
Proxy server user name	If the proxy server requires a user name to access the URL, enter the name here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy server password	If the proxy server requires a password to access the URL, enter the password here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy NTLM V2	Select if the proxy requires authentication using NTLM version 2.

URL List Monitor Settings

Description	The URL List Monitor is used to check a large list of URLs. This monitor is commonly used by Web hosting providers to measure the availability and performance of their customer's Web sites. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"URL List Monitor Overview" on page 785

URL List Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
URL list file	Enter the path for the file containing the list of URLs to be monitored. This file should be a plain text file and contain only one URL per line. **Examples:** http://www.website.com/index.html http://www.website.com/main/customer/order.html http://www.website.net/default.htm http://www.Webpages.com/tech/support/ws/intro.html
Log file	Enter the path for the log file for this monitor. For each URL checked, an entry is added to this log file. If this item is blank, a log is not created.
Error log file	Enter the path for the error log file for this monitor. For each error retrieving a URL, an entry is added to this log file. If this item is blank, a log is not created.
Specific server	Optionally, if the URL file is not a text file, you can enter the Server name to specify which URLs to check in the URL list. If the URLs are stored in a map format, this item is used to check a subset of the URLs from the list. **Default value:** All URLs that are in the list are checked.
Pause (milliseconds)	Enter the pause, in milliseconds, between each URL check. Decreasing this number shortens the total time required to check all of the URLs but also increases the load on the server. **Default value:** 1000 milliseconds

GUI Element	Description
Threads	Enter the number of threads to retrieve URLs. This is the number of simultaneous checks to perform. Increasing this number shortens the time for all of the URLs to be checked but also increases the load on the server. **Default value:** 4
Timeout (seconds)	The number of seconds that the URL monitor should wait for a page to complete downloading before timing-out. Once this time period passes, the URL monitor logs an error and reports an error status. **Default value:** 60 seconds
Retries	Enter the number of times you want SiteScope to try to reach URLs that are returning an error. **Default value:** 0
HTTP Settings	
Request headers	The header request lines sent by the HTTP client to the server. **Note:** Although this field is optional, some Web pages behave unexpectedly when the request header is missing (such as performing endless redirects, providing wrong content, and so forth).
Use WinInet	Select to use WinInet as an alternative HTTP client for this monitor. Select this option to use WinInet instead of Apache when: ➤ The Apache HTTP client does not support a specific technology required to access the server you are monitoring. For example, Kerberos authentication is not supported by the Apache library, and is supported by WinInet. WinInet also supports trusted client-side certificates while Apache does not. ➤ You tried running this monitor and the Apache server returned errors. Using WinInet may solve these errors. **Default value:** Not selected

GUI Element	Description
Proxy Settings	
HTTP proxy	(Optional) A proxy server can be used to access the URLs in the list. Enter the domain name and port of an HTTP Proxy Server.
Proxy server user name	If the proxy server requires a user name to access the URL, enter the name here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy server password	If the proxy server requires a password to access the URL, enter the password here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Authentication Settings	
Credentials	If the URLs in the list require a user name and password for access, select the option to use for authorizing credentials: ➤ **Use user name and password.** Select this option to manually enter user credentials. Enter the user name and password to access the URLs in the **User name** and **Password** box. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password for the URLs (default option). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.

URL Sequence Monitor Settings

Description	The URL Sequence Monitor simulates a user's actions across a series of Web pages and URLs. This is particularly useful for monitoring and testing multi-page e-commerce transactions and other interactive online applications. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Create a URL Sequence" on page 811 "Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"URL Sequence Monitor Overview" on page 788 "URL Sequence Step Dialog Box" on page 850

URL Sequence Step Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Use the **New Step** button to open the URL Sequence Step dialog box and define the URL sequence steps. For details on the user interface, see "URL Sequence Step Dialog Box" on page 850.
	Use the **Edit Step** button to open the URL Sequence Step dialog box and edit the properties of an existing URL sequence step. For details on the user interface, see "URL Sequence Step Dialog Box" on page 850.

GUI Element	Description
	Use the **Delete Last Step** button to delete the last step in the URL sequence.
Step	The step number in the URL sequence.
Reference Type	The URL of the sequence step.
Title	The name of this step within the sequence monitor.

URL Sequence Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Main Settings	
Timeout (seconds)	The number of seconds that the URL Sequence Monitor should wait for the entire sequence to complete before timing-out. Once this time period passes, the URL Sequence Monitor logs an error and reports an error status. **Default value:** 60 seconds
Timeout for each step	Select to use the value entered for the Timeout above as the timeout for each step of the sequence rather than for the entire transaction. If the step takes more than this time to complete, the URL Sequence Monitor logs an error and reports an error status. **Default value:** Not selected
Retries	Enter the number of times that SiteScope should retry the request if a recoverable error was encountered. A timeout of the request for is a recoverable error. **Default value:** 0

GUI Element	Description
If error, resume at step	You use this option to specify a URL sequence step to run in the case that a URL Sequence results in an error. This is useful when a URL sequence involves a user or customer login which would result in problems if the sequence ended without logging out. Use the drop-down list to select a URL sequence step to jump to in the case that any step in the sequence returns an error.
Run resume step and remaining steps	If the **If error, resume at step** option is selected and run, selection of this option causes SiteScope to run that step and continue running the other, subsequent steps until it reaches the end of the sequence. **Default value:** Not selected
Show detailed measurements	Select this box if you want SiteScope to record a detailed breakdown of the process times involved in retrieving the requested URL. These include the following: ➤ **DNS lookup time.** The time it takes to send a name resolution request to your DNS server until you get a reply. ➤ **Connection time.** The time it takes to establish a TCP/IP/Socket connection to the Web server. ➤ **Server response time.** The time after the request is sent until the first byte (rather first buffer full) of the page comes back. ➤ **Download time.** The time it takes to download the entire page. **Default value:** Not selected
HTTP Settings	
Request headers	The header request lines sent by the HTTP client to the server. **Note:** Although this field is optional, some Web pages behave unexpectedly when the request header is missing (such as performing endless redirects, providing wrong content, and so forth).

GUI Element	Description
HTTP version	Select the HTTP version for SiteScope to use. Some systems may not be designed to accept HTTP 1.1 requests headers. If this is the case, select HTTP 1.0. **Default value:** HTTP version 1.1
Retrieve images	Select this box if you want the status and response time statistics to include the retrieval times for all of the embedded images in the page. Embedded images include those referenced by IMG, BODY (from the background property), and INPUT TYPE=IMAGE HTML tags. Images that appear more than once in a page are only retrieved once. **Note:** If this option is checked, each image referenced by the target URL contributes to the download time. However, if an image times out during the download process or has a problem during the download, that time is not added to the total download time. **Default value:** Not selected
Retrieve frames	Select this box if you want SiteScope to retrieve the frames references in a frameset and count their retrieval time in the total time to download this page. Frames include those referenced by FRAME and IFRAME tags. If **Retrieve Images** is also checked, SiteScope attempts to retrieve all images in all frames. **Note:** If this option is checked, each frame referenced by the target URL contributes to the download time. However, if a frame times out during the download process or has a problem during the download, that time is not added to the total download time. **Default value:** Not selected

GUI Element	Description
Use WinInet	Select this option if you want to use WinInet as an alternative HTTP client for this monitor. Select this option to use WinInet instead of Apache when: ➤ The Apache HTTP client does not support a specific technology required to access the server you are monitoring. For example, Kerberos authentication is not supported by the Apache library, and is supported by WinInet. WinInet also supports trusted client-side certificates while Apache does not. ➤ You tried running this monitor and the Apache server returned errors. Using WinInet may solve these errors. **Default value:** Not selected (Apache is used)
Proxy Settings	
HTTP proxy	(Optional) A proxy server can be used to access the URLs in the sequence. Enter the domain name and port of an HTTP Proxy Server.
Proxy server user name	If the proxy server requires a name and password to access the URLs in the sequence, enter the name here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy server password	If the proxy server requires a name and password to access the URLs in the sequence, enter the password here. **Note:** Your proxy server must support Proxy-Authenticate for these options to function.
Proxy NTLM V2	Select this option if the proxy server requires authentication using NTLM version 2.
Authentication Settings	
NTLM V2	Select this option if the URL you are accessing requires authentication using NTLM version 2. **Default value:** Not selected

GUI Element	Description
Accept invalid certificates for HTTPS	Check this option if you are accessing a target URL using Secure HTTP (HTTPS) and SiteScope has invalid server certificates. This may happen, for example, if the current date is not in the date ranges specified in the certificate chain. **Default value:** Not selected
Accept untrusted certificates for HTTPS	If you are accessing a target URL using Secure HTTP (HTTPS) and SiteScope does not have the required server certificates, you can either select this option or import the related certificates. For details on importing server certificates, see SSL Connectivity in "URL Sequence Monitor Overview" on page 788. **Default value:** Not selected
Use cookie persistency	Select this option if you want to share cookies between monitor runs and between configured monitors. For details, see "Sharing Cookies Between Monitor Runs and Configured Monitors" on page 800. **Default value:** Not selected
Load cookies from persistency	Select this option if you want to load all relevant cookies from the persistency file and add them to the list of cookies to be sent to the server. Cookies are loaded at the beginning of the monitor run. **Default value:** Not selected

GUI Element	Description
Save cookies to persistency	Select this option if you want to save all cookies received from the server for the current monitor run to the persistency file. Where a cookie has the same name, and its domain and path attribute string values exactly match those of an existing cookie in the persistency file, the cookie replaces the existing cookie. Cookies are saved at the end of every monitor run and the persistency file is updated. **Default value:** Not selected
Cookie persistency file path	Enter the path and name of the cookie persistency file.

URL Sequence Step Dialog Box

The following describes the settings used for each individual sequence step in the URL Sequence Step Settings panel of the New URL Sequence Monitor dialog box. The scope of each of these settings is limited to the request action for the step. For example, the **User name** and **Password** settings are only sent as part of the request being made in the step that they are defined.

GUI Element	Description
Reference Settings	
<Reference type>	Use these options to select how SiteScope progresses from one step of a URL sequence to the next. For details, see "Defining Sequence Steps" on page 792. ➤ **URL.** Go to a particular URL directly. Enter the URL you want SiteScope to go to in the URL box. ➤ **Link.** Follow a hyperlink on the page received from the previous step. Click to display all available links on the current page. Click the label or HTML text corresponding to the hyperlink that you want SiteScope to follow. If you know a link is available on the subject page but it does not appear in the drop-down list, it may that the page uses a client-side program. In this case, you may have to specify the URL manually. ➤ **Form.** Enter data into a form received from the previous step and submit the form data to an application. Click to display the list of available form buttons. Click the name or HTML text corresponding to the form button that you want SiteScope to use. If you know a form is available on the subject page but it does not appear in the drop-down list, see "URL Sequences and Dynamic Content" on page 795. ➤ **Frame.** Request the content of a specific frame if the previous step returned an HTML frameset. Click the arrow on the right of the box to display all available filenames displayed in the current FRAMESET and then click the file that you want SiteScope to retrieve. ➤ **Refresh.** Follow an automated redirection defined by a META HTTP-EQUIV="Refresh" tag. Click the arrow on the right of the box to display all available Refresh filenames, and select the file that you want SiteScope to retrieve. Normally there is only one filename.

GUI Element	Description
Main Settings	
Step title	Enter the text for the title of this step within the sequence monitor. The title is only displayed in the URL Sequence Steps Settings panel.
Match content	Enter a string of text to check for in the returned page or frameset. If the text is not contained in the page, the monitor displays the message content match error. HTML tags are part of a text document, so include them if they are part of the text for which you are searching. This works for XML pages as well. **Example:** < B> Hello< /B> World You can also perform a regular expression match by enclosing the string in forward slashes, with a letter i after the trailing slash indicating case-insensitive matching. **Example:** /href=Doc\d+\.html/ or /href=doc\d+\.html/i If you want a particular piece of text to be saved and displayed as part of the status, use parentheses in a Perl regular expression. **Example:** /Temperature: (\d+). This returns the temperature as it appears on the page and this could be used when setting an **Error if** or **Warning if** threshold. **Note:** The search is case sensitive.
Match content for error	Enter a string of text to check for in the returned page for this step. If the text is contained in the page, the monitor display the message **content error found** for this step's URL. The search is the same as for the **Match content** box described above.
Delay (seconds)	Enter how long SiteScope should wait before executing the next step of the sequence. **Default value:** 0 seconds

GUI Element	Description
Authentication Settings	
Pre-emptive authorization	Select when the authorization credentials should be sent if SiteScope requests the target URL. ➤ **Use global preference** (default value). Select to have SiteScope use the settings specified in the **Pre-emptive authorization** field in the Main Panel of the General Preferences page. ➤ **Authenticate first request.** Select to send the user name and password on the first request SiteScope makes for the target URL. **Note:** If the URL does not require a user name and password, this option may cause the URL to fail. ➤ **Authenticate if requested.** Select to send the user name and password on the second request if the server requests a user name and password. **Note:** If the URL does not require a user name and password, this option may be used. All options use the authorization **User name** and **Password** entered for this monitor instance. If these are not specified for the individual monitor, the **Default authentication user name** and **Default authentication password** specified in the Main Panel of the General Preferences page are used, if they have been specified. **Note:** Pre-emptive authorization does not control if the user name and password should be sent, or which user name and password should be sent.
Client side certificate	If you need to use a client side certificate to access the target URL, select the certificate file using the drop down menu. Client side certificate files must be copied into the **SiteScope\templates.certificates** directory. Normally, this is a .pfx (.p12) type certificate, which usually requires a password. You enter the password for the certificate in the **Client side certificate password** box. **Default value:** none
Client side certificate password	If you are using a client side certificate and that certificate requires a password, enter the password in this box.

GUI Element	Description
Authorization NTLM domain	Enter the domain for NT LAN Manager (NTLM) authorization if it is required to access the URL in this step.
Password	If the URL specified for this step requires a name and password for access, enter the password in this box. Alternately, you can leave this entry blank and enter the password in the Default Authentication Credentials section on the General Preferences page. You use this alternate method to define common authentication credentials for use with multiple Web Service monitor.
User name	If the URL specified for this step requires a name and password for access, enter the user name in this box. Alternately, you can leave this entry blank and enter the user name in the Default Authentication Credentials section on the General Preferences page. You use this alternate method to define common authentication credentials for use with multiple Web Service monitor.
HTTP Settings	
URL content encoding	SiteScope retrieves the correct encoding from the server response. The default value appearing in this box should not be edited. **Example:** Cp1252, Cp1251, Cp1256, Shift_JIS, or EUC_JP. **Default value:** Retrieve encoding from server response
POST data (for Form)	If the URL at this step issues a POST request for a form and the user has used the **Form** reference type (indicating that the user wants to send the form), enter the post variables, one per line as name=value pairs. This option is used to verify that a form is working correctly by performing the same request that occurs when a user manually submits a form. When the form is submitted, SiteScope fills in any items that are not specified with data here with the same defaults as a browser would have chosen. A single name=value pair may be used to hide any data that is passed to the form, such as a password. The values entered in the **POST data** text box are not encrypted and are visible to anyone. If you want to secure the value by encrypting it, use the **Post data password key** and **Post data password value** boxes to secure the monitor as described below. **Note:** There may be more than one form on the page.

GUI Element	Description
Post data password key	Enter the name of the box that was supplied by the URL in the **POST data** box. It is the **name** component of the name=value pair.
Post data password value	Enter the value that is required when accessing the form. This is the **value** component of the name=value pair. The value is encrypted using the TDES algorithm. For example, you want to define an encrypted password to the form that the URL monitor, gmail.com sends. The site gmail.com automatically supplies information in the POST data text box of the URL Sequence dialog box. The Post Data Password Key may vary from site to site. The Post Data Password Key provided by gmail.com is Passwd. The Post Data Password Value is the password that you provide. For details on how to enter an encrypted or unencrypted password, see "Enter an Encrypted or Unencrypted Password (if required)" on page 813.
POST Data encoding	Determines if the Post Data is encoded. Select from the following options: ➤ **Use content-type.** Decide to encode the post data by the content type header. If the header equals **urlencoded** then encode, otherwise do not encode. ➤ **Force URL encoding.** Always encode the post data. ➤ **Do not force URL encoding.** Do not encode the post data.
Show Source	Click to open a new browser window that displays the source code of the URL returned by the previous request. You can use this window to copy data, such as a session ID or form data, from the Web page for use in the current step. The HTML Source folding panel at the bottom of the step page can also be used to view the source of the Web page. However, some browsers do not support copying data from this panel.
Show HTML	Click to open a new browser window that displays the URL in a regular browser view. You can use this window to match the **Link** and **Form** data displayed in the URL Sequence Monitor step dialog form with the elements as displayed on the Web page.

Web Script Monitor Settings

Description	The Web Script Monitor gives you a flexible solution for virtual end-user monitoring of all your Web-based Applications. It can monitor dynamic content, test various authentication methods, and capture each step in a transaction between virtual user and Web site. This can help identify performance and availability issues before they affect end users. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	The Web Script Monitor is an optional SiteScope function. Additional licensing is required to enable this monitor type in the SiteScope interface. Contact your HP sales representative for more information. The Web Script Monitor is not supported in template mode. Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302. **Note to HP Business Availability Center users**: The Web Script Monitor is not available when working in HP Business Availability Center and cannot be configured in System Availability Management. The monitor's data cannot be reported to HP Business Availability Center.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"Web Script Monitor Overview" on page 802

Web Script Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Web script URL	Select from the following options: ➤ **Web script files list.** Select from the list of available scripts in the directory storing your VuGen scripts. This could be the default directory <**SiteScope root directory**>**templates.webscripts** or a directory you name in **VuGen scripts path root** in General Preferences. For details, see "General Settings Preferences User Interface" on page 1131. ➤ **Full path Web script name**. Enter the full path for the VuGen script. The script must be a .zip file and the path must be a location to which the machine running SiteScope has file system access. When the script is selected, it is copied into a SiteScope directory and the monitor no longer accesses the original location or the original script files. ➤ If the script is changed in VuGen and you want the monitor to run the newer version of the script, you must edit the monitor and select the script again. ➤ Each script used for a Web Script Monitor must have a unique name.
Web script timeout (seconds)	Enter the time in seconds after which you want SiteScope to stop running the script if it has not successfully completed its run. This value must be less than the value you entered for the Frequency setting. **Default value:** 60 seconds

GUI Element	Description
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor. For the list of counters available for the monitor, see "Web Script Performance Counters" on page 858. The first list of counters applies to all the transactions in the script and is called **Total**. The **Status** counter is the only counter that is in the **Total** list and the only counter that can be applied to all the transactions within the script. The subsequent lists are by transaction. Each transaction list includes all the available counters, enabling you to make specific selections of counters for the different transactions in the script. **Note:** Not all counters return values for all transactions. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.

Web Script Performance Counters

The following table lists all the counter metrics available for the monitor. Not all the counters report on all the transactions.

Name	Description
Retry Time	Displays the overall amount of time that passes from the moment an HTTP request is started until the moment an HTTP or TCP error message is returned. Retry time only relates to HTTP or TCP errors that execute a retry after the error.
DNS Time	Displays the average amount of time needed to resolve the DNS name to an IP address, using the closest DNS server. The DNS Lookup measurement is a good indicator of slow DNS resolution or other problems with the DNS server.
Connection Time	Displays the amount of time needed to establish an initial connection with the Web server performing the transaction. The connection measurement is a good indicator of problems along the network or whether the server is responsive to requests.
SSL Handshaking Time	Displays the amount of time taken to establish an SSL connection (includes the client hello, server hello, client public key transfer, server certificate transfer, and other optional stages). After this point, all the communication between the client and server is encrypted. The SSL handshaking measurement is only applicable for HTTPS communications.
Network Time to First Buffer	Displays the amount of time that passes from the moment the first HTTP request is sent until receipt of ACK. The network measurement is a good indicator of network quality (look at the time/size ratio to calculate download rate).

Name	Description
Server Time to First Buffer	Displays the amount of time that passes from the receipt of ACK of the initial HTTP request (usually GET) until the first buffer is successfully received back from the Web server. The server time to first buffer measurement is a good indicator of Web server delay. **Note:** Because server time to first buffer is being measured from the client, network time may influence this measurement if there is a change in network performance from the time the initial HTTP request is sent until the time the first buffer is sent.
Download Time	Displays the time from the receipt of the first buffer until the last byte arrives. Download time is a combination of server and network time, because each server (as specified by the URLs in the script) sends data over two or four connections, and therefore is usually working while data is being transmitted over the network. As a Web page is retrieved, its various components (images, applets, and so on) travel in data packets from server to client across the connections, so that some data packets may be traveling over the network through one of the connections, while others are being processed by the server through another connection.
Client Time	Displays the time during the script run when the client is not sending or receiving data from the server.
Duration	The time in milliseconds for the transaction to be run.
Status	Displays whether the transaction passed or failed. A value of 0 is passed, a value of 1 is failed. A failed transaction could be caused by a content matching error, as set up in the VuGen script, or an http error from the server.
Size	The size in bytes received from the Web sites being monitored by the transaction.
Number of Errors	Number of errors that occurred during the transaction run.
Number of Pages	Number of pages accessed when running the transaction.

18

Monitoring XML Documents

This chapter includes concepts and reference information about SiteScope's content matching capabilities for XML documents.

This chapter includes:

Concepts

Reference

Monitoring XML Documents Overview

SiteScope's content matching capabilities is an important function in monitoring networked information systems and content. For SiteScope monitors that provide content matching, the basic content matching is available through the use of Perl regular expressions. SiteScope also includes the capability of matching document content by traversing XML documents. For example, you can include an XML match content string using the URL Monitor and Web Services Monitor to match an XML element name, an attribute of an XML element, or the content of an element. You can use this to check for content in XML based Web pages, SOAP or XML-RPC documents, and even WML pages served to WAP-enabled devices.

Content Matching for XML Documents

The syntax of XML match content strings reflects the hierarchal structure of the XML document. Match content strings that start with "xml" are recognized as element names within an XML document. The element names are added, separated by periods, in the order of their relationship to the root element. For example, in the document weather.xml the root element is <weather>. This element includes child elements named <area>, <skies>, <wind>, <forecast>, and so forth. To access the content of these XML elements or their attributes, you would use a syntax like xml.weather.area.

To check that specific content or value is present, add an equals sign after the element name whose content you are testing and then add the value of the content. If there are multiple instances of an element name in the document, you can check a particular instance of that element by adding the number indicating the order of the element in the document in square brackets (see the example in the table below). You can also test for multiple elements or values by separating individual search strings with commas. The table below gives several examples of the syntax used to match content in XML documents.

Example Match Content	Description
xml.weather.temperature	Succeeds if any <weather> node in the document contains **one or more** <temperature> elements. The content of the <temperature> elements is returned by the monitor. If no <temperature> element is found within the <weather> node, an error is returned.
xml.weather.temperature=20	Succeeds if any <weather> node in the document contains **one or more** <temperature> elements where the content of the <temperature> element equals 20. The content of the <temperature> element is **NOT** returned by the monitor if the match is found. An error is returned if no <temperature> element is found within the <weather> node or if no <temperature> element contains the value 20.

Example Match Content	Description
xml.weather.forecast.[confidence]	Succeeds if any <weather> node in the document contains a <forecast> element that has an **attribute** called confidence. The value of the confidence attribute is returned by the monitor if the match is found. An error is returned if no <forecast> element is found within the <weather> node or if no confidence attribute is found.
xml.weather.forecast[3].[confidence]=50	Succeeds if any <weather> node in the document contains three or more <forecast> elements where the third <forecast> element has a confidence **attribute** with a value of 50. An error is returned if the <weather> node has fewer than three <forecast> elements or if the value of the confidence attribute is not equal to 50.
xml.weather.temperature=20, xml.weather.skies=rain	Succeeds if any <weather> node in the document contains **one or more** <temperature> elements where the content of the <temperature> element equals 20 **AND** if any <weather> node contains **one or more** <skies> elements where the content of the <skies> element equals rain. Returns an error if either of the matches fails.
xml.wml.card.p.table.tr.td.anchor=Home Page	Checks the content of <anchor> elements in the designated path of a WML document. Succeeds if any <card> node containing table cells with **one or more** <anchor> elements where the content of any of the <anchor> elements equals "Home Page."

Using XML Content Match Values in Monitor Configurations

Monitors like the URL Monitor have a content match value that is logged to the SiteScope monitor data log and can also be used to set error and warning status thresholds for the monitor. The values of the XML names are saved as the content match values for the monitor.

For example, if the match content expression was xml.weather.temperature and the document was the contents of the file weather.xml, then the content match value would be 46.

You can then set the error, warning, and good status thresholds in the Advanced Options section for the monitor to compare your specific thresholds to the value returned by the content match.

For example, if you were monitoring temperature values and wanted to be alerted when the temperature value dropped below 72 degrees, you could set the monitor status thresholds as follows:

Error if	content match < <= 72
Warning if	content match == <= 72
Good if	content match >= > 72

With this configuration, the monitor would check the content of the temperature element and then compare it to the error and warning thresholds. In the example above, the status of the monitor would be an **error** because the temperature value is 46, which is less than 72.

Part IV

Integration Monitors

19

Working with SiteScope Integration Monitors

Integration Monitors enable you to capture and forward data from several Enterprise Management Systems (EMS) applications and servers into HP Business Availability Center.

This chapter includes:

Concepts

Tasks

Reference

Integration Monitors Overview

Integration Monitors are run by the SiteScope data collector and are used to integrate data from third-party applications (typically EMS systems) into HP Business Availability Center.

Note: Access to Integration Monitor types requires that a special SiteScope Optional License be entered on the SiteScope server.

You can create an EMS integration in HP Business Availability Center's EMS Integrations Administration page. For details, see "Integration Administration" on page 417. When creating the integration, the step to create monitors opens System Availability Management to enable you to create the SiteScope Integration monitors.

There are two levels of configuration for collecting the data and forwarding that data to HP Business Availability Center:

- **Required:** The monitors must be configured to properly map to the monitored system and collect the required samples, whether in the form of events, measurements, or tickets. The field mapping from the monitored system is done by selecting a sample type in the Field Mapping setting and editing the corresponding script template in a text editor.
- **Optional:** The data can also be mapped to a topology to forward data to the correct CI hierarchy in HP Business Availability Center. This enables the monitor to accurately report status to the required CIs within HP Business Availability Center for use by the different applications in the product. The topology settings are configured using a Jython script that is loaded depending on the type of topology you want to create.

This section includes the following topics:

Integration Monitor Categories

Integration monitors can be divided into two categories.

Application-Specific Monitors

These integration monitors are designed for use with specific EMS applications. These monitors are predefined with the required field mapping and topology settings.

The monitors include:

- HP OVO Event Monitor
- HP Service Center Monitor
- NetScout Event Monitor

The scripts for both the field mapping and the topology settings can be further configured to suit the needs of your specific environment.

Note: Topology Settings are not available for the NetScout Event Monitor.

Generic Integration Monitors

Technology Integration Monitors designed for use with most EMS applications that support extraction of data from a database, log file, SNMP trap, or Web service interface.

The field mapping and topology settings for these monitors must be configured by loading the applicable scripts and editing them in a separate text editor during monitor creation.

The monitors include:

- Technology Database Integration Monitor
- Technology Log File Integration Monitor
- Technology SNMP Trap Integration Monitor
- Technology Web Service Integration Monitor

Field Mapping Sample Types

The integration monitors use field mapping scripts to correctly map the data they collect to a format recognizable by HP Business Availability Center. For the generic integration monitors, you configure and customize these mappings as required. When you select a field mapping type, you must copy the script into a text editor, make your changes, and then copy the script back into the field mapping text box.

The mappings for the application-specific monitors are not editable while configuring the monitor and we recommend that you use the out-of-the-box integration mappings already configured for those monitors.

When configuring the generic integration monitors, select from the following types of sample scripts:

- **Measurements.** Used to collect time-based data. Data collected by Integration Monitors that use the measurements sample type is integrated into HP Business Availability Center as typical SiteScope data and can be viewed in all contexts that support viewing SiteScope data (for example, Dashboard, Service Level Management, System Availability Management, user reports, and so on).
- **Events.** Used to collect data on specific events. Data collected by Integration Monitors that use the event sample type is integrated into HP Business Availability Center using the UDX framework and can be viewed in contexts that support the display of UDX data (Event Log, Dashboard, trend reports). The data can also be accessed using the HP Business Availability Center API.
- **Tickets**. Used to collect incidents and events from ticketing systems. Data collected by integration monitors that use the ticketing sample type is integrated into HP Business Availability Center and can be viewed in Dashboard and Service Level Management.

The Database, Log File, SNMP Trap, and Web Service Technology Integration Monitors can be configured to work with these sample types. You use the field mapping script templates that come prepackaged with SiteScope as a basis for creating a customized configuration required for your specific environment. When you configure an integration monitor, you select the sample type to load the required script template and edit the script to collect the data you want to forward to Business Availability Center.

For details on customizing the field mapping scripts, see "Integration Monitor Field Mapping" on page 885.

Topology Settings for Technology Integration Monitors

To establish the full integration with Business Availability Center, you can select a topology template for your integration monitor. You do this while creating an integration monitor in the Topology Settings area. The topology templates for **Hosts, Hosts-Software Elements**, and **Tickets** are specially configured with the necessary values to forward data to the required CIs in Business Availability Center's CMDB.

The topology is written as a Jython script. Jython is a language based on Python and powered by Java. For details on how to work in Jython, you can refer to these Web sites:

- http://www.jython.org
- http://www.python.org

The script includes the basis of the functions necessary to retrieve the required topology data from the monitored application. To build the topology, the script uses the sample that was created as a result of the monitor's field mapping. The script includes the mapping to forward the retrieved data to the relevant CIs in Business Availability Center.

SiteScope forwards the topology to create or update a CI under the following conditions:

- When the CI is created in SiteScope for the first time as a result of the monitor retrieving data, regardless of whether the CI exists in the CMDB.
- If there were any changes to any of the CI's properties.
- The initial monitor run after SiteScope is restarted.

This prevents overloading the CMDB with CI updates coming from the monitor.

This section includes the following topics:

Selecting a Topology

When working with application-specific monitors, you do not select a topology and the topology is preconfigured with the necessary data for the integration.

When working with generic integration monitors, you can select from the following topology settings:

➤ **Custom**. You create your own topology if you want the retrieved data to be forwarded to specific CIs and not the standard host or software element CIs.

Note: It is recommended not to select **Custom** as this does not load a script and you must enter the entire script yourself. We recommend that you begin with either **Hosts** or **Hosts-Software Elements** and edit one of those scripts.

➤ **Hosts**. Creates a host CI with an EMS monitor CI as a leaf node.

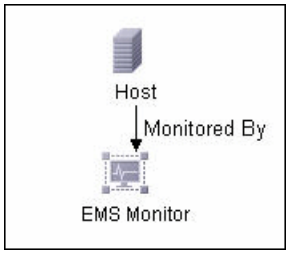
➤ **Hosts-Software Element**. Creates a topology with a host CI as the parent CI and a software element CI under it, and an EMS monitor CI under the software element CI.

➤ **Tickets**. Creates a business service CI with an EMS monitor CI as a leaf node.

Note: The topology script must include the EMS monitor CI as the lowest leaf in the topology created by the integration.

Hosts Topology

The default topology created includes a Host CI with an EMS Monitor CI as its leaf node.



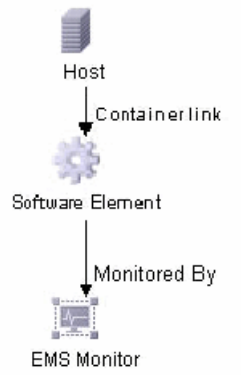
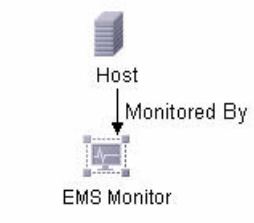
The Host CI has a monitored by relationship with the EMS Monitor CI. The EMS Monitor CI passes status onto the Host CI.

Hosts-Software Elements Topology

In this topology, there are two types of data that can be retrieved from the monitored system: **software element** events and **system** events.

- **Software element events**. This data is recognized as data affecting services or applications. These events are mapped to the system KPI for the relevant CIs. These events are not propagated to the host CIs.
- **System events**. This data is all other data retrieved from the monitored application that does not affect services or applications. This data passes status onto the host CI. The status may propogate to the Application CI if there is a relationship between the host CI receiving the system event and the software element CI. This event is also mapped to the system KPI for the relevant CIs.

The following table illustrates the topology created for each type of event:

Topology Created for Software Element Event	Topology Created for System Event
	

If the events do not belong to the category of service events, then the event is considered a system event.

You can configure which data is considered application or service data and which data is not. You configure these instructions by editing the topology script as follows:

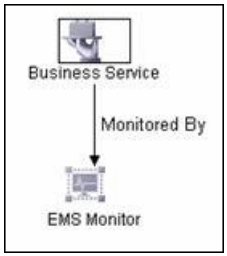
Search for the following string in the topology script:

if (subject != "system"):

The variable **subject** represents the subject field in the retrieved sample (as defined in the field mapping for events). The value **system** is an example of possible values representing the data from an application that is considered 'system' data and not forwarded to the software element CI. This 'system' data is forwarded to the host CI.

Tickets

The default topology created includes a Business Service CI with an EMS Monitor CI as its leaf node. The Business Service CI has a monitored by relationship with the EMS Monitor CI.



The EMS Monitor CI passes status onto the Business Service CI.

Editing the Topology Script

To configure the topology, you must edit the Jython script that appears in the Topology Settings area when creating an integration monitor. We highly recommend that you copy the contents of the script into your preferred text editor, edit the script in the text editor, and then copy back the contents into the Topology Settings field for the monitor.

The **Hosts**, **Hosts-Software Elements**, and **Tickets** topologies are already configured with the necessary information. Following are the guidelines for editing the script if you want to create your own topology.

- We recommend that you familiarize yourself with the Jython language before attempting to edit this script.
- The Jython language is sensitive to spaces and tabs and you must be careful while editing the script.
- You must leave the import section as is and only add to it.
- The main body of the script is mandatory and consists of:

  ```
  def DiscoveryMain(Framework)
  ```

  This main function is responsible for creating Object State Holder Vector (OSHV) results. This holds the CI data and how to map the incoming samples to the CIs.

- Each CI should have only one EMS Monitor CI as a leaf node.
- For event scripts, the following expressions must appear as the last lines in the script:

  ```
  Framework.setUserObject("result_object",monitoredCiType)
  return OSHVResult
  ```

  The variable monitoredCiType is the CI type being monitored by the EMS Monitor CI that receives the event.

  If the script creates more than one EMS Monitor CI for one retrieved event, you must determine to which of the CIs that event belongs and passes status. You do this by assigning the correct value to the monitoredCiType. For example, if the script creates one EMS Monitor CI for an Application CI and one for a Host CI, and you want the event to pass status to the Host CI, the value of the variable monitoredCiType should be "host".

- Use the built-in "logger" to debug the topology scripts when samples arrive. You do this by modifying the level and type of information reported to the log file. Change the log file settings in the **<SiteScope root directory>\conf\core\Tools\log4j\PlainJava\log4j.properties** file as follows:

  a Open the **log4j.properties** file in a text editor and locate the following lines in the file:

  ```
  # Jython prints
  log4j.category.PATTERNS_DEBUG=${loglevel}, integration.appender
  ```

  Change the argument of **log4j.category.PATTERNS_DEBUG** from **${loglevel}** to **DEBUG**, as follows:

  ```
  log4j.category.PATTERNS_DEBUG=DEBUG, integration.appender
  ```

  b Save the file. It may take a few seconds for the changes to take effect.

  The results are logged to the **bac_integration.log** file.

Jython Properties File

The <**SiteScope root directory**>**conf****ems****jython.properties** file controls many aspects of the Jython script. Generally, you do not need to edit this file. It already includes all the properties necessary for running the Jython script.

If you working in a secure Business Availability Center installation that has a certificate, you may have to modify one of the properties in this file. In this case, you must insert the following line into the file:

appilog.agent.Probe.BasicAuth.Realm=MyPrivateFile

Where myPrivateFile is a variable for the certificate realm. If you want to find out what realm a given URL belongs to, you can open the URL with a Web browser and see the first line in the popup box.

Note: When you modify the **jython.properties**, you must restart SiteScope to enable your changes to take effect.

Deploy Integration Monitors

This task describes the steps involved in deploying an integration monitor.

You can deploy integration monitors while working in:

- Business Availability Center's EMS Integrations Administration which opens System Availability Management Administration
- Directly in System Availability Management Administration
- A standalone SiteScope that reports to Business Availability Center

This task includes the following steps:

- "Select a SiteScope" on page 878
- "Create a Group for the Integration Monitor" on page 878
- "Configure the Integration Monitor" on page 879
- "Edit Field Mappings and Topology Script" on page 879

1 Select a SiteScope

When in System Availability Administration, select the SiteScope server from which you want to deploy the integration monitor. For details on the user interface, see "System Availability Management Administration" on page 105.

Note: This step is relevant only for users accessing SiteScope from HP Business Availability Center.

---

2 Create a Group for the Integration Monitor

We recommend that you create special groups for the integration monitors. This enables you to more easily recognize the data that is reported to Business Availability Center as coming from the integrations.

For details on the New SiteScope Group user interface, see "New SiteScope Group Page" on page 253.

3 Configure the Integration Monitor

You must configure the monitor and add the required data for the monitor's settings. You can choose from the following application-specific integrations:

- HP OVO Event Monitor
- HP Service Center Monitor
- NetScout Event Monitor

You can choose from the following generic integration monitors:

- Technology Database Integration Monitor
- Technology Log File Integration Monitor
- Technology SNMP Trap Integration Monitor
- Technology Web Service Integration Monitor

4 Edit Field Mappings and Topology Script

For generic integration monitors or any special customizations, you must also:

- Edit the field mappings. For details on this topic, see "Integration Monitor Field Mapping" on page 885.
- Edit the topology settings. For details on this topic, see "Topology Settings for Technology Integration Monitors" on page 871.

List of Deprecated Integration Monitors

In SiteScope version 8.5, a number of Integration Monitors were deprecated and are no longer supported.

The following table lists the deprecated Integration Monitors, and the respective Technology Integration Monitors that can replace them:

Deprecated Monitor	Recommended Monitor
Avalon Event	Technology SNMP Trap
BMC Patrol Event	Technology SNMP Trap, Technology Log File
BMC Patrol	Technology Log File
CA Unicenter Event (1)	Technology SNMP Trap
Compaq Insight Manager Event (2)	Technology Database
HP Systems Insight Manager Event	Technology Database
Netcool Event	Technology SNMP Trap
NetIQ (3)	Technology Database
Remedy Ticketing	Technology Database
Tivoli TEC Event	Technology Database
Tivoli DM	Technology Database
WhatsUp Event (4)	Technology Log File

The following are examples of how a Technology monitor can be configured to replace a deprecated monitor:

(1) Configure CA Unicenter agents to send SNMP traps to a SiteScope host machine where a Technology replacement monitor has been configured.

(2) For Compaq Insight Manager version 7.0, configure the replacement SiteScope monitor to read from the following tables: Notices, NoticeType, Devices, StringResource, and StringTableLarge.

(3) For NetIQ versions 5.0 and 5.1, configure the replacement SiteScope monitor to query tables Data (contains raw data) and DataHeader (contains metadata about the objects that NetIQ monitors).

(4) For WhatsUp version 8.0, configure the replacement SiteScope monitor to read from the log file EV-<date>.tab.

Note: Beginning with SiteScope 8.x, the monitor configuration file **main.config** is no longer used. All functions that were supported in **main.config** are now supported in **event.config** and available in the **Fields Mapping** setting.

Troubleshooting and Limitations

The information below describes basic troubleshooting techniques and information regarding log files that may be useful when working with Integration Monitors.

Integration Monitor Logs

Integration Monitor activity is logged to **<SiteScope root directory>\logs\RunMonitor.log** and **lbac_integration.log**.

You can modify the level and type of information reported to the log file by changing the log file settings in the **<SiteScope root directory>\conf\core\Tools\log4j\PlainJava\log4j.properties** file. You can instruct the logging mechanism to:

- report logged information in less or greater detail than is reported by default
- log all samples sent by Integration Monitors to HP Business Availability Center
- log all received events from external EMS systems

To modify log settings:

1 Open the **log4j.properties** file in a text editor.

2 To specify that samples sent by Integration Monitors to HP Business Availability Center be logged:

a Locate the following lines in the file:

```
log4j.category.EmsSamplePrinter=${loglevel}, integration.appender
log4j.additivity.EmsSamplePrinter=false
```

b Change the argument of **log4j.category.EmsSamplePrinter** from **${loglevel}** to **DEBUG**, as follows:

```
log4j.category.EmsSamplePrinter=DEBUG, integration.appender
```

c Save the file. It may take a few seconds for the changes to take effect.

The results are logged to the bac_integration.log file.

3 To specify that all received events from external EMS systems be logged:

a Locate the following lines in the file:

```
log4j.category.EmsEventPrinter=${loglevel}, monitors.appender
log4j.additivity.EmsEventPrinter=false
```

b Change the argument of **log4j.category.EmsEventPrinter** from **${loglevel}** to **DEBUG**, as follows:

```
log4j.category.EmsEventPrinter=DEBUG, monitors.appender
```

c Save the file. It may take a few seconds for the changes to take effect.

The results are logged to the **RunMonitor.log** file.

Other Log and Troubleshooting Issues

➤ Look for errors in <**SiteScope root directory**>**logs****error.log** and in <**SiteScope root directory**>**logs****bac_integration.log**.

➤ If samples are created and sent from SiteScope but cannot be seen in HP Business Availability Center Dashboard, Event Log, or SiteScope reports, search for the string ERROR or WARN in the **wde.logl** and **loader.logl** files in the <**HP Business Availability Center root directory**>**log****mercury_wde**\ directory to make sure the samples were not dropped due to missing fields or values.

➤ Increase the level of Dashboard logging in **<HP Business Availability Center root directory\conf\core\Tools\log4j\EJB\ble.properties** file to verify that Dashboard is receiving samples. Locate the following parameter and change the log level status to **DEBUG**:

log4j.category.Trinity.BLE_SAMPLES=DEBUG, trinity.samples.appender

The results are logged to the **<HP Business Availability Center root directory\log\EJBContainer\TrinitySamples.log**.

Note: Once you have determined the cause of the problem, we recommend that you set log levels to their default settings so as not to overload the system.

Additional troubleshooting information is located in the HP Software Self-solve knowledge base (http://h20230.www2.hp.com/selfsolve/documents) (you must log in to the knowledge base with your HP Passport ID) and in the following sections of the documentation:

➤ For Technology Database Integration monitor, see "Troubleshooting the Technology Database Integration Monitor" on page 961.

➤ For Technology Log File monitor, see "Troubleshooting the Technology Log File Integration Monitor" on page 978.

➤ For Technology SNMP Trap monitor, see "Troubleshooting the Technology SNMP Trap Integration Monitor" on page 991.

➤ For Technology Web Service Integration monitor, see "Troubleshooting the Technology Web Service Integration Monitor" on page 1005.

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Integration Monitor Field Mapping

You enable capturing event and metrics data from Enterprise Management Systems, automated support systems, and other management applications by configuring integration monitors and their field mapping scripts.

This chapter includes:

Concepts

Reference

Integration Monitor Field Mapping Overview

Integration monitors depend on field mappings you customize within the user interface in the settings for the monitor. The mapping defines the processing of incoming data and defines the output sample forwarded to Business Availability Center.

Integration Monitors designed for use with specific EMS applications (these currently include HP OVO, HP Service Center, and NetScout) can be configured without editing their field mapping script. The mappings are predefined by HP and require modification only if specific customizations are required. For details on editing these field mapping scripts, see the description for the field mapping element in the user interface pages for the monitor you are deploying.

For Technology Integration Monitors (Technology SNMP Trap, Technology Log File, and Technology Database monitors), you must select the sample type and the required script template is loaded directly into the field mapping text box. You must edit the field mapping script to suite your organization's needs. The Technology Web Service Integration Monitor field mapping may also need to be customized. You can select from the following sample types:

- **Events**. Select to forward event data to Business Availability Center.

  When you select **Events** and you want to integrate to Business Availability Center using topology settings, it is recommended that you select from the following topology script templates: **Hosts** or **Hosts-Applications**.

- **Measurements**. Select to forward measurement data to Business Availability Center.

  When you select **Measurements,** it is recommended that you do no select a topology script. If you do, the script may fail.

➤ **Tickets**. Select to forward ticket data to Business Availability Center.

When you select **Tickets** and you want to integrate to Business Availability Center using topology settings, it is recommended that you select the following topology script template: **Tickets**.

For details, on selecting a topology setting, see "Topology Settings for Technology Integration Monitors" on page 871.

Note: Use only the mandatory and optional fields defined in the script templates when working with the field mapping. For more information, see the tables for each sample type.

Understanding Field Mapping Structure

The field mapping contains instructions on how to process the data as it arrives to the integration monitors. The instructions that constitute the field mappings are grouped into event handlers—independent sections that contain instructions relevant to specific data. Each event handler contains a **matching condition** by which SiteScope can determine whether to use a particular event handler for an arriving event.

When an event or measurement data arrives at the integration monitor, it iterates over the different event handlers in the field mapping, in the order they appear, testing the **matching condition** of each handler. If a matching handler is found, the monitor uses the instructions within that handler to process the event and perform the action defined for this handler (for example, forward it to Business Availability Center or discard). No further sections are checked after the first match. If no matches are found, the event is discarded.

In addition to the event handlers, the field mapping can contain special entries that affect the integration monitor engine as a whole. These values are grouped into the [$DEFAULT_PARAMETERS$] section. This section defines default values for tags that are common for all handlers. Any tag can be set in this section of the field mapping. It is used to create a reported value unless overridden in the matched event handler. For each incoming event, this event handler is always run prior to the matched event handler.

For details on event handler structure, see "Event Handler Structure" on page 901.

Configuring Field Mapping for Event Samples

The events sample type is used for extracting events collected by external systems and importing them to Business Availability Center. When configuring an integration monitor's field mapping, select the **Events** sample type to load the events script. You can then copy the contents of the **Field Mapping** text box and paste it into a text editor to make your configuration changes. When you are done, copy the contents back into the Field Mapping text box.

This section includes the following topics:

Mandatory Values for the Event Script

The tables below list mandatory and optional values for the event script.

Field Name	Type	Description	Example
time_stamp	DOUBLE	Time stamp in seconds since Jan 1 1970.	time_stamp:DOUBLE=str_to_seconds($time,"yyyy-MM-dd HH:mm:ss.SSS"). time_stamp:DOUBLE=time()
severity	INT	Can be one of the following preconfigured severities (based on applicable integer): 0:SEVERITY_UNKNOWN 1:SEVERITY_INFORMATIONAL 2:SEVERITY_WARNING 3:SEVERITY_MINOR 4:SEVERITY_MAJOR 5:SEVERITY_CRITICAL	severity:INT=SEVERITY_MINOR
target_name	STRING	Name of device or host that generated the event.	target_name=$hostName target_name=resolveHostName (String host name)
status	STRING	Status of event in external EMS terminology.	status="OPEN" status="ASSIGNED" status="CLOSED"
subject	STRING	Subject of event (e.g. CPU, SAP application, Hard Disk), middle/high level hierarchy describing the event source.	subject="DISK"

Field Name	Type	Description	Example
instance	STRING	Instance of subject that generated the event (e.g D:\). Lowest level of hierarchy describing the event source.	instance="E:\\"
description	STRING	Textual description of event.	description="free space on drive e is below 10%"
data_source	STRING	System that generated the event.	data_source="HP OVO"

Optional Values for the Event Script

The tables below list optional values for the event script.

Field Name	Type	Description	Example
target_ip	STRING	IP of host or device that generated the event.	target_ip=$IPString
object	STRING	Optional level in the hierarchy describing the event source.	object="OS"
event_id	STRING	Unique identifier of this event.	event_id=$id
logical_group	STRING	Logical grouping of this event.	logical_group="error messages"
monitor_ group	STRING	Monitor group that reported this event.	monitor_group="log monitors on \\hostname"
orig_severity _name	STRING	Severity in external EMS terminology.	orig_severity_name ="Cleared"
acknowledge d_by	STRING	Name of user that acknowledged this event.	acknowledged_by =$username

Field Name	Type	Description	Example
owner	STRING	Name of user who owns this event.	owner="admin"
value	DOUBLE	Use to transfer numerical values from the event.	value=$thresholdViolated
attr1	STRING	Extra data slot.	attr1=$history
attr2	STRING	Extra data slot.	attr2=$moreHistory
attr3	STRING	Extra data slot.	attr3="Design"
attr4	STRING	Extra data slot.	attr4=$MonitorOutput
attr5	STRING	Extra data slot for long strings.	attr5=$Longhistory

Host DNS Resolution for Event Sample

Both the FQDN (fully qualified domain name) and valid IP address are necessary for the fields that are used to create host CIs in HP Business Availability Center integration.

If you do not know the FQDN and/or IP address, then you can use the following functions in the field mapping to resolve the names and access them from the source of the integration:

target_name=resolveHostName($SomeHost)

target_ip=resolveHostIP($SomeHost)

Note: The variable **$SomeHost** must be replaced by a variable from the integration source.

These functions are not necessary if:

- The FQDN and/or IP address is available from the source that the integration is accessing. In this case, you should input the value for **target_name=** as a FQDN and the value for the **target_ip=** without the function.
- It is not possible for the SiteScope server to resolve the FQDN and/or IP address for the servers from the source that the integration is accessing. In this case, the functions may not provide the valid values.

Conditional Expression Example 1

```
severity:INT=$var6.equals("red") ? SEVERITY_CRITICAL
: SEVERITY_INFORMATIONAL
```

In this example, the value of sixth variable binding is compared to string red. If the variable binding is indeed equal to string red, then the value of the severity tag is set to SEVERITY_CRITICAL, otherwise it is set to SEVERITY_INFORMATIONAL.

Conditional Expression Example 2

```
severity:INT=$var6.equals("red") ? SEVERITY_CRITICAL :
$var6.equals("green") ? SEVERITY_INFORMATIONAL : $var6.equals("yellow")
? SEVERITY_MINOR : SEVERITY_WARNING
```

This example chains the conditional operator into a decision chain. If the sixth variable binding holds string red, then severity tag has the value SEVERITY_CRITICAL. If the sixth variable binding holds string green, then severity tag has the value SEVERITY_INFORMATIONAL. If the variable binding holds string yellow, the tag has the value SEVERITY_MINOR. If none of the above conditions are true, then the tag has the value SEVERITY_WARNING.

Event Script Example

In the example below, two types of events are sent: the first are events of status "OPEN" and the second are events cleared by a user. The data is retrieved from incoming event fields using the $ notation. All other events are discarded by the last handler.

```
[$DEFAULT_PARAMETERS$]
#################################################
# NOTE: the following parameters are mandatory #
#################################################
time_stamp:DOUBLE=str_to_seconds($time,"yyyy-MM-dd HH:mm:ss.SSS")
severity:INT= SEVERITY_UNKNOWN
target_name=$Device
status=$Status
subject="EMS X Events"
instance=$target
description=$description
data_source="EMS X"

#send an open event with the value in value fields and with the event id
[OPEN events]
$MATCH="OPEN".equals($Status)
$ACTION=TOPAZ_BUS_POST(event)
value:DOUBLE=parseDouble($threshold)
event_id=$uid

#send clear events with the event id and acknowledging username
[clear events]
$MATCH="CLEAR".equals($Status)
$ACTION=TOPAZ_BUS_POST(event)
event_id=$uid
acknowledged_by=$ClearedBy

[event sink]
$MATCH=true
$ACTION=DISCARD
```

Configuring Field Mapping for Measurement Samples

The measurements sample type is used for extracting metrics collected by external systems and importing them to Business Availability Center. When configuring an integration monitor's field mapping, select the **Measurements** sample type to load the measurements script. You can then copy the contents of the **Field Mapping** text box and paste it into a text editor to make your configuration changes. When you are done, copy the contents back into the Field Mapping text box.

This section includes the following topics:

Mandatory Values for the Measurements Script

The table below lists mandatory values for the measurements script.

Field Name	Type	Description	Example
TimeStamp	DOUBLE	Time stamp in the seconds since Jan 1st 1970 format.	TimeStamp:DOUBLE=time()
Quality	INT	Quality in SiteScope terms. Possible values are: `QUALITY_ERROR`, `QUALITY_WARNING`, `QUALITY_GOOD`.	Quality:INT= QUALITY_ERROR
MonitorName	STRING	Logical monitor name.	MonitorName="NT cpu Monitor"
MonitorState	STRING	The monitor status, for example, N\A, Good, Error, and so on.	MonitorState="Received " + $count + " events"
MonitorType	STRING	The monitor type.	MonitorType="System Monitor"
TargetName	STRING	The target of this monitor (e.g. host name).	TargetName=$Device
Measurement Name(N)	STRING	Name the Nth measurement.	MeasurementName(1)="CPU Temperature"
Value(N)	DOUBLE	Value of Nth measurement.	Value(1):DOUBLE=$CPU Temperature

Measurements Script Example

In the example below, two measurements are sent: the first one (MeasurementName (1)) takes its name from the $legend field and takes the value from the $value field. A second measurement (Measurement Name (2)) uses the constant name CPU Temperature which receives its value from the $CPUTemp field.

```
##########################################
#           EMS Integration metricsconfig file  #
# use this file to send metrics to HP Business Availability Center #
##########################################
[$DEFAULT_PARAMETERS$]
# time stamp in the seconds since Jan 1st 1970 format.
TimeStamp:DOUBLE=str_to_seconds($time,"yyyy-MM-dd HH:mm:ss.SSS")

# quailty in SiteScope terms QUALITY_ERROR, QUALITY_WARNING,
QUALITY_GOOD
Quality:INT=QUALITY_ERROR

# Logical monitor name
MonitorName=$kpName

#target, e.g. host name
TargetName=$parentMachineName

#the status string of the monitor (e.g.: "Log file read, 3 matches found")
MonitorState="The monitor status is: "+ $status

#the monitor type (e.g. "Log Monitor", "CPU Monitor")
MonitorType="NetIQ measurements"

#measurement name
MeasurementName(1)=$legend
#value as double
Value(1):DOUBLE=parseDouble($value)

#measurement name
MeasurementName(2)="CPU Temperature"
#value as double
Value(2):DOUBLE=parseDouble($CPUTemp)
#########################################################
# To send more than one measurement per DB row #
# add pairs #
# MeasurementName (* ) = #
# Value (*) :DOUBLE= #
# where * = 1,2,.,n #
# #######################################################
[allR]
$MATCH=true
$ACTION=TOPAZ_BUS_POST(ss_t)
```

When specifying more than one measurement in the script, a separate sample is sent with each of the measurements.

Note: When specifying multiple measurements per file, the measurement numbering must be consecutive.

In the case of failure, errors appear in the **RunMonitor.log** but the error does not affect the monitor status.

Configuring Field Mapping for Ticket Samples

The ticket sample type is used for extracting events collected by external systems and importing them to Business Availability Center. When configuring an integration monitor's field mapping, select the **Tickets** sample type to load the tickets script. You can then copy the contents of the **Field Mapping** text box and paste it into a text editor to make your configuration changes. When you are done, copy the contents back into the Field Mapping text box.

This section includes the following topics:

Mandatory Values for the Ticket Script

The tables below list mandatory and optional values for the ticket script.

Field Name	Type	Description	Example
time_stamp	DOUBLE	Time stamp in seconds since Jan 1 1970.	time_stamp:DOUBLE=str_to_seconds($time,"yyyy-MM-dd HH:mm:ss.SSS").
severity	INT	Can be one of the following preconfigured severities (based on applicable integer): SEVERITY_UNKNOWN SEVERITY_INFORMATIONAL SEVERITY_WARNING SEVERITY_MINOR SEVERITY_MAJOR SEVERITY_CRITICAL	4".equals($severity) ? "Low" : ("3".equals($severity) ? "Average" : ("2".equals($severity) ? "High" : ("1".equals($severity) ? "Critical" : "Unknown")))
target_name	STRING	Name of the entity (usually a service) that generated the ticket.	target_name="mail service" (Do not enter static string here, should be retrieved dynamically from the ticket.)
data_source	STRING	System that generated the ticket.	data_source="ticketing" (This string should not be edited for HP ServiceCenter integration and must be edited for a generic technology integration monitor.)
ticket_id	STRING	ID of the ticket.	ticket_id=112233
ticket_state	STRING	One of the states in the incident lifecycle as defined in the ticketing system.	"Open" / "Closed"

Field Name	Type	Description	Example
ticket_type	STRING	Type of the incident as defined in the ticketing system.	"Incident"
orig_severity_name	STRING	Severity in external EMS terminology.	orig_severity_name ="Cleared"

Optional Values for the Ticket Script

The script includes comments describing the optional values available for the ticket script. They include those listed here:

Field Name	Type	Description	Example
subject	STRING	Middle/High level hierarchy describing the event source.	CPU, SAP application, hard disk
instance	STRING	Instance of subject that generated the event. The lowest level hierarchy describing the event source.	D:\\
object	STRING	Optional level in the hierarchy describing the ticket source.	object="OS"
logical_group	STRING	Logical grouping of this ticket.	logical_group="error messages"
monitor_group	STRING	Monitor group that reported this ticket.	monitor_group="log monitors on \\hostname"
elapsed_time	STRING	Elapsed time of the ticket.	
orig_severity_name	STRING	Severity name as defined in the ticketing system.	
attr1	STRING	Extra data slot.	attr1=$history

Field Name	Type	Description	Example
attr2	STRING	Extra data slot.	attr2=$moreHistory
attr3	STRING	Extra data slot.	attr3="Design"
attr4	STRING	Extra data slot.	attr4=$MonitorOutput
attr5	STRING	Extra data slot for long strings. Use for values up to 2000 chars.	attr5=$Longhistory

Conditional Expression Example

```
4".equals($severity) ? "Low" : ("3".equals($severity) ? "Average" :
("2".equals($severity) ? "High" : ("1".equals($severity) ? "Critical" : "Unknown")))
```

This example configures the severity of the ticket sample. It matches between the status terms used in the ticketing system to those used in Business Availability Center.

Ticket Script Example

```
[$DEFAULT_PARAMETERS$]
time_stamp:DOUBLE=$time_stamp
ticket_id=$ticket_id
ticket_state=$ticketStatus
severity:INT=$severity
target_name=$target_name
data_source="ticketing"
ticket_type="Incident"
orig_severity_name="4".equals($severity) ? "Low" : ("3".equals($severity) ? "Average" :
("2".equals($severity) ? "High" : ("1".equals($severity) ? "Critical" : "Unknown")))
```

Event Handler Structure

Each event handler has following structure:

```
[name]
Matching condition
Action directive
Tags
```

The names of **Matching condition**, **Action directive,** and additional directives start with dollar sign symbol (**$**). The names of tags should not start with dollar sign.

Comments are allowed in the field mapping. The comment starts with either **#**, **!**, or **;** character and continues to the end of the line.

Note: Use only the mandatory and optional fields defined in the script templates when working with the field mapping. See the tables in the following sections for more information.

This section includes the following topics:

Matching Condition

The Match Condition must be a valid boolean expression. The expression can contain calls to the operators and functions defined below. The expression can access the contents of the event that is being processed using the dollar sign ($) notation. For example, if the incoming event is SNMP Trap, then its enterprise OID can be accessed as $oid. For names specific to a monitor, refer to the documentation of the relevant monitor type.

Note: The Match Condition expression is limited to 4,000 characters.

The matching condition has the form:

```
$MATCH=Boolean expression
```

where the Boolean expression is one of the expressions listed in the table below. When mentioned in the description, the expression can also be used to assign values into tags (see "Tags" on page 907).

Expressions and Functions	Description	Examples	True if
<, <=, >, >=, ==, !=	Checks the numerical correctness of the expression. Can be used with INT or DOUBLE fields.	$MATCH= $numberOfLines == 100	$numberOfLines equals 100
		$MATCH= $numberOfColumns <= 107	$numberOfColumns equals 107 or less
equals(String)	Checks for string equality.	$MATCH= "ERROR".equals($status)	$status equals the word ERROR
		$MATCH= $status.equals("ERROR")	$status equals the word ERROR

Expressions and Functions	Description	Examples	True if
true, false	Constant Boolean values.	$MATCH= true	always true.
&&, ||	To be used to combine any of the above boolean expressions.	$MATCH= $status.equals ("ERROR") || $numberOfLines == 100	$status equals the word ERROR or if $numberOfLines equals 100
time()	Returns the current time, in seconds, since January 1, 1970 format. Can be used with DOUBLE fields.	$MATCH= $timeStampField > (time()-600)	the value of the $timeStampField is newer then ten minutes ago (in seconds, since January 1, 1970 format)
parseInt (String), parseDouble(String),	Use to convert strings to numeric values. The input string should be a valid representation of an integer or a floating point number. **Note:** calling this function on a string that cannot be interpreted as a number causes an error and the incoming event is dropped. Can also be used with INT or DOUBLE fields.	$MATCH= parseInt($size) > 10	the string value in $size is an integer larger than 10.

Expressions and Functions	Description	Examples	True if
str_to_ seconds(Str1, Str2)	Calculates the timestamp (in seconds, since January 1, 1970 format) held in the first String using the format in the second string. Can also be used with DOUBLE fields.	$MATCH= str_to_seconds ($time,"yyyy-MM-dd HH:mm:ss.SSS") > time() **Note:** use the following symbols to represent time: Year - 'y' Month - 'M" Day of month - 'd' Hour - 'H' Minute - 'm' Second - 's'	the date specified in $time in yyyy-MM-dd HH:mm:ss.SSS format is later than the current time. For more information, search the Internet for SimpleDateFormat.
exist($field)	Checks for an existence of a field in the processed event and make sure that it is not an empty value.	$MATCH= exist($status)	$status exists in the incoming event and is not an empty string.
isInt(String), isDouble (String)	Checks if the input string can be interpreted as an integer or a double number, respectively.	$MATCH=isDouble($size)	the string value in $size can be converted to a double.

Expressions and Functions	Description	Examples	True if
resolveHostIP (String host name)	Performs DNS resolution from a server to its IP address. If the DNS resolution fails, the function returns the value unknown host.	target_ip= resolveHostIP ($host)	
resolveHostName (String host name)	Performs DNS resolution from an IP address to a fully qualified domain name. If the DNS resolution fails, the function returns the originally input host name.	target_name= resolveHostName ($host)	

Any of the above expressions can be used and the expression can refer to incoming event fields. The value of the expression, which can be either **true** or **false**, determines whether the event handler is be used to process the event or not.

Basic String Expressions

The following table summarizes the string expressions that can be used in the field mapping:

Operation	Description	Examples
+	String concatenation.	"trap type is " + $trap
substring	Substring of given string.	$var4.substring(3,5)
indexOf	Return indexOf string in another string.	$var4.indexOf($var3)

Basic Conditional Expression

One conditional expression is supported; the **?** operator. This operator can be used to compose three expressions into one (for example, <Conditional part> ? <if true part> : <if false part>).

Action Directive

The action directive has the form:

$ACTION= TOPAZ_BUS_POST or DISCARD

The value of the Action directive defines whether the event is processed and forwarded to Business Availability Center, or discarded. This value takes effect only if the matching condition within the handler had been evaluated to positive value (that is, to **true**). The table below describes the effect of the different actions.

Action	Description	For Use With
TOPAZ_BUS_POST (event)	Send the event to the Business Availability Center bus and database.	HP Business Availability Center
TOPAZ_BUS_POST (ss_t)	Send the metrics to HP Universal CMDB as SiteScope Data.	HP Business Availability Center
DISCARD	Do not send the data to HP Business Availability Center.	events you wish to filter out

Note: If you are using the metrics mapping, TOPAZ_BUS_POST(ss_t), the data is sent to the HP Business Availability Center database as SiteScope data, and thus saved to the database. For details on metrics mapping, see "Configuring Field Mapping for Measurement Samples" on page 894.

Tags

In addition to directives, the event handler contains **tags**. Each tag represents a field in the event that is forwarded to Business Availability Center. The tag's value can be evaluated when the event arrives to the integration monitor.

The general format of a tag is name[:type]=value.

The <name> is any string without spaces or dollar signs (**$**). The <type> specifies the type of field as reported to Business Availability Center. It can be either **INT**, **DOUBLE** or **STRING**. The default type is **STRING**.

By defining a tag, you can customize event forwarding to Business Availability Center. Thus getting more value from the external applications that create those events. For example, if the monitor pulls out data from a database table column called AlertText, which contains a textual description of an alert, it is possible to send that data to Business Availability Center by adding the following line to an event handler section:

```
[event handler]
$MATCH=true
$ACTION=TOPAZ_BUS_POST(event)
text=$AlertText
```

Note: When adding tags, always add them after the **$MATCH** and **$ACTION**.

Integration Monitor Field Mapping Examples

Example 1: Universal Event Handler

```
[post them all]
$MATCH=true
$ACTION=TOPAZ_BUS_POST(event)
severity:INT=SEVERITY_INFORMATIONAL
szAlarmText:STRING="post them all handler received an event"
```

Note that the **$MATCH** directive in the handler is set to **true**. This causes every event to match the handler and therefore every event is sent to the Business Availability Center bus.

Example 2: Different Event Handlers for Different Severities

```
[Error Handler]
$MATCH= $status.equals("ERROR")
$ACTION=TOPAZ_BUS_POST(event)
severity:INT=SEVERITY_CRITICAL

[Info Handler]
$MATCH= $status.equals("INFO")
$ACTION=TOPAZ_BUS_POST(event)
severity:INT=SEVERITY_INFORMATIONAL

[post them all]
$MATCH=true
$ACTION=TOPAZ_BUS_POST(event)
severity:INT=SEVERITY_INFORMATIONAL
```

In this example, an incoming event is matched against the **Error Handler** event handler. If the handler's condition is true (that is, the value in the status field equals **ERROR**), then an event with a field called severity, whose value is **SEVERITY_CRITICAL**, is sent to HP Business Availability Center. An event can be matched only by a single handler. The first match stops the processing and therefore once an event is matched by a section, it is not processed by the next handler.

If the event was not matched by the first handler, the second handler comes into action and its match (which looks for status of **INFO**) is used to decide whether the second handler needs to take action. Finally, if the event does not match the second handler, the third universal handler is evaluated.

21

HP OM Event Monitor

The HP OM Event Monitor allows you to integrate an existing Hewlett-Packard Operation Manager (OM) Server with HP Business Availability Center by transferring HP OM events from HP OM Server to an HP Business Availability Center server.

Note: This monitor supports:

- HP OM/UNIX versions 8.x (x >= 24) when installed on Solaris or on HP UX platforms.
- HP OM/Windows versions 7.5x when installed on Windows platforms.
- English only. It does not support I18N mode.

This chapter includes:

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HP OM Event Monitor Overview

The HP OM Event Monitor depends on an HP OM Integration Add-on module to collect events from the HP OM Server. The Add-on, when installed on the HP OM Server, listens to events received by the HP OM system and sends them to the HP OM Event Monitor. The HP OM Event Monitor transfers the events to an HP Business Availability Center server. The HP OM Integration Add-on and the HP OM Event Monitor communicate using TCP/IP networking (with a customizable TCP port).

The HP OM Event monitor uses a predefined configuration file, **<SiteScope root directory>\conf\ems\hp\event.config**, to define the processing of incoming data and to define the output sample forwarded to HP Business Availability Center. Do not modify this configuration file.

Status

The status returned by the monitor is the current value of the monitor, such as:

```
Status: GOOD
Status Summary: 10 events received, connected Add-ons: 1
```

The status is logged as either good, warning, or error. A warning status is returned if no Add-on is connected to the monitor.

The status can be configured further using advanced options in the HP OM Alert Monitor Configuration Form.

For information about Integration Monitor logging and troubleshooting, see “Integration Monitor Logs” on page 881 and “Troubleshooting and Limitations” on page 881.

For details on configuring this monitor, see “HP OM Event Monitor User Interface” on page 921.

HP OM Integration Add-on – Workflow

The purpose of the HP OM Integration Add-on is to connect to the HP OM message infrastructure, to receive events from the HP OM, and to forward these events to the SiteScope machine.

Note: The HP OM Integration Add-on module is platform specific. Modules are provided for all platforms supported by OM/UNIX version 8.24 or OM/Windows version 7.5.

This task includes the following steps:

- "Install the HP OM Integration Add-on" on page 913
- "Configure the HP OM Integration Add-on" on page 915
- "Tune the HP OM Integration Add-on" on page 916
- "Start and Stop the HP OM Integration Add-on" on page 918
- "Uninstall the HP OM Integration Add-on files from the HP OM Server" on page 919
- "Support in HP OM Cluster Installation" on page 920
- "View Log File Messages" on page 920

1 Install the HP OM Integration Add-on

Installation packages for the various platforms used below is in **<SiteScope root directory>\conf\ems\hp\addon\OVO-BAC.zip** file.

To install on HP-UX 11.11:

a Log in as superuser to the HP OM Server. Alternatively, use the su command to gain superuser permissions.

b Copy **HPOvOBac-01.00.000-HPUX11.0-release.depot** installation package to **\tmp**.

c Perform the following command:

```
swinstall -s /tmp/HPOvOBac-01.00.000-HPUX11.0-release.depot \*
```

To install on HP-UX 11.23:

a Log in as superuser to the HP OM Server. Alternatively, use the su command to gain superuser permissions.

b Copy **HPOvOBac-01.00.000-HPUX11.22_IPF32-release.depot** installation package to **\tmp**.

c Perform the following command:

```
swinstall -s /tmp/HPOvOBac-01.00.000-HPUX11.22_IPF32-release.depot \*
```

To install on Solaris 5.7 or later:

a Log in as user root to the HP OM Server. Alternatively, use the su command to gain super-user permissions.

b Copy **HPOvOBac-01.00.000-SunOS5.7-release.sparc** installation package to **\tmp**.

c Perform the following command:

```
pkgadd -d /tmp/HPOvOBac-01.00.000-SunOS5.7-release.sparc HPOvOBac
```

To install on Windows:

a Log in as user administrator to the HP OM Server.

b Copy **HPOvXpl-02.61.120-WinNT4.0-release.msi** and **HPOvOBac-01.00.000-WinNT4.0-release.msi** installation packages to **C:\tmp**. Perform the following commands:

- `msiexec /I C:\tmp\HPOvXpl-02.61.120-WinNT4.0-release.msi /qn`
- `msiexec /I C:\tmp\HPOvOBac-01.00.000-WinNT4.0-release.msi /qn`

2 Configure the HP OM Integration Add-on

Once installed, the HP OM Integration Add-on must be configured on the HP OM Server before it can be used.

To configure the HP OM Integration Add-on on the HP OM Server:

a Configure the host name or IP address of the SiteScope machine on which the HP OM Event Monitor is installed:
ovconfchg -ns opc.bac -set TargetHost <host name>

b Configure the port if you are using a port other than the default (9000):
ovconfchg -ns opc.bac -set TargetHost <host name> -set TargetPort <port>

Note: If you change this setting, make sure to update the HP OM Event Monitor.

HP OM Integration Add-on for UNIX provides a function that improves performance of internal message processing. Enabling this function improves the performance of the HP OM Integration Add-on (and other OM components, such as the OM Java GUI). This function is disabled by default.

To enable improved HP-OM Add-on performance on UNIX feature:

On the HP OM Server, perform the following commands:

a opcsv -stop

b ovconfchg -ovrg server -ns opc -set OPCMSGM_USE_GUI_THREAD NO_RPC

c opcsv -start

3 Tune the HP OM Integration Add-on

You can tune the HP OM Integration Add-on by running utilities from the command line on the HP OM Server.

To check the current settings:

Perform the following command:

ovconfget opc.bac

To change a parameter:

Perform the following command:

ovconfchg -ns opc.bac -set <variable name> <value>

where <variable name> and <value> are in the following table:

Variable Name	Default Value	Description
TargetHost	<empty>	Host name of the SiteScope receiver. No connection is attempted if this is empty.
TargetPort	9000	Port number of the SiteScope receiver. No connection is attempted if this is 0.
CacheMax	1000	Maximum number of messages stored in cache memory to avoid database lookups.
CacheKeep	500	If cache size reaches CacheMax, only the most-recently-used messages in CacheKeep are kept in the cache. All others are removed from the cache.
Connection Timeout	300	If no new messages or message changes are transmitted to the SiteScope receiver, the connection is closed after this number of seconds.
MinWaitTime	15	If the connecting to the SiteScope receiver failed, the HP OM Integration Add-on waits this many seconds the first time after connection failure before retrying to connect. The wait time is doubled after each retry, up to MaxWaitTime.

Variable Name	Default Value	Description
MaxWaitTime	120	Maximum number of seconds to wait after connection failures before retry. When doubling the wait time after connection failures exceeds MaxWaitTime, the wait time is no longer doubled and MaxWaitTime is used instead.
MaxQueueLen	1000	If the connection to the SiteScope receiver has been lost and new messages or message changes come in, these messages and message changes are buffered in a memory queue. If the number of entries in that queue reaches MaxQueueLen, the oldest entries are removed from the queue.
NodeKeepTime	900	The HP OM Integration Add-on looks up IP addresses from host names. In addition, OM/Windows host names also need to be looked up from the OM database. These IP addresses (and host names on OM/ Windows) are stored in a memory cache. Because host names and IP addresses of systems can be changed, entries in that cache are invalidated (and afterwards looked up again) after NodeKeepTime seconds.

Changing any of these variables automatically updates the HP OM Integration Add-on. There is no need to stop and restart the HP OM Integration Add-on process.

4 Start and Stop the HP OM Integration Add-on

The HP OM Integration Add-on must be started after it is installed.

To start and stop the HP OM Integration Add-on on UNIX platforms:

On UNIX platforms, the HP OM Integration Add-on is controlled by OpenView Control Daemon (ovcd). Using the command line tool **ovc** on the HP OM Server, perform the command:

```
ovc -stop <or start> opc2bac
```

If the HP OM Integration Add-on disconnects from SiteScope during operation, it tries to reconnect to the SiteScope at regular intervals. In the meantime, events are stored within the HP OM Integration Add-on.

If the HP OM Integration Add-on terminates from SiteScope during operation, the events not yet sent to SiteScope are lost.

Note: Because the Integration Add-on is linked with HP OM API libraries, it may be necessary to stop the Integration Add-on before installing HP OM patches, and start it after the patch installation.

To start or stop the HP OM Integration Add-on on Windows platforms:

On Windows platforms, the HP OM Integration Add-on runs as a Windows service.

a On the HP OM Server, click **Start** > **Settings**> **Control Panel** > **Administrative Tools** > **Services**.

b Select the service **HP OpenView Operations Message Forwarder to BAC**.

c Click **Start** or **Stop**.

5 Uninstall the HP OM Integration Add-on files from the HP OM Server

If you must uninstall the HP OM Integration Add-on files from the HP OM Server, perform the following procedure:

To remove the HP OM Integration Add-on files from an HP OM Server on HP-UX platform:

a Log in as superuser.

b Perform the command:

swremove HPOvOInt.HPOVOBAC

To remove the HP OM Integration Add-on files from an HP OM Server on Solaris platform:

a Log in as superuser.

b Perform the command:

pkgrm HPOvOBac

To remove the HP OM Integration Add-on files from an HP OM Server on Windows platform:

a On the HP OM Server, click **Start** > **Settings** > **Control Panel** > **Administrative Tools** > **Services**.

b Remove the following installed programs:

- HP OpenView Operations, BAC Integration
- HP OpenView Cross Platform Components (unless used by other installed programs). If this program is in use, you receive an error message and the removal fails.

6 Support in HP OM Cluster Installation

The HP OM Integration Add-on is supported in an HP OM cluster environment. You can do the following tasks:

- Install HP OM Integration Add-on on each cluster node separately.
- Configure HP OM Integration Add-on on each cluster node separately. All configuration settings on all cluster nodes must be identical.
- Uninstall HP OM Integration Add-on on each cluster node separately.

7 View Log File Messages

On UNIX platforms, the HP OM Integration Add-on writes log messages into the log file **/var/opt/OV/logSystem.txt**.

On Windows platforms, **System.txt** is in directory <**DataDir**>**log** where <DataDir> is the data directory chosen during OM/Windows installation (for example, C:\Program Files\HP OpenView\Data).

Log file entries use the process name **opc2bac** for messages logged by the HP OM Integration Add-on.

HP OM Event Monitor User Interface

Description	The HP OM Event Monitor allows you to integrate an existing HP OpenView installation with HP Business Availability Center by transferring HP OM messages from HP OM Server to an HP Business Availability Center server. This monitor supports: ➤ HP OM versions 8.24 or later, when installed on Solaris 5.7 and later or when installed on HP UX 11.11 or HP UX 11.23 ➤ HP OM versions 7.5 or later when installed on Windows Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Deploy a Monitor – Workflow" on page 278 "Set Monitor Thresholds Using a Baseline" on page 282
Useful Links	"HP OM Event Monitor" on page 911

HP OM Event Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
HP OM Add-on TCP port	Enter the TCP port number as configured in the HP OM Integration Add-on. **Default value:** 9000

Field Mapping

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Field mapping	The out-of-the-box integration script that enables the monitor to correctly map the data it collects from the OM installation to a format recognizable by the monitor and HP Business Availability Center. We recommend that you use the field mapping as is and it is not editable while creating the monitor. If you must customize the field mapping, locate the file in the following location and edit it in your preferred text editor: **<SiteScope root directory>\conf\ems\hp\event.config**. To enable any changes, you must edit the monitor to reload the edited script. For details on the field mapping script template, see "Integration Monitor Field Mapping" on page 885.

Topology Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Script	The out-of-the-box integration script that creates a topology in Business Availability Center that is based on the data collected from the OM installation. The script is based on the Jython scripting language (Python enabled by Java) and enables the integration between the data the monitor collects from the OM system and Business Availability Center's applications. We recommend that you use the topology settings as is and it is not editable while creating the monitor. If you must customize the field mapping, locate the following file: **<SiteScope root directory>\discovery\scripts\ ems_hpovo.py** and edit it in your preferred text editor. To enable any changes, you must edit the monitor to reload the edited script. For more details on editing the script, see "Topology Settings for Technology Integration Monitors" on page 871.

22

HP Service Manager Monitor

The HP Service Manager Monitor enables you to integrate Incident Management data from an HP ServiceCenter or HP Service Manager installation with HP Business Availability Center. In general, this chapter uses the name Service Manager when referring to both ServiceCenter and Service Manager. If there are specific differences, they are noted.

Note: This monitor supports ServiceCenter 6.2.6 and Service Manager 7.01 and 7.02. Check the readme file for updates to the support matrix.

This chapter includes:

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HP Service Manager Monitor Overview

Use the HP Service Manager monitor in SiteScope to integrate the incident data from HP Service Manager to HP Business Availability Center.

Incident Management automates reporting and tracking an incident, or groups of incidents, associated with a business enterprise. Incident Management enables you to identify types of incidents, such as software, equipment, facilities, network, and so on, and track the resolution process of these incidents.

The HP Service Manager monitor forwards business service-related incidents to HP Business Availability Center to create configuration items (CIs) based on those incidents. By default, CIs are created only for those incidents that are considered business service incidents in HP Service Manager. If necessary for your environment, you can configure the integration scripts to map other incidents as well.

The integration maps the incidents to the business service CIs created and creates a monitored by relationship between the HP Service Manager monitor CI and the business service CI. The monitor integrates the incident data into samples which are forwarded to HP Business Availability Center applications, such as Dashboard and Service Level Management.

For more details on the capabilities of the integration, see “HP ServiceCenter and HP Service Manager Integration Overview” on page 444.

For more detailed information on the CIs and related KPIs, see “Integration with HP Service Manager” in *Using Service Level Management*.

For details on configuring this monitor, see “HP Service Manager Monitor User Interface” on page 929.

HP Service Manager Integration – Workflow

The following are the steps necessary to configure the integration:

- "Edit Clocks and Incident Management Configuration Files" on page 927
- "Create the JAR File" on page 927
- "Configure an HP Service Manager Monitor in SiteScope" on page 928

1 Edit Clocks and Incident Management Configuration Files

If any changes were made to the clocks table and/or the incident management tables in HP Service Manager, then the same changes must be made to the corresponding configuration files in SiteScope. The configuration files included with the integration are configured with the same parameters as the default tables in HP Service Manager. However, if these tables were changed in any way, they must be edited on the SiteScope side as follows:

a Access the files from the following location:

- **<SiteScope root directory>\conf\ems\peregrine\incidentAttributesMapping.config**
- **<SiteScope root directory>\conf\ems\peregrine\clockAttributesMapping.config**

b Edit the files using a text editor. Follow the mapping directions as documented in the files.

2 Create the JAR File

This batch file creates and compiles the files needed for the HP Service Manager monitor. The result of this batch is the file **peregrine.jar** that you then copy to the **WEB-INF\lib** directory. You should also create a backup of the .jar file. To create the .jar file:

a Stop the SiteScope service on the SiteScope machine.

b Ensure that JDK version 1.5 is installed (1.5.0_08 recommended -- can be downloaded from Sun archives, http://java.sun.com/products/archive/).

c Set **JAVA_HOME** system variable to the JDK directory (for example **C:\j2sdk1.5.0_08**). You must recompile the peregrine.jar file if you made changes to the monitor tables.

d Update the <**SiteScope root directory**>**\conf\ems\peregrine\build.properties** file with the wsdl locations.

- When integrating with HP ServiceCenter 6.2.6, use the following syntax:
  clocks.wsdl.url=http://<SM host>:<SM port>/sc61server/PW/Clocks?wsdl
  prob.wsdl.url=http://<SM host>:<SM port>/sc61server/PW/IncidentManagement?wsdl
- When integrating with Service Manager 7.01 or 7.02, use the following syntax:
  clocks.wsdl.url=http://<SM host>:<SM port>/sc62server/PWS/Clocks?wsdl
  prob.wsdl.url=http://<SM host>:<SM port>/sc62server/PWS/IncidentManagement?wsdl

e Run the batch file:

- **Windows**: Double-click the <**SiteScope root directory**>**\conf\ems\peregrine\create-peregrine-jar.bat** file to run the batch.
- **UNIX**: You must run the <**SiteScope root directory**>**\conf\ems\peregrine\create-peregrine-jar.sh** file from the full path in a terminal window.

f Restart the SiteScope service on the SiteScope machine.

3 Configure an HP Service Manager Monitor in SiteScope

You can create this monitor:

- Using the EMS Integrations Administration portal in HP Business Availability Center
- Directly in SiteScope

For details on the user interface, see "HP Service Manager Monitor User Interface" on page 929.

HP Service Manager Monitor User Interface

Description	This monitor enables you to integrate HP Service Manager incidents with HP Business Availability Center. The incidents in Service Manager are forwarded to Business Availability Center as samples by this SiteScope monitor. The samples are used in reporting data to the Business Availability Center applications, such as Service Level Management and Dashboard. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. We recommend that you create a special group for the Service Manager integration. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"HP Service Manager Integration – Workflow" on page 927
Useful Links	"HP Service Manager Monitor" on page 925

HP Service Manager Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
HP Service Manager Web Service Endpoint	The URL for the HP Service Manager Web Service. Use the following format: **<protocol>://<host_name>:<port>/** where **host_name** is the name of the Service Manager server and **port** is the port number of the Service Manager server. The URL syntax when integrating with Service Manager 7.01 and 7.02 is: **<protocol>://<SM host>:<SM port>/sc62server/PWS/** The URL syntax when integrating with Service Manager 6.2.6 is: **<protocol>://<SM host>:<SM port>/sc61server/ws**
Username	The designated user name created in HP Service Manager for the purpose of this integration monitor.
Password	The password of the designated user created in HP Service Manager for the purpose of this integration monitor.
Field Mapping	The out-of-the-box integration script that enables the monitor to correctly map the data it collects from the Service Manager installation to a format recognizable by the monitor and HP Business Availability Center. We recommend that you use the field mapping as is and it is not editable while creating the monitor. If you must customize the field mapping, locate the following file: **<SiteScope root directory>\conf\ems\peregrine\ticket.config** and edit it in your preferred text editor. To enable any changes, you must edit the monitor to reload the edited script. For details on the field mapping script template, see "Integration Monitor Field Mapping" on page 885.

GUI Element	Description
Test Script	Click to test the field mapping script. We recommend that you test the script before running the monitor. This test gives you the results of what events are forwarded to Business Availability Center. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note:** The test does not forward samples to Business Availability Center; it tests that the configuration is correct and that data is forwarded accurately when the monitor does run.
Synch Flag	Select to enable the monitor to query Service Manager to retrieve all Incidents Changes from the time specified in the **Synch Time** setting. **Default value**: Cleared **Note**: This flag is reset to cleared after each time the monitor retrieves the data from Service Manager.
Synch Time	Enter a value indicating the time from which the monitor retrieves incidents. Enter a value only when **Synch Flag** is selected.

GUI Element	Description
Incident Management (probsummary table) query	Enter the text to add to the query that the monitor sends to Service Manager. You can add to the query to determine which Incidents the monitor retrieves. **Default value**: type="bizservice". The query is set to retrieve only those incidents opened on CIs of type **bizservice**. **Note**: The syntax for the query must be specified by the Service Manager application. We recommend that you consult the Service Manager help to create the text to add to the query and to test the query using the advanced search found in the Service Manager application.
Incident Open State	Indicates the initial state as defined in Service Manager for the incident lifecycle. **Default value**: Open

Topology Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Script	The out-of-the-box integration script that creates a topology in Business Availability Center that is based on the data collected from the Service Manager installation. The script is based on the Jython scripting language (Python enabled by Java) and enables the integration between the data the monitor collects from the Service Manager system and Business Availability Center's applications. We recommend that you use the topology settings as is and it is not editable while creating the monitor. If you must customize the field mapping, locate the following file: **<SiteScope root directory>\discovery\scripts\EMS_peregrine.py** and edit it in your preferred text editor. To enable any changes, you must edit the monitor for SiteScope to reload the edited script. For more details on editing the script, see "Topology Settings for Technology Integration Monitors" on page 871.
Test Script	Click to test the topology script. This test gives you the results of what events are forwarded to Business Availability Center and what topology is mapped. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The test does not forward samples to Business Availability Center; it tests that the configuration is correct and that data is forwarded accurately when the monitor does run.

23

NetScout Event Monitor

The NetScout Event Monitor monitors alerts received from the NetScout nGenius server and forwards them to HP Business Availability Center. This provides a way to centralize data collection, display, and alerting for the conditions for which you may otherwise be unaware until something more serious happens.

This chapter includes:

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NetScout Event Monitor Overview

The NetScout Event Monitor is designed to collect SNMP Trap data from NetScout nGenius servers. Each time that the monitor is run, SiteScope checks traps that have been received since the last time the monitor ran and reports the results to HP Business Availability Center.

The NetScout Event Monitor forwards alerting instances to HP Business Availability Center to create configuration items (CIs) based on application or host alarms in NetScout.

The integration maps the alarms to the NetScout CIs created and creates a monitored by relationship between the NetScout Event monitor CI and the the relevant host, interface, or application CI. The monitor integrates the incident data into samples that are forwarded to HP Business Availability Center applications, such as Dashboard and Service Level Management.

Note: For information about Integration Monitor logging and troubleshooting, see “Integration Monitor Logs” on page 881 and “Troubleshooting and Limitations” on page 881.

System Requirements

The following are important guidelines and requirements for using the NetScout Event Monitor to forward alerts to HP Business Availability Center.

- The NetScout nGenius server must be configured to send traps to the SiteScope server.

Note: The NetScout Event Monitor uses port 162 for receiving traps. If another application or process on the machine where SiteScope is running has bound this port, the monitor reports an **Address in use** error and the monitor type is unavailable.

- SiteScope must be registered with an HP Business Availability Center installation. The SiteScope must have a profile defined in the HP Business Availability Center installation prior to enabling the registration in the SiteScope interface. To verify registration or to re-register SiteScope with HP Business Availability Center, see the Integration Preferences page in the Preferences container.
- The NetScout Event Monitor must be set to synchronize integration monitor data with HP Business Availability Center. You can use the configuration file for the NetScout Event Monitor to control the data that is sent from SiteScope to HP Business Availability Center. For details on the file structure and syntax, see “Integration Monitor Field Mapping” on page 885.

  For details on configuring this monitor, see “NetScout Event Monitor User Interface” on page 939.

NetScout Integration – Workflow

The following are the tasks necessary to integrate data from a NetScout system and view the NetScout data in a way that is customized to your needs.

This task includes the following steps:

- "Configure a NetScout Event Monitor in SiteScope" on page 938
- "Activate NetScout EMS Integration in Business Availability Center" on page 938

1 Configure a NetScout Event Monitor in SiteScope

You can create this monitor:

- Directly in SiteScope
- Using the System Availability Management Administration portal in HP Business Availability Center

For details on the monitor's settings, see "NetScout Event Monitor User Interface" on page 939.

2 Activate NetScout EMS Integration in Business Availability Center

Activate the assignment rules in Business Availability Center. For details on how to perform this task, see "NetScout nGenius Integration" in *Solutions and Integrations*.

NetScout Event Monitor User Interface

Description	The NetScout Event Monitor monitors alerts received from the NetScout nGenius server and forwards them to HP Business Availability Center. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"NetScout Event Monitor" on page 935

NetScout Event Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Run Alerts	Select the method for running alerts: ➤ If **for each event received from NetScout system** is chosen, then the monitor triggers alerts for every matching entry found. **Note:** If **for each event received from NetScout system** is selected as the alert method, when the NetScout Monitor is run, the monitor never reports a status of error or warning, regardless of the results of the content match or even if the target SNMP Trap is not found. ➤ If the **once, after all events from NetScout system were received** method is selected, then the monitor counts up the number of matches and triggers alerts based on the **Error if** and **Warning if** thresholds defined for the monitor in the Threshold Setting section.
EMS Time Difference	Enter a value to account for any time differences greater than one minute between the system clock time on the monitored EMS machine and the server where SiteScope is running. This is only needed when the monitored data includes time data and the data shows a difference between the EMS machine and the SiteScope server. If the time difference is too great, the data may be discarded. **Note**: The time difference value only needs to be entered if the difference is greater than one minute. There is no need to synchronize differences of seconds less than one minute.

Field Mapping

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Field Mapping	The out-of-the-box integration script that enables the monitor to correctly map the data it collects from the NetScout installation to a format recognizable by the monitor and HP Business Availability Center. This script is not editable.

Topology Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Script	The out-of-the-box integration script that creates a topology in Business Availability Center. The topology is based on the data collected from the NetScout installation. The script is based on the Jython scripting language (Python enabled by Java) and enables the integration between the data the monitor collects from the NetScout system and Business Availability Center's applications. We recommend that you use the topology settings as is and it is not editable while creating the monitor. If you must customize the topology, locate the following file: **<SiteScope root directory>\discovery\scripts\ems\ems_netscout.py** and edit it in your preferred text editor. To enable any changes, you must edit the monitor to reload the edited script. For more details on editing the script, see "Topology Settings for Technology Integration Monitors" on page 871.

24

Technology Database Integration Monitor

The Technology Database Integration Monitor allows you to collect event and time series data from database tables used by Enterprise Management Systems (EMS) by performing a query through a JDBC connection. The data retrieved is then processed and sent to HP Business Availability Center as samples (one sample for each row that was returned by a SQL query).

This chapter includes:

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Reference

Technology Database Integration Monitor Overview

Use the Technology Database Integration Monitor to integrate database records into HP Business Availability Center. The following are examples of data that can be integrated into HP Business Availability Center using the Technology Database Integration Monitor:

- Events from monitoring applications event tables or views.
- Open tickets from ticketing systems applications.
- Time series from monitoring applications measurement tables.

Each time the Technology Database Integration Monitor runs, it returns the monitors status, the time it took to perform the query, the number of rows in the query result set, and the first two fields in the first row of the result and writes them in the monitoring log file.

This section includes the following topics:

What Data Is Forwarded

The Technology Database Integration Monitor uses a user-defined query and enumerating field name, field type, and initial value. While the query provided by the user is used to define a search criterion on the database, the enumerating field is used so that events are forwarded only once. Using an initial value allows you to specify an initial threshold value for the events that should be forwarded.

For example, if **Enumerating Field Type** uses DATE and **Start from value** uses 2003-20-03 12:00:00, only events that happened after the specified date are forwarded in the first run of the monitor. In subsequent monitor runs, the highest value for the DATE field found is used to verify that only new events are forwarded.

You use the field mapping script selected for the Technology Database Integration Monitor to control the data that is sent from SiteScope to Business Availability Center. See the section on "Integration Monitor Field Mapping" on page 885 for more details on the file structure and syntax.

Before setting up the Technology Database Integration Monitor, you should be clear about the purpose and usage of the data in HP Business Availability Center (for presentation in Dashboard, Service Level Management, and/or reports).

Setup Requirements

The steps for setting up a Technology Database Integration Monitor vary according to what database software you are trying to query. The following is an overview of the requirements for using the Technology Database Integration Monitor:

- You must use one of the database drivers supplied by default, or install or copy a compatible database driver or database access API into the required SiteScope directory location. The supplied drivers include:
  - **com.inet.tds.TdsDriver.** TDS driver is from i-net Software for Microsoft SQL databases. This driver is deployed with SiteScope.
  - **com.mercury.jdbc.sqlserver.SQLServerDriver.** DataDirect driver is from DataDirect Technologies. It is an alternative to the TDS driver for those Microsoft SQL databases that use Windows NT authentication. This driver is deployed with SiteScope.
  - **com.inet.ora.OraDriver.** OraDriver driver is from Oracle for Oracle databases. This driver is deployed with SiteScope.

  Other database driver packages are available as compressed (zipped) archive files or .jar files. Database drivers in this form must not be extracted. Rather, put them into the **<SiteScope root directory>\java\lib\ext** subdirectory.

- You must know the syntax for the Database Connection URL. The Database Connection URL normally includes the class of driver you are using, some key name relating to the supplier of the driver software, followed by a combination of server, host, and port identifiers.

  Database Connection URLs for this monitor are:

  - **jdbc:inetdae:<hostname>:<port>**
    where <hostname> is the name of the host where the database is running and <port> is the port on which the database interfaces with the driver.
  - **jdbc:mercury:sqlserver://<hosthost>:1433;DatabaseName=master; AuthenticationMethod=type2**
    where <hostname> is the name of the host where the database is running.
  - **jdbc:oracle:thin:@<hostname>:<port>:<dbname>**
    where <hostname> is the name of the host where the database is running, <port> is the port on which the database interfaces with the driver, and <dbname> is the name of the Oracle database instance.

- The database you want to query must be running, have a database name defined, and have at least one named table created in the database. In some cases, the database management software needs to be configured to enable connections by using the middleware or database driver.
- You need a valid user name and password to access and perform a query on the database. In some cases, the machine and user account that SiteScope is running on must be given permissions to access the database.
- You must know a valid SQL query string for the database instance and database tables in the database you want to query. Consult your database administrator to work out required queries to use.
- When adding the monitor to SiteScope, in the Field Mapping panel, you must select a field mapping script and load the script for the monitor. Copy the contents of the script into your preferred text editor, and edit the script to define the event handlers for this monitor instance. For details on the file structure and syntax, see "Integration Monitor Field Mapping" on page 885.

Notes and Limitations

- When Windows authentication is used to connect to the database, configure SiteScope using the following settings:
  - JDBC Connection string: **jdbc:mercury:sqlserver://<hosthost>:1433; DatabaseName=master;AuthenticationMethod=type2**
  - JDBC driver: **com.mercury.jdbc.sqlserver.SQLServerDriver**.
  - Leave the **Database User name** and **Database Password** fields empty, because the Windows user credentials of the account from which the SiteScope service is running are used to establish a connection to the database.
- When referring to data arriving from the Technology Database Integration Monitor in the config file, use the column name prefixed by the dollar sign ($).

  For example, for the following database query:

  ```
  SELECT height,width FROM some_table WHERE width > 0
  ```

  You can refer to the columns returned using the labels $height and $width. The names of the columns are case sensitive.

  For details on configuring the monitor, see "Technology Database Integration Monitor User Interface" on page 952.

Integrate Database Data into HP Business Availability Center

This section provides the workflow for setting up the Technology Database Integration Monitor to work with HP Business Availability Center. If you need more information on performing any of the steps, see the sections on "Setup Requirements" on page 945, and "Technology Database Integration Monitor User Interface" on page 952.

This task includes the following steps:

- "Prerequisites" on page 949
- "Use the SiteScope Database Connection Tool" on page 949
- "Create a Technology Database Integration Monitor" on page 950
- "Edit the Monitor's Field Mappings" on page 950
- "Edit the Monitor's Topology Settings - Optional" on page 951
- "View Data from the Monitor in HP Business Availability Center" on page 951

1 Prerequisites

a Use a database client to connect to the relevant software database. Identify which tables contain the required events/metrics (the software schema documentation may help you with this).

b A JDBC database driver is a prerequisite for setting up the monitor. We recommend that you use the following JDBC drivers:

- For SQL Server:

  Database Connection URL= jdbc:inetdae:<DatabaseHostName>:<Port>?database=<Database Name>

  Database Driver=com.inet.tds.TdsDriver

- For Oracle:

  Database Connection URL= jdbc:inetora:<DatabaseHostName>:<Port>:<Database Instance Name>

  Database Driver=com.inet.ora.OraDriver

2 Use the SiteScope Database Connection Tool

Run the SiteScope Database Connection tool and follow these steps:

a Verify the driver can be loaded and that it successfully connects.

b Add a user name and password to verify that a connection can be established to the database.

c Add a native query. Refine the query until you get all the required events/metrics required for HP Business Availability Center.

3 Create a Technology Database Integration Monitor

Add a Technology Database Integration Monitor to SiteScope. For details on the user interface, see "Technology Database Integration Monitor User Interface" on page 952.

- When adding the new monitor to a group, it is recommended that you use a dedicated group for integration monitors only.
- If you do not see the **Integration Monitors** category, make sure you have an EMS Option License for your SiteScope.
- **Name.** It is recommended that the monitor name include the name of the integrated software.
- Enter all connection parameters for connecting to the database in the **Connection parameters** area.
- **SELECT/FROM/WHERE query clauses. SELECT** and **FROM** are mandatory. When specifying the **SELECT** clause, the value given for **Enumerating field** must appear in the clause.
- **Frequency.** Define how often the monitor should query the database. The maximum number of rows that the monitor can retrieve on each cycle is 5000; this is to prevent an out-of-memory exception. The frequency should therefore be set so that the monitor retrieves a maximum of 5000 rows per cycle.

  You can edit the maximum number of rows in the **Query Settings** section for the monitor.
- **Enumerating field parameters.** Enter details for the enumerating field.

4 Edit the Monitor's Field Mappings

In the New Technology Database Integration Monitor dialog box, expand the Field Mapping area. Select a field mapping type and click **Load Script**.

- If you select **Events** or **Metrics**, a template script is displayed in the **Field mapping** box. Edit the script to enable SiteScope to retrieve the data from the monitored application that you want to forward to Business Availability Center.

➤ If you select **Custom**, create your own script to map the fields for retrieving data from the monitored application.

For details on working with the field mapping script, see "Integration Monitor Field Mapping" on page 885.

For details on the user interface, see "Field Mapping" on page 957.

5 Edit the Monitor's Topology Settings - Optional

Optionally, in the New Technology Database Integration Monitor dialog box in the Topology Settings area, you can create a Jython script that creates a topology of configuration items in HP Business Availability Center's CMDB to match your EMS system. You copy the script into the Script field in the Topology Settings.

For details on this topic, see "Topology Settings for Technology Integration Monitors" on page 871.

For details on the user interface, see "Topology Settings" on page 959.

6 View Data from the Monitor in HP Business Availability Center

View the data in HP Business Availability Center:

➤ **Events integration.** If you chose and edited the Events script in the Field Mapping area, you can view events in Dashboard, System Availability Management Event Log reports, or Analytics. You can also use events when building SLAs.

➤ **Metrics integration.** If you chose and edited the Metrics script in the Field Mapping area, you can view the data in any application that supports SiteScope data, including SiteScope Over Time reports.

➤ If you want to watch the incoming samples (to view the original data before it is passed to the applications), use the sprinter utility available under <HP Business Availability Center root directory>\bin.

To troubleshoot problems with data arriving to HP Business Availability Center, see "Troubleshooting and Limitations" on page 961.

Technology Database Integration Monitor User Interface

Description	The Technology Database Integration Monitor allows you to collect event and time series data from database tables used by Enterprise Management Systems (EMS) by performing a query through a JDBC connection. The data retrieved is then processed and sent to HP Business Availability Center as samples (one sample for each row that was returned by a SQL query). Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Included in Tasks	"Integrate Database Data into HP Business Availability Center" on page 948
Useful Links	"Technology Database Integration Monitor" on page 943

Technology Database Integration Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Basic Settings	
Database connection URL	Enter a URL to a database connection (sometimes referred to as an Authentication string). One way to create a database connection is to use ODBC to create a named connection to a database. For example, first use the ODBC control panel to create a Data Source Name (DSN) called test under the system DSN tab. Then, enter jdbc:odbc:test in this box as the connection URL. Alternatively, use the supplied Microsoft SQL or Oracle driver to connect to the Database.
Database driver	Enter the driver used to connect to the database. Use the Fully Qualified Class Name of the JDBC driver you are using.
Database user name	Enter the user name used to login to the database.
Database password	Enter a password used to login to the database.
OS integrated security	Check this check box if you want to use the user name and password from Windows' user authentication to access the database. Entries in the Database Username and Database Password are ignored. If this parameter is checked, you must use the DataDirect driver as your database driver.

GUI Element	Description
EMS server name	If you are reporting monitor data to an installation of HP Business Availability Center, enter a text identifier describing the database server that this monitor is monitoring. This text descriptor is used to identify the database server when the monitor data is viewed in an HP Business Availability Center report. **Syntax exceptions:** Use only alphanumeric characters for this entry. You can enter the name of the monitored server or a description of the database to be used to identify the host.
EMS time difference	Enter a value to account for any time differences greater than one minute between the system clock time on the monitored EMS machine and the server where SiteScope is running. This is only needed when the monitored data includes time data and the data shows a difference between the EMS machine and the SiteScope server. If the time difference is too great, the data may be discarded. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The time difference value only needs to be entered if the difference is greater than one minute. There is no need to synchronize differences of seconds less than one minute.
Query Settings	
SELECT	Enter the SELECT clause to be used in the SQL query. Enter ***** for all fields or a comma separated list of column names to be retrieved from the database. When specifying the SELECT clause, the column used as the enumerating field must appear in the clause.
FROM	Enter the FROM clause to be used in the SQL query. Enter a table name or a comma separated list of tables from which the selected columns should be extracted.

<table>
<tr><th>GUI Element</th><th>Description</th></tr>
<tr><td>WHERE</td><td>Enter the WHERE clause to be used in the SQL query. This is an optional field which allows you to define the select criteria.
Leaving it empty results in retrieving all the rows from the table defined in the FROM option.</td></tr>
<tr><td>Enumerating field</td><td>Enter a name for a database field that can be used to order the events that are returned from the database query.
Note: The column used as enumerating field must be included in the SELECT clause.</td></tr>
<tr><td>Enumerating field type</td><td>Enter the type of field used to order the result set. This can be a DATE field, an INTEGER field, a DOUBLE floating point numeral field, or a LONG field.
The following table maps SQL types to the required enumerating field type.
SQL Type — Enumerating Field Type
SMALLINT — INTEGER
INTEGER — INTEGER / LONG
BIGINT — LONG
NUMERIC — LONG
DOUBLE — DOUBLE
DECIMAL — DOUBLE
FLOAT — DOUBLE
TIMESTAMP — TIMESTAMP
DATE — TIMESTAMP</td></tr>
</table>

GUI Element	Description
Initial enumerating value	Enter an initial value to be used as a condition for the initial run of this monitor instance. For example, if you specify the Enumerating Field Type as a field type DATE and you enter a value of 2000-31-01 12:00:00 in the **Start from** value field, only records that were added to the database after the specified date are forwarded. **Note:** The value of this field cannot be edited.
Max rows	Specify the maximum number of rows the monitor retrieves from the database for each monitor cycle. **Default value**: 5000 rows If the number of result rows exceeds the set maximum, the monitor retrieves the remaining rows (those that exceeded the maximum) on future cycles, until all result rows are retrieved. The value should be sufficient to keep up with database table growth, yet small enough to avoid java.lang.OutOfMemoryException errors. Further, monitor run frequency should also be considered. Make sure that the rate at which data is collected by the monitor—which is dependent on both monitor run frequency and network/system speed—is greater than, or equal to, the rate of data insertion on the monitored system.

Field Mapping

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Sample type	Select from the following sample types for this integration: ➤ **Events**. For details, see "Configuring Field Mapping for Event Samples" on page 888. ➤ **Measurements**. For details, see "Configuring Field Mapping for Measurement Samples" on page 894. ➤ **Tickets**. For details, see "Configuring Field Mapping for Ticket Samples" on page 897.
Load File	Click to load the script that is applicable to the sample type selected above.
Field mapping	The monitor uses the field mapping script to correctly map the data it collects from the monitored application to a format recognizable by HP Business Availability Center. To enable the integration, you must configure these mappings as required by the environment you are monitoring. The mapping is editable in this box. You can also copy it into your preferred text editor, edit it, and then copy it back into this box. For details on the field mapping script template, see "Integration Monitor Field Mapping" on page 885.

GUI Element	Description
Test Script	Click to test the field mapping script. We recommend that you test the script before running the monitor. This test gives you the results in a separate window of what events or measurements are forwarded to Business Availability Center. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The test does not forward samples to Business Availability Center; it tests that the configuration is correct and that data is forwarded accurately when the monitor does run.

Topology Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Topology template	Select a Jython script to create the topology in Business Availability Center for the samples retrieved from the monitored application. The monitor propagates its status to the CIs mapped in this topology. Select from: ➤ **Custom**. You create your own topology if you want the retrieved data to be forwarded to specific CIs and not the available topology. ➤ **Hosts**. Creates a host CI with an EMS monitor CI as a leaf node. The EMS monitor CI is the lower level node within the topology. ➤ **Hosts-Applications**. Creates a topology with an application CI and a host CI and an EMS monitor CI as the leaf node under each application CI and host CI. **Note**: We recommend not to select **Custom** as this does not load a script and you must enter the entire script yourself. We recommend that you begin with either **Host** or **Host and Application** and edit one of those scripts. When editing the topology, you must make sure that an EMS Monitor CI is created as the leaf node to any CI that receives samples from the integration. For more details, see "Topology Settings for Technology Integration Monitors" on page 871.
Load Script	Click to load the required Jython script for the topology you selected in the **Topology template** option. If you selected **Custom**, there is no script to load.

GUI Element	Description
Script	The contents of the script are editable in this box. However, it is recommended not to edit the contents of the script here. Copy the contents of the script into your preferred text editor, edit the script as needed, and then copy the contents back into this box. **Note**: The Jython script is very sensitive to spaces and tabs. For more details on editing the script, see "Topology Settings for Technology Integration Monitors" on page 871.
Test Script	Click to test the topology script. We recommend that you test the script before running the monitor. This test gives you the results of what events or measurements are forwarded to Business Availability Center and what topology is created. The test relies on an open socket connection for several minutes and then displays what data was captured for the test period. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The test does not forward samples to Business Availability Center; it tests that the configuration is correct and that data is forwarded accurately when the monitor does run.

Troubleshooting and Limitations

- Check for errors in **<SiteScope root directory>\logs\RunMonitor.log** and in **<SiteScope root directory>\logs\error.log**.
- Change the log level to DEBUG in **<SiteScope root directory>\conf\core\Tools\log4j\PlanJava\log4j.properties**, to watch outgoing samples.

  Change the line:
  log4j.category.EmsEventPrinter=${emsloglevel}, ems.appender
  to:
  log4j.category.EmsEventPrinter= DEBUG, ems.appender.

  The log file to look at is:
  <SiteScope root directory>\logs\RunMonitor.log
- If samples are created and sent from SiteScope, but the data is not seen in **Dashboard/Event Log/SiteScope reports**, look in **<HP Business Availability Center root directory>\log\mercury_wde\wdeIgnoredSamples.log** to make sure the samples were not dropped due to missing fields or values.
- Change the logging level for Dashboard to verify that Dashboard received the samples. Open the following file on the Gateway Server machine: **<HP Business Availability Center root directory>\conf\core\tools\log4j\mercury_wde\wde.properties**

  Change the log level parameter to DEBUG in the following lines:

  - log4j.category.com.mercury.am.platform.wde.decode.IgnoredSamplesLogger=${loglevel}, IgnoredSamples.appender
  - log4j.category.com.mercury.am.platform.wde.publish_SamplePublisherSamples=${loglevel}, PublishedSamples.appender

  Look at the corresponding log files:

  - **<HP Business Availability Center root directory>\logs\mercury_wde\wdeIgnoredSamples.log**
  - **<HP Business Availability Center root directory>\logs\mercury_wde\wdePublishedSamples.log**

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Technology Log File Integration Monitor

The Technology Log File Integration Monitor watches for specific entries added to a log file of an Enterprise Management System (EMS) application by trying to match against a regular expression. From each matched entry, one sample is created and sent to HP Business Availability Center. Each time the monitor runs, it examines log entries added since the last time it ran.

This chapter includes:

Concepts

Tasks

Reference

Technology Log File Integration Monitor Overview

The Technology Log File Integration Monitor is useful for automatically extracting data from log files and sending the data to HP Business Availability Center.

Each time that SiteScope runs this monitor, the monitor starts from the point in the file where it stopped reading the last time the monitor ran. This insures that you are notified only of new entries and speeds the rate at which the monitor runs.

When using a regular expression to match against a specific line in the log, it is possible to use regular expression back references to select the data to be forwarded to Business Availability Center. For details on using back references, see "Retaining Content Match Values" on page 229.

This section includes the following topics:

What Data Is Collected

The Technology Log File Integration monitor sends to Business Availability Center data that is extracted from any row that matched against the **Content match** regular expression.

Before setting up the Technology Log File Integration Monitor, you should be clear about the purpose and usage of the data in HP Business Availability Center (for presentation in Dashboard, Service Level Management, and reports).

The specific data that is forwarded to HP Business Availability Center is controlled by the field mapping script. You use this script to specify the preferred value fields that you want forwarded. For more details on selecting the script and the file structure and syntax, see "Integration Monitor Field Mapping" on page 885.

Setup Requirements

The following are requirements for using the Technology Log File Integration Monitor to forward data to Business Availability Center:

- You must have the format and syntax of the log file that you want to monitor. You must construct a **Content match** regular expression to match on the entries in the log file that contain the data you want to monitor and forward to Business Availability Center. For examples of regular expressions, see "Examples for Log File Monitoring" on page 235.
- When adding the monitor to SiteScope, in the Field Mapping panel, you must select a field mapping script and load the script for the monitor. Edit the script to define the event handlers for this monitor instance. For details on the file structure and syntax, see "Integration Monitor Field Mapping" on page 885.

Note: When referring to data arriving from the Technology Log File Integration monitor in the configuration file, use the number corresponding to the back reference returned prefixed by the label $group.

For example, for the **Content Match** expression:

/([0-9]{2})\s([A-Z]*) ([a-z]*) /

and the corresponding Log file text that contains:

21 HELLO world

You can refer in the config file to three retained values (back references) as follows, where the number appended to the end of the $groupn label corresponds to the order of the parentheses in the expression:

$group0 = (21)
$group1 = (HELLO)
$group2 = (world)

For details on configuring the monitor, see "Technology Log File Integration Monitor User Interface" on page 970.

Integrate Log File Data into HP Business Availability Center

This section provides the overall flow for setting up the Technology Log File Integration Monitor to work with HP Business Availability Center. If you need more information on performing any of the steps, see the sections on "Setup Requirements" on page 965, or "Technology Log File Integration Monitor User Interface" on page 970.

This task includes the following steps:

- "Analyze the Log File to Be Monitored" on page 966
- "Create a Technology Log File Integration Monitor" on page 967
- "Edit the Monitor's Field Mapping" on page 968
- "Edit the Monitor's Topology Settings - Optional" on page 968
- "Check the Regular Expression - Optional" on page 968
- "View Data from the Monitor in HP Business Availability Center" on page 969

1 Analyze the Log File to Be Monitored

Open the relevant software log file, and identify which lines describe events or measurements. Build your regular expression with the SiteScope Regular Expression tool. Use the tool to:

- Match against the line you wish to monitor.
- Make sure that values are extracted correctly from the line.

For details on the user interface, see "Regular Expression Tool" on page 197.

2 Create a Technology Log File Integration Monitor

Add a Technology Log File Integration Monitor to SiteScope. For details on the user interface, see "Technology Log File Integration Monitor User Interface" on page 970.

- When adding the new monitor to a group, it is recommended that you use a dedicated group for integration monitors only.
- If you do not see the **Integration Monitors** category, make sure you have an EMS Option License for your SiteScope.
- **Name.** It is recommended that the monitor name include the name of the integrated software.
- **Log file path name** and **Server**:
  - The file name can include a variable name (for example: **s/c:\temp\EV-$year$-$0month$-$0day$.tab/**).
  - When reading a file on a remote UNIX machine, define a remote UNIX connection; you can then select the UNIX machine from the **Server** list.
  - When reading a file on a remote Windows machine, enter the UNC path in the **Log file path name** field (SiteScope should run under a privileged user for the machine that holds the file), and leave the **Server** box empty.
- **Content match (regular expression).** Surround values you wish to extract with parenthesis. It is recommended that you build your content match with the SiteScope Regular Expression tool before defining the monitor.

3 Edit the Monitor's Field Mapping

In the New Technology Log File Integration Monitor dialog box, expand the Field Mapping area. Select a field mapping type and click **Load Script**.

- If you select **Events**, **Tickets**, or **Measurements**, a template script is displayed in the **Field mapping** box. Edit the script to enable SiteScope to retrieve the data from the monitored application that you want to forward to Business Availability Center.
- If you select **Custom**, create your own script to map the fields for retrieving data from the monitored application.

For details on working with the field mapping script, see "Integration Monitor Field Mapping" on page 885.

For details on the user interface, see "Field Mapping" on page 974.

4 Edit the Monitor's Topology Settings - Optional

Optionally, in the New Technology Log File Integration Monitor dialog box in the Topology Settings area, you can create a Jython script that creates a topology of configuration items in HP Business Availability Center's CMDB to match your EMS system. You copy the script into the Script field in the Topology Settings.

For details on this topic, see "Topology Settings for Technology Integration Monitors" on page 871.

For details on the user interface, see "Topology Settings" on page 976.

5 Check the Regular Expression - Optional

After entering the settings for the Technology Log File Integration Monitor, it is recommended that you perform optimization of the regular expression (for example, to check for problems with use of quantifiers such as **.***). Use the SiteScope Regular Expression tool to perform the optimization. Update the monitor with any corrections.

For details on the user interface, see "Regular Expression Tool" on page 197.

6 View Data from the Monitor in HP Business Availability Center

View the data in HP Business Availability Center:

- **Events integration.** If you chose and edited the Events script in the Field Mapping area, you can view events in Dashboard, System Availability Management Event Log reports, or Analytics. You can also use events when building SLAs.
- **Tickets integration**. If you chose and edited the tickets script in the Field Mapping area, you can view events in any application that supports SiteScope data, including SiteScope Over Time reports.
- **Measurements integration.** If you chose and edited the measurements script in the Field Mapping area, you can view the data in any application that supports SiteScope data, including SiteScope Over Time reports.
- If you want to watch the incoming samples (to view the original data before it is passed to the applications), use the sprinter utility available under <HP Business Availability Center root directory>\bin.

To troubleshoot problems with data arriving to HP Business Availability Center, see "Troubleshooting and Limitations" on page 978.

Technology Log File Integration Monitor User Interface

Description	Technology Log File Integration Monitor watches for specific entries added to a log file of a Enterprise Management System (EMS) application by trying to match against a regular expression. From each matched entry, one sample is created and sent to HP Business Availability Center. Each time the monitor runs, it examines log entries added since the last time it ran. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Technology Log File Integration Monitor" on page 963

Log File Integration Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Log file path name	Enter the path to the log file from which you want to extract data. ➤ **Remote UNIX.** For reading log files on remote UNIX machines, the path must be relative to the home directory of UNIX user account being used to login to the remote machine. Select **Preferences** > **UNIX Servers** for information about which UNIX user account is being used. ➤ **Remote Windows NT/2000 through NetBIOS.** You can also monitor log files by including the UNC path to the remote log file. For example, \\remoteserver\sharedfolder\filename.log. This requires that the user account under which SiteScope is running has permission to access the remote directory using the UNC path. If a direct connection using the operating system is unsuccessful, SiteScope tries to match the \\remoteserver with servers currently defined as remote NT connection profiles (displayed in the Microsoft Windows remote server list). If an exact match is found for \\remoteserver in the remote NT connection profiles, SiteScope tries to use this connection profile to access the remote log file. If no matching server name is found, the monitor reports that the remote log file can not be found. ➤ **Remote NT through SSH.** You must select the remote server using the **Server** selection above. It is not necessary to select a remote Windows server if you are using NetBIOS to connect to remote Windows servers. Optionally, you can use a regular expression to insert date and time variables. For example, you can use a syntax of s/ex$shortYear$$0month$$0day$.log/ to match date-coded IIS log file names.

GUI Element	Description
Content match	Enter the text to look for in the log entries. You can also use a regular expression in this entry to match text patterns. Unlike the content match function of other SiteScope monitors, the Log File Monitor content match is run repeatedly against the most recent content of the target log file until all matches are found. This means the monitor not only reports if the match was found, but also how many times the matched pattern was found. To match text that includes more than one line of text, add an **s** search modifier to the end of the regular expression.
No error if file not found	Select if you want this monitor to remain in good status if the file is not found.
Log file encoding	If you are reading a log file whose encoding is different than the SiteScope machine's default encoding, select the log file encoding. **Default value:** windows-1252

GUI Element	Description
Run alerts	Select the method for running alerts for this monitor: ➤ Select **For each log entry matched** to trigger alerts for each matching entry found regardless of the defined threshold settings and the monitor status (good, warning, or error). **Note:** When the Technology Log File Integration Monitor is run with this alert method selected, the monitor never displays an error or warning status in the SiteScope interface, regardless of the results of the content match or if the target log file is not found. The monitor triggers alerts if one or more matching entries are found and the Error if or Warning if thresholds are defined accordingly (for example, setting Error if to the default of matchCount > 0). ➤ Select **Once, after all log entries have been checked** to count the number of matches and trigger alerts one time. The alert is based on the **Error if** and **Warning if** thresholds defined for the monitor. **Note:** By default, selecting this option causes SiteScope to send one alert message if one or more matches are found, but the alert does not include any details of the matching entries. To have SiteScope include the matching entries, you must associate the monitor with an alert definition that has the property <matchDetails> in the alert template. This special template property is used to populate the alert with the details of all the matching entries. You use this for e-mail alerts or other alert types that work with template properties. E-mail alert templates are stored in the <SiteScope root directory>\templates.mail directory.

GUI Element	Description
EMS time difference	Enter a value to account for any time differences greater than one minute between the system clock time on the monitored EMS machine and the server where SiteScope is running. This is only needed when the monitored data includes time data and the data shows a difference between the EMS machine and the SiteScope server. If the time difference is too great, the data may be discarded. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The time difference value only needs to be entered if the difference is greater than one minute. There is no need to synchronize differences of seconds less than one minute.

Field Mapping

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Sample Type	Select from the following sample types for this integration: ➤ **Events**. For details, see "Configuring Field Mapping for Event Samples" on page 888. ➤ **Measurements**. For details, see "Configuring Field Mapping for Measurement Samples" on page 894. ➤ **Tickets**. For details, see "Configuring Field Mapping for Ticket Samples" on page 897.
Load File	Click to load the script that is applicable to the sample type selected above.

GUI Element	Description
Field Mapping	The monitor uses the field mapping script to correctly map the data it collects from the monitored application to a format recognizable by HP Business Availability Center. To enable the integration, you must configure these mappings as required by the environment you are monitoring. The mapping is editable in this box. You can also copy it into your preferred text editor, edit it, and then copy it back into this box. For details on the field mapping script template, see "Integration Monitor Field Mapping" on page 885.
Test Script	Click to test the field mapping script. We recommend that you test the script before running the monitor. This test gives you the results of what events or measurements are forwarded to Business Availability Center. The test relies on an open socket connection for several minutes and then displays what data was captured for the test period. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The test does not forward samples to Business Availability Center; it tests that the configuration is correct and that data is forwarded accurately when the monitor does run.

Topology Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Topology template	Select a Jython script to create the topology in Business Availability Center for the samples retrieved from the monitored application. The monitor propogates its status to the CIs mapped in this topology. Select from: ➤ **Custom**. You create your own topology if you want the retrieved data to be forwarded to specific CIs and not the standard host or EMS monitor CIs. ➤ **Hosts.** Creates a host CI with an EMS monitor CI as a leaf node. The EMS monitor CI is the lower level node within the topology. ➤ **Hosts-Applications.** Creates a topology with an application CI as the parent CI and a host CI and EMS monitor CI as leaf nodes of the application CI. The host CI also has an EMS monitor CI as a leaf node. **Note**: We recommend not to select **Custom** as this does not load a script and you must enter the entire script yourself. We recommend that you begin with either **Host** or **Host and Application** and edit one of those scripts. For more details, see "Topology Settings for Technology Integration Monitors" on page 871.
Load Script	Click to load the required Jython script for the topology you selected in the **Topology template** option. If you selected **Custom**, there is no script to load.

GUI Element	Description
Script	The contents of the script are editable in this box. However, we recommend not to edit the contents of the script here. You can copy the contents of the script into your preferred text edit, edit the script as needed, and then copy the contents back into this box. **Note**: The Jython script is very sensitive to spaces and tabs. For more details on editing the script, see "Topology Settings for Technology Integration Monitors" on page 871.
Test Script	Click to test the topology script. It is recommended that you test the script before running the monitor. This test gives you the results of what events or measurements are forwarded to Business Availability Center and what topology is mapped. The test relies on an open socket connection for several minutes and then displays what data was captured for the test period. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The test does not forward samples to Business Availability Center; it tests that the configuration is correct and that data is forwarded accurately when the monitor does run.

Troubleshooting and Limitations

- Check for errors in **<SiteScope root directory>\logs\RunMonitor.log** and in **<SiteScope root directory>\logs\error.log**.
- Change the log level to DEBUG in **<SiteScope root directory>\conf\core\Tools\log4j\PlainJava\log4j.properties**, to watch outgoing samples.

  Change the line:
  log4j.category.EmsEventPrinter=${emsloglevel}, ems.appender
  to:
  log4j.category.EmsEventPrinter= DEBUG, ems.appender.

  The log file to look at is:
  <SiteScope root directory>\logs\RunMonitor.log
- If samples are created and sent from SiteScope, but the data is not seen in **Dashboard/Event Log/SiteScope reports**, look in **<HP Business Availability Center root directory>\log\mercury_wde\wdeIgnoredSamples.log** to make sure the samples were not dropped due to missing fields or values.
- Change the logging level for Dashboard to verify that Dashboard received the samples. Open the following file on the Gateway Server machine: **<HP Business Availability Center root directory>\conf\core\tools\log4j\mercury_wde\wde.properties**

  Change the log level parameter to DEBUG in the following lines:

  - log4j.category.com.mercury.am.platform.wde.decode.IgnoredSamplesLogger=${loglevel}, IgnoredSamples.appender
  - log4j.category.com.mercury.am.platform.wde.publish_SamplePublisherSamples=${loglevel}, PublishedSamples.appender

  Look at the corresponding log files:

  - **<HP Business Availability Center root directory>\logs\mercury_wde\wdeIgnoredSamples.log**
  - **<HP Business Availability Center root directory>\logs\mercury_wde\wdePublishedSamples.log**

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Technology SNMP Trap Integration Monitor

The Technology SNMP Trap Integration Monitor watches for SNMP traps received by SiteScope from third-party Enterprise Management Systems (EMS). For each SNMP trap that SiteScope receives, a sample is forwarded to HP Business Availability Center containing the SNMP trap values.

The third-party EMS systems must be configured to send traps to the SiteScope server.

This chapter includes:

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Technology SNMP Trap Integration Monitor Overview

The Technology SNMP Trap Integration Monitor is useful for integrating traps that your external devices create into the HP Business Availability Center framework. For example, you can use this monitor to forward information from Hewlett Packard Network Node Manager to Business Availability Center. See "Integration with HP Network Node Manager" on page 1007 for more information.

What Data Is Collected

The Technology SNMP Trap Integration Monitor collects data that is extracted from any SNMP trap received by SiteScope and sends notifications to HP Business Availability Center containing preferred values from the original SNMP trap.

Before setting up the Technology SNMP Trap Integration Monitor, you should be clear about the purpose and usage of the data in HP Business Availability Center (for presentation in Dashboard, Service Level Management, and/or reports).

The specific data that is forwarded to HP Business Availability Center is controlled by the field mapping script. You use this script to specify the preferred value fields that you want forwarded. For more details on selecting the script and the file structure and syntax, see "Integration Monitor Field Mapping" on page 885.

For details on configuring the monitor, see "Technology SNMP Trap Integration Monitor Settings" on page 985.

Integrate SNMP Trap Data into HP Business Availability Center

This section provides the overall flow for setting up the Technology SNMP Trap Integration Monitor to work with HP Business Availability Center. If you need more information on performing any of the steps, see the section on "Technology SNMP Trap Integration Monitor Settings" on page 985.

This task includes the following steps:

1 Prerequisites

Your SiteScope has to be integrated with Business Availability Center and enabled to forward data.

For details on how to perform this task, see "Collect Data on the Performance of an IT Resource" on page 144.

2 Configure the Relevant Software to Send SNMP Traps to the SiteScope Machine.

The SNMP agents you want to monitor must be configured to send SNMP traps to the SiteScope host. Consult with the system administrator or applicable product documentation for more about SNMP configuration.

3 Use SiteScope SNMP Trap Tool to Watch If the Traps Are Received

If you do not see any traps, make sure that the SNMP trap port is available for the SiteScope. The Technology SNMP Trap Integration Monitor uses port 162 for receiving traps.

a Stop the SiteScope service.

b Verify that the SNMP trap port (162) is available—**netstat –na | find "162"** shows no output.

c If the port is busy, locate the process or program that uses it (for example the Microsoft SNMP Trap Service) and terminate it.

Note: To see which process uses this port, you can download **tcpview** from **www.sysinternals.com**.

d Restart SiteScope.

4 Create a Technology SNMP Trap Integration Monitor

Add a Technology SNMP Trap Integration Monitor to SiteScope. For details on the user interface, see "Technology SNMP Trap Integration Monitor Settings" on page 985.

- When adding the new monitor to a group, it is recommended that you use a dedicated group for integration monitors only.
- If you do not see the **Integration Monitors** category, make sure you have an EMS Option License for your SiteScope.
- **Name.** It is recommended that the monitor name include the name of the integrated software.

5 Edit the Monitor's Field Mappings

In the New Technology SNMP Trap Integration Monitor dialog box, expand the Field Mapping area. Select a field mapping type and click **Load Script**.

- If you select **Events** or **Metrics**, a template script is displayed in the **Field mapping** box. Edit the script to enable SiteScope to retrieve the data from the monitored application that you want to forward to Business Availability Center.
- If you select **Custom**, create your own script to map the fields for retrieving data from the monitored application.

Note: All the received traps are saved to **snmptrap.log** in **<SiteScope root directory>\logs**. When referring to data arriving from the Technology SNMP Trap Integration Monitor, use the names from the snmptrap.log file, prefixed with the dollar sign ($).

For example:

Use the $oid to refer to the oid value of the trap, $var1 to refer to the variable bound as the first variable in trap, and $var2 for variable bound as second variable in trap.

For details on working with the field mapping script, see "Integration Monitor Field Mapping" on page 885.

For details on the user interface, see "Field Mapping" on page 987.

6 Edit the Monitor's Topology Settings - Optional

Optionally, in the New Technology SNMP Trap Integration Monitor dialog box in the Topology Settings area, you can create a Jython script that creates a topology of configuration items in HP Business Availability Center's CMDB to match your EMS system. You copy the script into the Script field in the Topology Settings.

For details on this topic, see "Topology Settings for Technology Integration Monitors" on page 871.

For details on the user interface, see "Topology Settings" on page 989.

7 View Data from the Monitor in HP Business Availability Center

View the data in HP Business Availability Center:

- You can view SNMP traps in the **Tools** link or in **<SiteScope root directory\ logs\snmptrap.log**. (For a better understanding of what SNMP traps are, refer to: www.snmplink.org.)
- **Events integration.** If you chose and edited the Events script in the Field Mapping area, you can view events in Dashboard, System Availability Management Event Log reports, or Analytics. You can also use events when building SLAs.
- **Metrics integration.** If you chose and edited the Metrics script in the Field Mapping area, you can view the data in any application that supports SiteScope data, including SiteScope Over Time reports.
- If you want to watch the incoming samples (to view the original data before it is passed to the applications), use the sprinter utility available under <HP Business Availability Center root directory>\bin.

To troubleshoot problems with data arriving to HP Business Availability Center, see "Troubleshooting and Limitations" on page 991.

Technology SNMP Trap Integration Monitor Settings

Description	The Technology SNMP Trap Integration Monitor watches for SNMP traps received by SiteScope from third-party Enterprise Management Systems (EMS). For each SNMP trap that SiteScope receives, a sample is forwarded to HP Business Availability Center containing the SNMP trap values. The third-party EMS systems must be configured to send traps to the SiteScope server. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New** > **Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Technology SNMP Trap Integration Monitor" on page 979

Technology SNMP Trap Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Run alerts	Choose the method for running alerts: ➤ If **For each SNMP Trap received from EMS system** is chosen, then the monitor triggers alerts for every matching entry found. When the Technology SNMP Trap Integration Monitor is run in the for each SNMP Trap received from EMS system alert method, the monitor never reports a status of error or warning, regardless of the results of the content match or even if the target SNMP Trap is not found. ➤ If **Once, after all SNMP Traps from EMS system were received** is chosen, then the monitor counts up the number of matches and triggers alerts based on the Error If and Warning If thresholds defined for the monitor in the Advanced Settings section.
EMS time difference	Enter a value to account for any time differences greater than one minute between the system clock time on the monitored EMS machine and the server where SiteScope is running. This is only needed when the monitored data includes time data and the data shows a difference between the EMS machine and the SiteScope server. If the time difference is too great, the data may be discarded. **Note**: The time difference value only needs to be entered if the difference is greater than one minute. There is no need to synchronize differences of seconds less than one minute.

Field Mapping

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Sample Type	Select from the following sample types for this integration: ➤ **Events**. For details, see "Configuring Field Mapping for Event Samples" on page 888. ➤ **Measurements**. For details, see "Configuring Field Mapping for Measurement Samples" on page 894. ➤ **Tickets**. For details, see "Configuring Field Mapping for Ticket Samples" on page 897.
Load File	Click to load the script that is applicable to the sample type selected above.
Field mapping	The monitor uses the field mapping script to correctly map the data it collects from the monitored application to a format recognizable by HP Business Availability Center. To enable the integration, you must configure these mappings as required by the environment you are monitoring. The mapping itself is not editable in the UI. You must copy it into your preferred text editor, edit it, and then copy it back into this box. For details on the field mapping script template, see "Integration Monitor Field Mapping" on page 885.

GUI Element	Description
Test Script	Click to test the field mapping script. We recommend that you test the script before running the monitor. This test gives you the results of what events or measurements are forwarded to Business Availability Center. The test relies on an open socket connection for several minutes and then displays what data was captured for the test period. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The test does not forward samples to Business Availability Center; it tests that the configuration is correct and that data is forwarded accurately when the monitor does run.

Topology Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Topology template	Select a Jython script to create the topology in Business Availability Center for the samples retrieved from the monitored application. The monitor propogates its status to the CIs mapped in this topology. Select from: ➤ **Custom**. You create your own topology if you want the retrieved data to be forwarded to specific CIs and not the standard host or EMS monitor CIs. ➤ **Hosts.** Creates a host CI with an EMS monitor CI as a leaf node. The EMS monitor CI is the lower level node within the topology. ➤ **Hosts-Applications.** Creates a topology with an application CI as the parent CI and a host CI and EMS monitor CI as leaf nodes of the application CI. The host CI also has an EMS monitor CI as a leaf node. **Note**: We recommend not to select **Custom** as this does not load a script and you must enter the entire script yourself. We recommend that you begin with either **Host** or **Host and Application** and edit one of those scripts. For more details, see "Topology Settings for Technology Integration Monitors" on page 871.
Load Script	Click to load the required Jython script for the topology you selected in the **Topology template** option. If you selected **Custom**, there is no script to load.

GUI Element	Description
Script	The contents of the script are visible in this box. However, we recommend not to edit the contents of the script here. You must copy the contents of the script into your preferred text edit, edit the script as needed, and then copy the contents back into this box. **Note**: The Jython script is very sensitive to spaces and tabs. For more details on editing the script, see "Topology Settings for Technology Integration Monitors" on page 871.
Test Script	Click to test the topology script. We recommend that you test the script before running the monitor. This test gives you the results of what events or measurements are forwarded to Business Availability Center and what topology is mapped. The test relies on an open socket connection for several minutes and then displays what data was captured for the test period. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The test does not forward samples to Business Availability Center; it tests that the configuration is correct and that data is forwarded accurately when the monitor does run.

Troubleshooting and Limitations

The following sections provide information on troubleshooting for the Technology SNMP Trap Integration Monitor, and verifying the communication paths:

- "Basic Troubleshooting Guidelines" on page 991
- "Verify SNMP Trap Reception to SiteScope" on page 992
- "Common Problems and Solutions" on page 993

Basic Troubleshooting Guidelines

- Check for errors in **<SiteScope root directory>\logs\RunMonitor.log** and in **<SiteScope root directory>\logs\error.log**.
- Change the log level to DEBUG in **<SiteScope root directory>\conf\core\Tools\log4j\PlainJava\log4j.properties**, to watch outgoing samples.

  Change the line:
  log4j.category.EmsEventPrinter=${emsloglevel}, ems.appender
  to:
  log4j.category.EmsEventPrinter= DEBUG, ems.appender.

  The log file to look at is: **<SiteScope root directory>\logs\RunMonitor.log**
- Change the logging level for Dashboard to verify that Dashboard received the samples. Open the following file on the Gateway Server machine: **<HP Business Availability Center root directory>\conf\core\tools\log4j\mercury_wde\wde.properties**

  Change the log level parameter to DEBUG in the following lines:

  - log4j.category.com.mercury.am.platform.wde.decode.IgnoredSamplesLogger=${loglevel}, IgnoredSamples.appender
  - log4j.category.com.mercury.am.platform.wde.publish_SamplePublisherSamples=${loglevel}, PublishedSamples.appender

Refer to the following log files:

- **<HP Business Availability Center root directory>\logs\mercury_wde\wdeIgnoredSamples.log**
- **<HP Business Availability Center root directory>\logs\mercury_wde\wdePublishedSamples.log**

Verify SNMP Trap Reception to SiteScope

You can verify that SiteScope is receiving SNMP traps from other management systems using the SiteScope SNMP Trap Monitor. Use the following steps to verify that SiteScope is receiving traps.

To verify that SiteScope is receiving SNMP traps:

1. Configure the intended SNMP Trap sending entity to send traps to the SiteScope machine. The steps to configure the SNMP host depends on system. Usually, it involves lowering system thresholds to cause normal situations to create traps. On some systems there is a test mode that you can use to create traps on demand. The other way is to use one of the freely available SNMP trap generators, and to send copies of the trap to SiteScope.
2. Inspect the SNMP Trap Monitor log file in SiteScope for sent traps. Every SNMP Trap received by the SiteScope is written into the SNMP Trap Monitor's log file, located in **<SiteScope root directory>\logs\snmptrap.log**.

Common Problems and Solutions

The following table summarizes common problems and suggested solutions:

Problem Symptom	Possible Cause	Solution
The monitor does not appear in the monitor list.	Option License for Integration Monitors had not been provided.	Provide the Option License for Integration Monitors.
The monitor reports an Address in use error and the monitor type is unavailable.	Another application or process on the machine where SiteScope is running has bound the port 162, the port used to receive SNMP traps.	You must stop the SiteScope service, terminate the process or service that is using the port, and restart SiteScope.

Problem Symptom	Possible Cause	Solution
The SNMP traps are not forwarded to HP Business Availability Center applications.	The SNMP Agent does not emit SNMP traps.	Verify that the SNMP Agent is configured to emit SNMP traps. Use the <**SiteScope**>**\logs\ snmptrap.log** file to verify that traps are received by SiteScope. For details, see "Verify SNMP Trap Reception to SiteScope" on page 992.
	The EMS configuration file contains errors.	Click the **Test Script** button in the Field Mapping area to verify the field mapping.
	The SNMP trap port is busy.	Make sure that no other SNMP trap service is listening to SNMP traps on the SiteScope machine. Microsoft SNMP Trap Service is common cause on computers running Windows NT or Windows 2000 operating system.
	The monitor is not configured to report to these applications.	Make sure that the monitor is configured to report to these applications.
Samples are created and sent from SiteScope, but the data is not seen in Dashboard/Event Log/SiteScope reports.	Samples were dropped due to missing fields or values.	Check in <**HP Business Availability Center root directory**>**\log\mercury_wde\ wdeIgnoredSamples.log**.

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Technology Web Service Integration Monitor

The Technology Web Service Integration Monitor enables a Web service entry point to SiteScope. The monitor can be used to report data from third-party Enterprise Management Systems (EMS) to SiteScope through Web service. Both event and metrics entry points into HP Business Availability Center are published for external systems to use. For each event and/or metric that SiteScope receives, a sample is forwarded to HP Business Availability Center containing the event and/or metrics values.

This chapter includes:

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Technology Web Service Integration Monitor Overview

Use the Technology Web Service Integration Monitor for integrating event data or metrics data from your existing EMS system to HP Business Availability Center. SiteScope supplies a WSDL file which the user can use to create a client code. The client code reports the event and/or metrics data to SiteScope. The client has several ways to report data to HP Business Availability Center:

- report one event
- report an array of events
- report one metric
- report an array of metrics

This section includes the following topics:

What Data Is Collected

The Technology Web Service Integration Monitor collects data that is extracted from any message received by SiteScope report data Web service and sends notifications to HP Business Availability Center containing preferred values from the original message.

Before setting up the Technology Web Service Integration Monitor, you should understand and map out the purpose and usage of the data that is forwarded to HP Business Availability Center. You should determine if the data is for presentation in the Dashboard, Service Level Management, and/or reports.

The specific data that is forwarded to HP Business Availability Center is controlled by the field mapping script. You use this script to specify the preferred value fields that you want forwarded. For more details on selecting the script and the file structure and syntax, see "Integration Monitor Field Mapping" on page 885.

Limitations

If you are working with HP Business Availability Center version 5.1 and lower, you cannot define new Technology Web Service Integration monitors or edit existing ones from within HP Business Availability Center. If you need to define a new Technology Web Service Integration monitor or edit an existing monitor, detach SiteScope from HP Business Availability Center, define the monitor in SiteScope's new user interface, and then attach the SiteScope to HP Business Availability Center again.

Setup Requirements

- When adding the monitor to SiteScope, in the Field Mapping panel, you must select a field mapping script and load the script for the monitor. Copy the contents of the script into your preferred text editor and edit the script to define the event handlers for the monitor instance. For details on the file structure and syntax, see "Integration Monitor Field Mapping" on page 885.
- To enable the connection to SiteScope reportMonitorData Web service, you must create a client code (in any language) that makes the connection and handles the reporting of the data to SiteScope through the Web service. For details on enabling the connection, see below.

To enable the connection to SiteScope reportMonitorData Web service:

1. Open Explorer and go to SiteScope (http://<SiteScope host>:8080/SiteScope/services). Take the WSDL file of the service **reportMonitorData**. The WSDL is an interface file which represents the API of the reportMonitorData Web service in SiteScope. The reportMonitorData service is the service that listens to incoming messages and forwards them to HP Business Availability Center. This file is used to create the client stubs that connect to the service and report the data.

2. Generate the stubs using the WSDL file. The generation of the stubs can be to any language. The way to create the files depends on the language that you want to use.

   For example, if you want to use Java as the client code, you must use the WSDL2JAVA task in AXIS package that can be downloaded from their Web site. Run **Java org.apache.axis.wsdl.WSDL2Java <name of saved WSDL file>**. After running this, you get two packages. One package is **com**, which holds the needed objects for sending the data, and the second is **localhost**, which holds the stubs that makes the connection to SiteScope Web service.

3. Write the actual client code which uses the generated classes to send the data to SiteScope. In the code, call the **setreportMonitorDataEndpointAddress(<SiteScope targetHost>)**, which is found in **MonitorDataAcceptorServiceLocator** (one of the generated stubs) to set the SiteScope address to where you want the data reported.

4. Run your code and check if you get data in the SiteScope Technology Web Service Integration monitor.

   For details on configuring the monitor, see "Technology Web Service Integration Monitor Settings" on page 1000.

Check Connectivity to the Technology Web Service Integration Monitor

After creating a Technology Web Service Integration monitor in SiteScope, you can check connectivity to the Web service by using the **test_client** which is located in the **<SiteScope root directory>\conf\ems\webservice\test_client** directory. This tool sends constant messages to SiteScope reportMonitorData Web service. The messages can be either metrics messages or event messages.

To use the client tool to check connectivity:

1. In the **<SiteScope root directory>\conf\ems\webservice\test_client** directory, run the **test_event_client.bat** for events or **test_metrics_client.bat** for metrics, using the following parameters:
   - **Target Host.** The address of the SiteScope host which receives the messages.
   - **Number of messages to send.** Number of messages to send to SiteScope.
   - **System Id.** System Id of the monitor that receives the messages.
   - **Severity/Quality.** Severity of the event when forwarding events (default is to send 1 to 5). Quality of the metric when forwarding metrics data (default is 0-3).
2. If you are forwarding other values to HP Business Availability Center, you must edit the field mapping accordingly.

   The tool can also be run with no parameters. In this case, the tool tries to send one message to the local host. The message has the system id: **Test Event System Id**. The severity is 5 (for events) or the quality is 3 (for metrics).

   If you use this option, you must activate it on the SiteScope machine and add a Technology SNMP Trap Integration monitor with the system id: **Test Event System Id**.
3. After running the tool, go to the required SiteScope monitor and see if the number of messages received equals the number that you sent. In addition, you can go to one of the applications (Dashboard, System Availability Management) and see if the data that you sent is displayed.

Technology Web Service Integration Monitor Settings

Description	The Technology Web Service Integration Monitor enables a Web service entry point to SiteScope. The monitor can be used to report data from third-party Enterprise Management Systems (EMS) to SiteScope through Web service. Both event and metrics entry points into HP Business Availability Center are published for external systems to use. For each event and/or metric that SiteScope receives, a sample is forwarded to HP Business Availability Center containing the event and/or metrics values. Use this page to add the monitor or edit the monitor's properties. **To access:** In the monitor view, right-click a group and select **New > Monitor**. Select the monitor from the New Monitor Page.
Important Information	Monitors must be created in a group in the monitor tree. The monitor specific settings are described below. For details on the settings common to all monitors, see "Common Monitor Settings" on page 302.
Useful Links	"Technology Web Service Integration Monitor" on page 995

Technology Web Service Integration Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
System ID	Enter a text system id for the Technology Web Service Integration Monitor instance. Each received message from the EMS system holds a system id. Each monitor receives messages only with a system id that matches the system id defined in the monitor. The system id is unique for all monitors. Enter the system id that represents the messages that you want this monitor to receive.

Field Mapping

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Sample Type	Select from the following sample types for this integration: ➤ **Events**. For details, see "Configuring Field Mapping for Event Samples" on page 888. ➤ **Measurements**. For details, see "Configuring Field Mapping for Measurement Samples" on page 894. ➤ **Tickets**. For details, see "Configuring Field Mapping for Ticket Samples" on page 897.
Load File	Click to load the script that is applicable to the sample type selected above.
Field Mapping	The monitor uses the field mapping script to correctly map the data it collects from the monitored application to a format recognizable by HP Business Availability Center. To enable the integration, you must configure these mappings as required by the environment you are monitoring. The mapping itself is not editable in the UI. You must copy it into your preferred text editor, edit it, and then copy it back into this box. For details on the field mapping script template, see "Integration Monitor Field Mapping" on page 885.

GUI Element	Description
Test Script	Click to test the field mapping script. We recommend that you test the script before running the monitor. This test gives you the results of what events or measurements are forwarded to Business Availability Center. The test relies on an open socket connection for several minutes and then displays what data was captured for the test period. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The test does not forward samples to Business Availability Center; it tests that the configuration is correct and that data is forwarded accurately when the monitor does run.

Topology Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Topology template	Select a Jython script to create the topology in Business Availability Center for the samples retrieved from the monitored application. The monitor propogates its status to the CIs mapped in this topology. Select from: ➤ **Custom**. You create your own topology if you want the retrieved data to be forwarded to specific CIs and not the standard host or EMS monitor CIs. ➤ **Hosts.** Creates a host CI with an EMS monitor CI as a leaf node. The EMS monitor CI is the lower level node within the topology. ➤ **Hosts-Applications.** Creates a topology with an application CI as the parent CI and a host CI and EMS monitor CI as leaf nodes of the application CI. The host CI also has an EMS monitor CI as a leaf node. **Note**: We recommend not to select **Custom** as this does not load a script and you must enter the entire script yourself. We recommend that you begin with either **Host** or **Host and Application** and edit one of those scripts. For more details, see "Topology Settings for Technology Integration Monitors" on page 871.
Load Script	Click to load the required Jython script for the topology you selected in the **Topology template** option. If you selected **Custom**, there is no script to load.

GUI Element	Description
Script	The contents of the script are visible in this box. However, we recommend not to edit the contents of the script here. You must copy the contents of the script into your preferred text edit, edit the script as needed, and then copy the contents back into this box. **Note**: The Jython script is very sensitive to spaces and tabs. For more details on editing the script, see "Topology Settings for Technology Integration Monitors" on page 871.
Test Script	Click to test the topology script. We recommend that you test the script before running the monitor. This test gives you the results of what events or measurements are forwarded to Business Availability Center and what topology is mapped. The test relies on an open socket connection for several minutes and then displays what data was captured for the test period. You can also view the results of the test in the following log file: **<SiteScope root directory>\logs\bac_integration.log**. **Note**: The test does not forward samples to Business Availability Center; it tests that the configuration is correct and that data is forwarded accurately when the monitor does run.

Troubleshooting and Limitations

- Check for errors in **<SiteScope root directory>\logs\RunMonitor.log** and in **<SiteScope root directory>\logs\error.log**.
- Change the log level to DEBUG in **<SiteScope root directory>\conf\core\Tools\log4j\PlainJava\log4j.properties**, to watch outgoing samples.

  Change the line:
  log4j.category.EmsEventPrinter=${emsloglevel}, ems.appender
  to:
  log4j.category.EmsEventPrinter= DEBUG, ems.appender.

  The log file to look at is:
  <SiteScope root directory>\logs\RunMonitor.log
- If samples are created and sent from SiteScope, but the data is not seen in **Dashboard/Event Log/SiteScope reports**, look in **<HP Business Availability Center root directory>\log\mercury_wde\wdeIgnoredSamples.log** to make sure the samples were not dropped due to missing fields or values.
- Change the logging level for Dashboard to verify that Dashboard received the samples. Open the following file on the Gateway Server machine:
  <HP Business Availability Center root directory>\conf\core\tools\log4j\mercury_wde\wde.properties

  Change the log level parameter to DEBUG in the following lines:

  - log4j.category.com.mercury.am.platform.wde.decode.IgnoredSamplesLogger=${loglevel}, IgnoredSamples.appender
  - log4j.category.com.mercury.am.platform.wde.publish_SamplePublisherSamples=${loglevel}, PublishedSamples.appender

  Look at the corresponding log files:

  - **<HP Business Availability Center root directory>\logs\mercury_wde\wdeIgnoredSamples.log**
  - **<HP Business Availability Center root directory>\logs\mercury_wde\wdePublishedSamples.log**

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Integration with HP Network Node Manager

HP Business Availability Center can accept events from Hewlett-Packard Network Node Manager (NNM).

This chapter includes:

Concepts

Tasks

Network Node Manager Integration Overview

You can forward from Network Node Manager (NNM) event data by configuring NNM to run a script for each event that you want forwarded to HP Business Availability Center. The script that you write and associate with NNM can do one of the following actions:

- write the NNM data to a log file
- send an SNMP trap with the NNM data to a SiteScope server

If your script writes the data to a log you then use a Technology Log File Integration Monitor to read the data and forward it to HP Business Availability Center. If you use a script to send an SNMP trap to a SiteScope server, you use an Technology SNMP Trap Integration Monitor configured to receive it and forward to HP Business Availability Center.

Writing Scripts to Export Network Node Manager Data

The script you use should accept data from Network Node Manager as a command line argument, and process the data so that it can be forwarded to HP Business Availability Center. The following sections describe example scripts that can be used to export NNM data.

This section includes the following topics:

Sample Script for Writing to a Log File

The following Perl script receives data from the command line and writes it to a log file as a comma separated vector of values that can be parsed by the Log File Integration Monitor:

```
#!/usr/bin/perl
open LOG, ">>log1.log" or die;
print LOG (join ',', @ARGV) . "\n";
close LOG;
```

Sample Script for Sending SNMP Trap Data

The following Perl script receives data from the command line and sends it as a message in an SNMP trap (using SNMP data generated by Network Node Manager) that can be caught by a Technology SNMP Trap Integration Monitor. It accepts the host name to which the trap is sent as the first parameter and a string description of the alert as the second parameter.

```
#!/usr/bin/perl
$host = $ARGV[0];
$message = $ARGV[1];
system("snmptrap $host \"\" \"\" 6 0 5 system.sysDescr.0 " . "octetstringascii
$message");
```

Configure Events in Network Node Manager

Use the following steps to configure Network Node Manager to run a script for the requested events in Network Node Manager. The figure below shows examples of the applicable Network Node Manager pages and dialogs you use.

To configure Network Node Manager to run scripts:

1. From the **Options** menu choose **Event Configuration.**
2. Select the requested enterprise and event from the **Event Configuration** dialog.
3. Select the Actions tab from the Edit > Events > Modify Events dialog.
4. Enter the command line for the script in the **Command for Automatic Action** text box. You may use NNM variables to pass data to the command line.
5. Click **OK** to close the **Modify Events** dialog.
6. From the **File** menu in the **Event Configuration** dialog select **Save**.

Part V

Remote Servers

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Remote Servers

This chapter includes the main concepts, tasks, and reference information for configuring SiteScope to monitor data on remote servers.

This chapter includes:

Concepts

Tasks

Reference

Remote Servers Overview

SiteScope must be able to establish a connection to the servers you want to monitor. It must also be authenticated as a user having permissions to access the Windows performance registry on the Windows remote machine and to run command line tools on the UNIX remote machine as a remote user.

Windows/UNIX Remote server options are used to set up the connection properties, such as credentials and protocols, so that SiteScope can monitor systems and services running in remote environments. You can then create monitors to watch the resources and performance counters for that server. Multiple monitors can use the same connection profile.

For details on enabling SiteScope to monitor data on remote servers, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015 and "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021.

For information about troubleshooting and limitations of SiteScope monitoring of remote servers, see "Troubleshooting and Limitations" on page 1042.

For details on configuring these settings in the user interface, see "Microsoft Windows Remote Servers User Interface" on page 1025 and "UNIX Remote Servers User Interface" on page 1032.

Note: You can use SiteScope UNIX operating system adapters to extend SiteScope to connect to, and remotely monitor versions of UNIX that are not supported by default. For details, see "UNIX Operating System Adapters" on page 1089.

Configure SiteScope to Monitor a Remote Microsoft Windows Server

This task describes the steps involved in configuring SiteScope to monitor data on remote Windows servers.

This task includes the following steps:

- "Enable SiteScope to Monitor Data on Remote Windows Servers" on page 1015
- "Configure User Permissions for Remote Monitoring" on page 1015
- "Configure and Test the Settings for the Windows Remote Server" on page 1016
- "Results" on page 1016

1 Enable SiteScope to Monitor Data on Remote Windows Servers

To enable SiteScope to monitor data on remote Windows servers, you must perform one of the following steps:

- Define an individual remote Windows server connection profile for each server. For details on how to perform this task, see "Define Remote Windows Server Connection Profiles" on page 1017.
- Set domain access privileges to permit SiteScope to access remote servers. For details on how to perform this task, see "Set Domain Privileges for SiteScope Monitoring" on page 1017.

2 Configure User Permissions for Remote Monitoring

Configure the user permissions to access the remote machine according to the operating system on the SiteScope machine. For details on how to perform this task, see "Configure User Permissions for Remote Monitoring" on page 1019.

3 Configure and Test the Settings for the Windows Remote Server

Configure the remote Windows server in the remote server tree. For details on the user interface, see “Microsoft Windows Remote Servers User Interface” on page 1025.

After defining the Microsoft Windows remote server definition for SiteScope, click the **Test** button for the applicable server to test the connection.

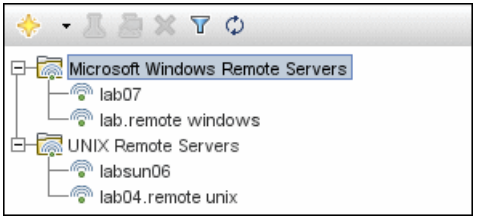
Note:

- If an "unable to connect to remote machine" error message opens when trying to view remote counters, refer to the Microsoft Knowledge Base (http://support.microsoft.com/kb/300702/).
- Testing SSH connectivity to a remote Windows server using the Plink connection method for key-based Authentication returns a success message even if the test fails.

---

4 Results

The server is added to the list of remote Windows Remote servers in the remote server tree. You can then create monitors to watch the resources and performance counters for that server. Multiple monitors can use the same connection profile.



Define Remote Windows Server Connection Profiles

Monitoring remote Windows server data requires authenticated access to the remote server. A Windows server connection profile provides the necessary address and login credentials for SiteScope to log on to a remote server and to access the Windows performance registry on that remote machine.

To log on to a remote server using the Windows server connection profile, either:

- Log on to the remote server as a user with administrator privileges, or
- Create or modify a user account on the remote server that corresponds with the connection method and login permissions used in the SiteScope connection profile for that server.

Set Domain Privileges for SiteScope Monitoring

SiteScope for Windows automatically generates a list of servers visible in the local domain. These servers are listed in the Servers list for monitor types where a server must be specified. SiteScope running on Windows may be able to use this list to monitor remote Windows servers without having to create individual connection profiles for each server.

To set domain privileges, use one of the following methods:

- **Set the SiteScope service to run as a user in the Domain Admin group.**

  By default, SiteScope is installed to run as a Local System account. You can set the SiteScope service to log on as a user with domain administration privileges. This gives SiteScope access privileges to monitor server data within the domain. For details on how to change the SiteScope account user, see "Change the User Account of the SiteScope Service" on page 1018.

- **Add the server where SiteScope is running to the Domain Admin group in ActiveDirectory (for Windows 2000 or later).**

  With this option, the SiteScope service is set to log on as a Local System account, but the machine where SiteScope is running is added to a group having domain administration privileges.

➤ **Edit the registry access permissions for all machines in the domain to allow non-admin access.**

This option requires changes to the registry on each remote machine that you want to monitor. This means that while the list of servers in the domain includes all machines in the domain, only those remote machines whose registry has been modified can be monitored without use of a connection profile.

Change the User Account of the SiteScope Service

This task describes the steps involved in changing the user account of the SiteScope service.

To change the user account of the SiteScope service:

1. Select **Start** > **Programs** > **Administrative Tools** > **Services**, and select **SiteScope** from the list of services. The SiteScope Properties dialog box opens.
2. Click the **Log On** tab, and in the **Log on as** area, enter an account that can access the remote servers.
3. Click **OK** to save your settings and close the SiteScope Properties dialog box.
4. Right-click **SiteScope**. Click **Stop** to stop the SiteScope service.
5. Click **Start**. The SiteScope service now uses the new account.

Configure User Permissions for Remote Monitoring

For SiteScope to collect performance measurements on a remote machine, SiteScope must have permission to access the remote machine. This task describes how to configure user permissions according to the operating system on the SiteScope machine.

Note:

- Microsoft Best Practice recommends giving permissions to groups instead of to users.
- Back up the registry before making any registry changes.

To configure Windows XP and Windows 2003:

1. On the SiteScope machine, select **Start** > **Run**. In the Open text box, enter **Regedt32.exe**. The Registry Editor dialog box opens.
2. In the **HKEY_LOCAL_MACHINE** window, select **SOFTWARE** > **Microsoft** > **Windows NT** > **CurrentVersion** > **Perflib**.
3. Click **Security** in the Registry Editor tool bar and select **Permissions**. The Permissions for Perflib dialog box opens.
4. In the Name pane, highlight the user SiteScope uses to access the remote machine. In the Permissions pane, select the **Allow** check box for **Read**. Click **OK** to save the configuration and close the Permissions for Perflib dialog box.
5. In the **HKEY_LOCAL_MACHINE** window, select **SYSTEM** > **CurrentControlSet** > **Control** > **SecurePipeServers** > **winreg**. Click **Security** in the Registry Editor tool bar and select **Permissions**. The Permissions for Winreg dialog box opens.

6 In the Name pane, highlight the user that SiteScope uses to access the remote machine. In the Permissions pane, select the **Allow** check box for **Read**. Click **OK** to save the configuration and close the Permissions for Perflib dialog box.

7 In the Registry Editor tool bar, click **Registry** and select **Exit** to save the configuration and exit.

8 Restart the SiteScope machine.

Note: For information about enabling non-administrative users to monitor performance on a remote machine, refer to the Microsoft Knowledge Base (http://support.microsoft.com/kb/q164018/).

To configure Windows 2000:

1 On the SiteScope machine, select **Start** > **Programs** > **Administrative Tools** > **Computer Management**. The Computer Management dialog box opens.

2 In the System Tools tree, expand the **Local Users and Groups** tree and select **Groups**. All groups on the machine are listed in the right-hand pane.

3 In the right-hand pane, select the **Administrators** group. The Administrators Properties dialog box opens.

4 If the user that SiteScope uses to access the remote machine is listed in the Members pane, go to step 5. If the user is not listed, click **Add**. The Select Users or Groups dialog box opens.

   a Enter the user in the text box.

   b Click **OK** to save the configuration and close the Select Users or Groups dialog box.

5 Click **OK** to save the configuration and close the Administrators Properties dialog box.

6 In the Computer Management dialog box, click **File** in the tool bar and select **Exit**.

7 Restart SiteScope on the SiteScope machine.

Configure SiteScope to Monitor a Remote UNIX Server

This task describes the steps involved in configuring SiteScope to monitor data on remote UNIX servers.

This task includes the following steps:

- "Enable SiteScope to Monitor Data on Remote UNIX Servers" on page 1021
- "Configure and Test the Settings for the UNIX Remote Server" on page 1021
- "Results" on page 1022

1 Enable SiteScope to Monitor Data on Remote UNIX Servers

To enable SiteScope to monitor data on remote UNIX servers, define an individual remote UNIX server connection profile for each server. For details on how to perform this task, see "Define Remote UNIX Server Connection Profiles" on page 1022.

2 Configure and Test the Settings for the UNIX Remote Server

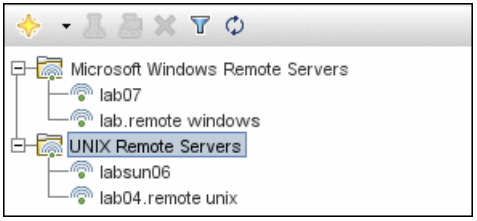
a Configure the remote UNIX server in the remote server tree. For details on the user interface, see "UNIX Remote Servers User Interface" on page 1032.

b Test the settings for the applicable server.

- Click the **Test** button to test the connection to the server.
- Click the **Detailed Test** button to test the running commands on the remote host and check the permissions for the defined user.

3 Results

The server is added to the list of UNIX Remote Servers in the remote server tree. You can then create monitors to watch the resources and performance counters for that server. Multiple monitors can use the same connection profile.



Define Remote UNIX Server Connection Profiles

Monitoring remote UNIX server data requires authenticated access to the remote server. A UNIX server connection profile provides the necessary address and login credentials for SiteScope to log on to a remote server.

To log on to a remote server using the UNIX server connection profile, either:

- Log on to the remote server as a user with administrator privileges, or
- Create or modify a user account on the remote server that corresponds with the connection method and login permissions used in the SiteScope connection profile for that server.

Remote Servers User Interface

This section describes:

- Remote Server Properties Page on page 1023
- Microsoft Windows Remote Servers User Interface on page 1025
- UNIX Remote Servers User Interface on page 1032

Remote Server Properties Page

Description	Displays information about the remote servers configured in your network environment. Use this page to add, edit, or delete remote server profiles. **To access:** Open the **Remote Servers** context. In the remote servers tree, click the **Microsoft Windows Remote Servers** or **UNIX Remote Servers** container.
Important Information	You cannot delete a server from the list of remote servers if the server is referenced by a monitor. Select a different server in the **Server** box of the Monitor Settings panel for each monitor that references the remote server, and then delete the remote server from the remote server list.
Included in Tasks	"Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015 "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021
Useful Links	"Remote Servers Overview" on page 1014 "Microsoft Windows Remote Servers User Interface" on page 1025 "UNIX Remote Servers User Interface" on page 1032

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
	Click the **Edit Remote Server** button to edit the properties of the selected remote server.
	Click the **Delete Remote Server** button to delete the selected server from the tree.
	Click the **Test** button to test the connection to the server.

GUI Element (A-Z)	Description
	Click the **Detailed Test** button to run a test that displays the result of running commands on UNIX remote servers. This enables checking the permissions for the defined user.
	Click the **Select All** button to select all listed remote servers.
	Click the **Unselect All** button to clear the selection.
New Microsoft Windows/UNIX Remote Server	Click to configure a remote server and add it to the tree.
Name	The name by which the remote server is known in SiteScope.
Server	The IP address or name of the monitored remote server.
Status	The connection status of the remote server. If SiteScope is unable to connect to the remote server, a reason for the connection failure is provided.
Operating System	The operating system that is running on the remote server.
Method	The connection type for monitoring the server resources (NetBIOS, SSH, HTTP, Rlogin).
Description	A description of the remote server.

Microsoft Windows Remote Servers User Interface

Description	SiteScope on Windows can monitor systems and services running on remote Windows servers for a large number of statistics without the installation of agent software on each server. This includes monitoring server resources such as CPU, Disk Space, Memory, and Windows-specific performance counter data. Select the servers to display when configuring monitors. SiteScope creates a new remote connection profile for each server address in the list. **To access:** Open the **Remote Servers** context. In the remote servers tree, expand the **Microsoft Windows Remote Servers** container, and select a Windows server that has been configured in SiteScope.
Important Information	You cannot delete a server from the list of remote servers if the server is referenced by a monitor. Select a different server in the **Server** box of the Monitor Settings panel for each monitor that references the remote server, and then delete the remote server from the remote server list.
Included in Tasks	"Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015
Useful Links	"Remote Servers Overview" on page 1014 "Remote Server Properties Page" on page 1023 "Troubleshooting and Limitations" on page 1042

General Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a name by which the remote machine should be known in SiteScope. This name appears in the **Server** list of monitors that can use this connection profile. **Note when working in template mode:** ➤ For each template monitor that requires this remote server, you must enter this same value in the **Servers** box for the template monitor. ➤ Names must be unique, otherwise the deployment fails.
Description	Add a text description for the remote Windows server. This text appears only when editing the remote's properties.

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	Enter the real IP address or UNC name of the monitored Windows server (virtual IP addresses are not supported). An IP host name also works if the SiteScope server is able to translate this common name into an IP address by using a hosts file, DNS, or WINS/DNS integration. To use the same login credentials to configure multiple servers at the same time, enter the server names or addresses separated by a comma (","), semi-colon (";"), or a space. **Example:** If using NetBIOS to connect to other servers in an NT domain, enter a comma-separated string of server addresses such as: \\server1,\\server2,\\server3,\\server4. **Note:** In the list of Windows Remote Servers, click the **Test**  button to test connectivity after the profiles have been added. **Note when working in template mode:** Enter the name of a template variable that represents the remote server name, for example, %%host%%. This enables you to add each server as you deploy the template when asked to enter the required information for the variables. Each time you enter a server name for the variable, a monitor instance is created for that server and the server is added to the remote server tree. If the host name does not match a server name at that time, the monitor fails. If the remote servers onto which you want to deploy monitor templates already exist under Remote Servers, you can reference these servers within the monitor template. You do this by referencing the system variable $$SERVER_LIST$$ which identifies the servers accessible to the SiteScope. For details, see "Syntax for System Variables" on page 1256.

GUI Element	Description
Credentials	Select the option for providing the user name and password for the remote Windows server. ➤ **Use user name and password.** Select this option to manually enter user credentials. ➤ **User name.** Enter the user name for the remote server or use a template variable that represents the user login name (for example, %%user%%). **Note:** If the server is within the same domain as the SiteScope machine, include the domain name in front of the user login name. For example: <DOMAIN>\<username>. If using a local machine login account for machines within or outside the domain, include the machine name in front of the user login name. For example: <machinename>\<username>. ➤ **Password**. Enter the password for the remote server or the passphrase for the SSH key file, or use a template variable that represents the password (for example, %%password%%). When using SSH authentication with public/private key based authentication enter the passphrase for the identity file here. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password for the server (selected by default). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Trace	Select to trace messages to and from the subject server, recorded to the SiteScope RunMonitor.log file. **Default value:** Not selected

GUI Element	Description
Method	SiteScope uses one of two connection types for monitoring Windows server resources. From the drop-down list select: ➤ **NetBIOS.** The default server-to-server communication protocol for Microsoft Windows NT and 2000 networks. ➤ **SSH.** Secure Shell, a more secured communication protocol that can be installed on Microsoft Windows NT/2000 based networks. This connection method normally requires installing SSH libraries on each server to be connected. For more information see "SiteScope Monitoring Using Secure Shell (SSH)" on page 1049.
Remote machine encoding	Enter the encoding for the remote server, if the remote server is running an operating system version that uses a different character encoding than the server on which SiteScope is running. This enables SiteScope to display encoded content correctly. **Default value:** Cp1252 encoding

Advanced Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SSH connection method	Select the client to use for this connection from the list. The currently supported clients are: ➤ **Internal Java Libraries.** Connect using the Java SSH client integrated with SiteScope. ➤ **Plink/External SSH.** Connect using an external SSH client. On Windows, SiteScope includes Plink.
SSH port number	Enter the port on which the remote SSH server is listening. **Default value:** 22

GUI Element	Description
Connection limit	Enter the number of open connections that SiteScope allows for this remote. If there are many monitors configured to use this connection, set the number of open connections high enough to relieve a potential bottleneck. **Default value:** 3 **Note:** This setting does not effect running tests for a remote server. Tests always create a new connection.
SSH authentication method	Select the authentication method to use for SSH connections from the drop-down list. The currently supported methods are: ➤ **Password.** Authenticate using a password. ➤ **Key File.** Authenticate using public/private key authentication. When this option is selected SiteScope uses the private key in the file **<SiteScope root directory>\groups\identity** to authenticate. The corresponding public key must be listed in the **authorized_keys** file on the remote host. For information about SSH requirements, see "SiteScope Monitoring Using Secure Shell (SSH)" on page 1049.
Disable connection caching	Select to turn off connection caching for this remote. By default, SiteScope caches open connections.
Key file for SSH connections	Enter the path and name of the file that contains the private key for this connection. The default key file is **<SiteScope root directory>\groups\identity**. This setting applies only when the authentication method is Key File.
SSH version 2 only	Select to force SiteScope to use SSH protocol version 2 only. This option applies only when using the integrated Java Client. For information about configuring an external SSH client to use SSH2 protocol, see "External SSH Client Overview" on page 1074.
SSH keep alive mechanism	Select to engage a keep alive mechanism for SSH version 2 sessions. This option applies only when using the integrated Java Client.

GUI Element	Description
Custom commandline	Enter a custom command line for a remote server using the External Client. Use this option when passing specific commands to the external client to run. Valid substitution variable are: ➤ **$user$.** This translates the username entered into the remote server. ➤ **$password$.** This translates the password entered into the remote server. ➤ **$host$.** This translates the host name entered into the remote server.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

UNIX Remote Servers User Interface

Description	SiteScope can monitor systems and services running on remote UNIX servers for certain statistics (such as CPU, Disk Space, Memory, and Processes) without the installation of agent software on each server. Select the servers to display when configuring UNIX monitors. SiteScope creates a new remote connection profile for each server address in the list. **To access:** Open the **Remote Servers** context. In the remote servers tree, expand the **UNIX Remote Servers** container and select a UNIX server that has been configured in SiteScope.
Important Information	You cannot delete a remote server from the list of remote servers if the server is referenced by a monitor. Select a different server in the **Server** box of the Monitor Settings panel for each monitor that references the remote server, and then delete the remote server from the remote server list.
Included in Tasks	"Configure SiteScope to Monitor a Remote UNIX Server" on page 1021
Useful Links	"Remote Servers Overview" on page 1014 "Remote Server Properties Page" on page 1023

General Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a name by which the remote machine should be known in SiteScope. This name appears in the **Server** list of monitors that can use this connection profile.
Description	Add a text description for the remote UNIX server. This text appears only when editing the remote's properties.

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	Enter the real IP address or host name of the monitored server (virtual IP addresses are not supported). If using the HTTP method of monitoring, enter the full URL of the CGI script (for example: http://demo.thiscompany.com/cgi-bin/run.sh). To use the same login credentials to configure multiple servers at the same time, enter the server names or addresses separated by a comma (","), semi-colon (";"), or a space. **Example:** If using NetBIOS to connect to other servers, enter a comma-separated string of server addresses such as: serveraddress1,serveraddress2,serveraddress3 When completing the other required entries on the form, SiteScope creates a new remote connection profile for each server address in the list. **Note:** To test connectivity after the host is added, click the **Test**  button in the table listing the UNIX Servers. This tests only the connection to the server. Click the **Detailed Test**  button to run a test that displays the result of running commands on the remote host. This enables checking the permissions for the defined user. **Note when working in template mode:** Enter the name of a template variable that represents the remote server name, for example, %%host%%. Each time you enter a server name for the variable, a monitor instance is created for that server and the server is added to the remote server tree. If the remote servers onto which you want to deploy monitor templates already exist under Remote Servers, you can reference these servers within the monitor template. You do this by referencing the system variable $$SERVER_LIST$$ which identifies the servers accessible to the SiteScope. For details, see "Syntax for System Variables" on page 1256.

GUI Element	Description
Credentials	Select the option for providing the user name and password for the remote UNIX server. ➤ **Use user name and password.** Select this option to manually enter user credentials. ➤ **User name.** Enter the user name for the remote server or use a template variable that represents the user login name (for example, %%user%%). ➤ **Password**. Enter the password for the remote server or the passphrase for the SSH key file, or use a template variable that represents the password (for example, %%password%%). When using SSH authentication with public/private key based authentication enter the passphrase for the identity file here. ➤ **Select predefined credentials.** Select this option to have SiteScope automatically supply a predefined user name and password for the server (selected by default). Select the credential profile to use from the **Credential profile** drop-down list, or click **Add Credentials** and create a new credential profile. For details on how to perform this task, see "Configure Credential Preferences" on page 1127.
Trace	Select to trace messages to and from the remote server in the **RunMonitor.log** file. **Default value:** Not selected
Operating system	The operating system that is running on a remote server. This is required so that the correct information can be obtained from that server. Select an operating system from the list. The following operating systems are supported when defining Remote Unix servers: AIX, FreeBSD, HP, HP64, Linux, MacOSX, OPENSERVER, RHESlinux, SCO, SGI, Sun, Tru64, Tru64 4.x. For servers running versions of UNIX which are not included in the list, see "UNIX Operating System Adapters" on page 1089.

GUI Element	Description
Method	The currently supported methods are: ➤ **HTTP.** Connect to an HTTP server on the remote server and run the command using a CGI. For this method the Login and Password are optional and are used for authorizing SiteScope to log on to the remote machine if required. ➤ **Rlogin.** Log in to the remote server using the Rlogin protocol. ➤ **SSH.** Log in to the remote server using the SSH protocol. This may require additional software and setup depending on the version of UNIX. For more information on SSH requirements, see "SiteScope Monitoring Using Secure Shell (SSH)" on page 1049. ➤ **Telnet.** Log in to the remote server using Telnet. For information about the connection methods, see "Connection Methods for Remote UNIX" on page 1040.
Prompt	This is the prompt output when the remote system is ready to handle a command. **Default value: #**
Login prompt	This is the prompt output when the system is waiting for the login to be entered.
Password prompt	This is the prompt output when the system is waiting for the password to be entered.
Secondary prompt	Enter the secondary prompts if the telnet connection to the remote server causes the remote server to prompt for more information about the connection. Separate multiple prompt string by commas (,). **Example:** For Telnet connections to some remote servers, the remote server may ask what terminal type should be emulated for the connection. In this case, enter Terminal type? as the secondary prompt. The response to the secondary prompt is entered in the **Secondary Response** box below.

GUI Element	Description
Secondary response	Enter the responses to any secondary prompts required to establish connections with this remote server. Separate multiple responses with commas (,).
Initialize shell environment	Enter any shell commands to be run at the beginning of the session. Separate multiple commands with a semicolon (;). This option specifies shell commands to be run on the remote machine directly after a Telnet or SSH session has been initiated. These commands can be used to customize the shell for each SiteScope remote. Some examples include: ➤ The remote shell may not have the correct path set for SiteScope scripts to run. The following command adds the directory **/usr/local/bin** into the PATH of the current shell on the remote machine: export PATH=$PATH:/usr/local/sbin ➤ The remote shell may not be initializing the pseudo terminal correctly. Enter the following command to increase the terminal width to 1024 characters: stty cols 1024;${SHELL} **Note:** Commands after a shell invocation are not run. ➤ There have been cases where the remote Telnet Server does not echo back the command line properly. This may cause strange behavior for monitors that rely on this behavior. Enter the following command to force the remote terminal to echo: stty echo ➤ Certain UNIX shells have been known to behave erratically with SiteScope. This includes bash, ksh, and csh. Enter the following command to change the shell to sh for the SiteScope connection: /bin/sh
Remote machine encoding	Enter the encoding for the remote server if the remote server is running an operating system version that uses a different character encoding than the server on which SiteScope is running. This enables SiteScope to display encoded content correctly. **Default value:** Cp1252 encoding

Advanced Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SSH connection method	Select the client to use for this connection from the list. The currently supported clients are: ➤ **Internal Java Libraries.** Connect using the Java SSH client integrated with SiteScope. ➤ **Plink/External SSH.** Connect using an external SSH client. On Microsoft Windows, SiteScope includes Plink. On Solaris or Linux SiteScope uses an installed client such as OpenSSH.
SSH port number	Enter the port on which the remote SSH server is listening. **Default value:** 22
Connection limit	Enter the number of open connections that SiteScope allows for this remote. If there are many monitors configured to use this connection, set the number of open connections high enough to relieve a potential bottleneck. **Default value:** 3 **Note:** This setting does not effect running tests for a remote server. Tests always create a new connection.

GUI Element	Description
SSH authentication method	Select the authentication method to use for SSH connections from the list. The currently supported methods are: ➤ **Password.** Authenticate using a password. ➤ **Key File.** Authenticate using public/private key authentication. When this option is selected, SiteScope uses the private key in the file <**SiteScope root directory**>**groups****identity** to authenticate. The corresponding public key must be listed in the **authorized_keys** file on the remote host. For information about SSH requirements, see "SiteScope Monitoring Using Secure Shell (SSH)" on page 1049.
Disable connection caching	Select to turn off connection caching for this remote. By default, SiteScope caches open connections.
Key file for SSH connections	Enter the path and name of the file that contains the private key for this connection. The default key file is <**SiteScope root directory**>**groups****identity**. This setting applies only when the authentication method is Key File.
SSH version 2 only	Select to force SiteScope to use SSH protocol version 2 only. This option applies only when using the integrated Java Client. For information about configuring an external SSH client to use SSH2 protocol, see "External SSH Client Overview" on page 1074.

GUI Element	Description
SSK keep alive mechanism	Select to engage a keep alive mechanism for SSH version 2 sessions. This option applies only when using the integrated Java Client.
Custom commandline	Enter a custom command line for a remote server using the External Client. Use this option when passing specific commands to the external client to be run. Valid substitution variable are: ➤ **$root$.** This translates the SiteScope directory. ➤ **$user$.** This translates the username entered into the remote server. ➤ **$password$.** This translates the password entered into the remote server. ➤ **$host$.** This translates the host name entered into the remote server.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

Connection Methods for Remote UNIX

This table includes information on the methods for connecting SiteScope to remote UNIX servers.

Connection Method	Description
HTTP	There are some cases where it may be useful to use a Common Gateway Interface program over HTTP to access performance data or application data from a UNIX server. Two simple CGI scripts are included with SiteScope to enable access over HTTP: ➤ **<SiteScope root directory>\conf\examples\remote.pl** ➤ **<SiteScope root directory>\conf\examples\remote.sh** The **remote.pl** CGI is a Perl (version 4 and above) script that runs a command on the server; the **remote.sh** script does the same, except as a UNIX sh script. CGI commands are passed in using the COMMAND CGI variable. If you are using the CGI connection method and you want to use remote actions, remember that the permissions for both the directory containing the CGI script and the **/script** directory must enable the Web server (probably running as a user with few permissions) to run in those directories. Additionally, the scripts must have execute permission. If you want to use a CGI script that puts more restrictive limits on the commands that can be run, you can use a different CGI script. All that matters is that the CGI returns the output of the command passed in using the COMMAND variable. For greater security, we recommend that you set up your Web server to require a login/password authorization to run the script. Also, if you have a secure Web server on that server, you can set up the script to run using the Secure Sockets Layer (SSL used in HTTPS requests), so that the request and output is encrypted.
rlogin	You can set up your remote servers to require a password for rlogin, or to enable access without a password (like "rsh"). SiteScope supports either case.

Connection Method	Description
SSH	For Solaris, using the SSH access method requires that an SSH client is installed on the SiteScope machine and the SSH server installed on the servers you are monitoring. The path to the SSH client on the machine where SiteScope is running should be **/usr/local/bin/ssh** or **/usr/bin/ssh**. For information about SSH requirements, see "SiteScope Monitoring Using Secure Shell (SSH)" on page 1049. For Microsoft Windows NT or 2000, an SSH client is included in the package. For debugging, the Microsoft Windows SSH client can be run from the command line, replacing the values for the username, host name, and password: \SiteScope\tools\plink.exe -ssh myUser@myServer.myCompany.com -pw myPassword Using SSH requires that digital certificates be installed on each of the servers to which you are connecting.
telnet	Telnet is a popular method for connecting to remote UNIX servers. You can set up your remote servers to require a password for telnet, or to enable access without a password (like "rsh"). SiteScope handles either case.

Troubleshooting and Limitations

This section contains troubleshooting and limitations for issues relating to remote servers.

Troubleshooting SiteScope Monitoring of Remote Windows NT and Windows 2000 Servers

The following is additional information relating to setting up and troubleshooting SiteScope monitoring of remote Windows NT and Windows 2000 servers.

- Connect to the remote machine using PERFMON. If a connection cannot be made using this tool, there is likely a problem involving the user access permissions granted to the SiteScope account on the remote server. SiteScope requires certain administrative permissions to be able to monitor server statistics.
- For security reasons, SiteScope may not be allowed to use the permissions of a full administrator account. SiteScope can be granted restricted monitoring access by editing certain Windows Registry Keys. For information about restricting access to the registry from a remote machine, refer to the Microsoft Knowledge Base (http://support.microsoft.com/kb/q153183/).
- When you need to monitor a server which is a stand-alone server or not part of a domain already visible to the SiteScope server, try entering the machine name followed by a slash and then the login name in the **Login** box. For example, loneserver\sitescope.
- Some problems have been found when trying to monitor Windows 2000 servers from SiteScope running on Windows NT4. In many cases, the problem involves incompatibility of the DLL's used by the operating system to communicate between the servers.

Note:

- For additional information on how to secure performance data in Windows 2000, Windows NT, and Windows XP, refer to the Microsoft Knowledge Base (http://support.microsoft.com/kb/q146906/).
- For information about troubleshooting performance monitor counter problems for Windows 2000 and Windows NT, refer to the Microsoft Knowledge Base (http://support.microsoft.com/kb/152513/).

Troubleshooting Microsoft Windows Event Log Access on Remote Windows Servers

Problem:

When viewing Remote Windows event logs or getting alerts relating to monitoring a remote Windows machine, the following message is displayed:

```
The description for Event ID ( XXXX ) in Source ( XXXX ) could not be found. It contains the following insertion string(s):
The operation has completed successfully.
```

Cause:

When you view the event log on a computer from a remote computer, if the required registry keys (and referenced files) are not present on the remote computer, SiteScope is unable to format the data; hence it displays the data in a generic format.

Resolution:

The required registry entries and DLL files must be copied to the remote computer on which the event viewer application is being run.

To get the remote registry entries and DLL files onto the local SiteScope machine:

1 Locate on the remote machine which event you are not getting properly in SiteScope by finding the entry in the Event Viewer. Write down the information for the source, event id, and description. For example:

```
Source: MSExchangeSA, Event ID: 5008, Description: The message tracking log file
C:\exchsrvr\tracking.log\20020723.log was deleted.
```

2 Open the registry setting **HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EventLog\Application** and click the source (for example, MSExchangeSA).

3 Click **EventMessageFile** and write down the data for where that DLL is located (for example, C:\EXCHSRVR\bin\madmsg.dll).

4 Locate the DLL on the remote and copy it to the SiteScope machine. You can perform the copy in one of two ways:

- Use the **Initlog.exe** utility, in the BackOffice Resource Kit, Second Edition, to copy the required registry entries from the Exchange Server computer to the remote computer. This utility can also copy the required DLL files if you are logged on to Windows NT with an account that has Administrator privilege on the Exchange Server computer (see Microsoft Article Q184719).
- Use FTP, mail, and so forth, to get the file to your local drive.

5 SiteScope uses the data from the **EventMessageFile** field in step 3 to determine where to find the DLL on the local machine. You must create the same folder structure as in this step and place the file in that directory. Alternatively, you can change the directory structure to say c:\Windows\System32 (SiteScope looks in the ADMIN$ by default on the remote machine), and place the DLL in that folder, but you must have this structure and the DLL on both machines. If you do this, you must update the registry in step 3 to reflect the directory in which the DLL is located.

Troubleshooting Remote Windows Connections Using Perfex

Use the following steps to view that data is being returned when SiteScope is trying to access the remote registry:

1. Open a command window on the SiteScope server.
2. Change the directory to **<SiteScope root directory>\tools**.
3. Enter the following in a command line:

```
perfex \\MACHINE -u username -p password -d -elast "Application"
```

This command gives you the number of entries in your Application log. For example:

```
Connected to \\ex-srv as int-ss Next Record: 2369
```

4. You should list only the last 10 or 12 events to find the one you are looking for. For this example, the command is:

```
perfex \\MACHINE -u username -p password -d -elog "Application" 2355 | more
```

5. Look through each entry until you find the one you need. Note the Record id for easier searching next time when using the command in Step 3.

6 This output tells you what data SiteScope is receiving. In the example given, the following is an example of the data that typically would be returned:

```
Type: Information
Time: 02:00:24 08/01/102
Source: MSExchangeMTA
ID: 298
Category: 1
Record: 2342
Machine: EX-SRV
FILE=C:\EXCHSRVR\res\mtamsg.dll
REMOTE FILE=
String 835050d is: MTA
Next String 835054d is: OPERATOR
Next String 83505dd is: 34
Next String 835060d is: 0
Next String 835062d is:
File: C:\EXCHSRVR\res\mtamsg.dll
Remote Path:
calling FormatMessage()
Formatted Message 142 bytes long
Raw message is: The most current routing information has been loaded by the MTA,
and a text copy was saved in the fileGWART0.MTA. [MTA OPERATOR 34 0] (12)
Message: The most current routing information has been loaded by the MTA, and a text
copy was saved in the file GWART0.MTA.[MTA OPERATOR 34 0] (12)
```

The file path is where the remote file is being found. If you copy the DLL to the WINDOWS\SYSTEM, the file and remote file path like this:

```
Type: Information
Time: 03:15:00 08/01/102
Source: MSExchangeIS Public
ID: 1221
Category: 6
Record: 2350
Machine: EX-SRV
FILE=C:\WINNT\SYSTEM32\mdbmsg.dll
REMOTE FILE=\\ex-srv\ADMIN$\SYSTEM32\mdbmsg.dll
String 835054d is: 0
Next String 835056d is:
File: C:\WINNT\SYSTEM32\mdbmsg.dll
Remote Path: \\ex-srv\ADMIN$\SYSTEM32\mdbmsg.dll
LOADING LIB REMOTE: \\ex-srv\ADMIN$\SYSTEM32\mdbmsg.dllcalling
FormatMessage()Formatted Message 89 bytes long
Raw message is: The database has 0 megabytes of free spaceafter online
defragmentation has terminated.Message: The database has 0 megabytes of free
space afteronline defragmentation has terminated.
```

Troubleshooting Remote UNIX Servers Not Configured For an English Locale

Problem:

The File Monitor and Directory Monitor may fail when using UNIX remote servers that are not configured by default for an English locale or language.

Resolution:

Add "LANG=C; export LANG" to the **Initialize shell environment** property of the problematic UNIX remote server.

System Encoding Used when Displaying System Resources for Remote Hosts Connected Through NETBIOS

This limitation affects all server monitors that use encoding of the remote host to display received data.

SiteScope uses default system encoding when displaying system resources information for the remote hosts connected through NETBIOS. The **Remote machine encoding** field (available in the remote server's "Main Settings" on page 1027) is not used. For example, if system encoding is ASCII and remote encoding is Unicode, the ASCII characters are displayed correctly and the Unicode symbols are not supported.

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SiteScope Monitoring Using Secure Shell (SSH)

SiteScope supports a number of security capabilities. One of these is support for remote server monitoring using Secure Shell (SSH) connections. You can use SSH to connect to a server and automatically send a command, so that the server runs that command and then disconnects. This is useful for creating automated processing and scripting.

This chapter includes:

Concepts

Tasks

Reference

SiteScope and SSH Overview

Secure Shell (SSH), sometimes known as Secure Socket Shell, is a UNIX-based command interface and protocol for securely accessing a remote computer. It is widely used by network administrators to remotely control Web and other kinds of servers. SSH commands are encrypted and secure in several ways. Both ends of the client/server connection are authenticated using a digital certificate, and passwords are protected by encryption. Secure Shell client machines make requests of SSH daemons or servers on remote machines.

Monitoring with SiteScope over SSH has the following basic requirements:

1. The servers that you want to have monitored by SiteScope using SSH must have a SSH daemon (or server) installed and active.
2. The machine on which SiteScope is running needs to be configured with an SSH client. There are two SSH client options for use on the server or machine on which SiteScope is running:
   - SiteScope includes a SSH client written in Java and native to the SiteScope application code. This client eases the setup of SSH connections and generally uses fewer system resources than external SSH clients.
   - SiteScope on Windows includes a third-party SSH client called plink. Plink is part of a set of SSH tools called PuTTY. SiteScope on UNIX and Linux require that an external SSH be installed on the machine where SiteScope is running.

This section includes the following topics:

SSH Connectivity Options

The following table outlines the SSH connectivity options currently supported with SiteScope. For important information about configuring and managing SSH connectivity, see "Guidelines and Limitations" on page 1052.

SiteScope Platform and Client Options	Monitored Server Platform and Daemon
Windows PuTTY SSH client (included with SiteScope) or SiteScope integrated Java SSH Client	**UNIX/Linux** SSH host daemon (sshd - either proprietary or OpenSSH)
UNIX/Linux SSH client (/usr/local/bin/ssh or usr/bin/ssh) or SiteScope integrated Java SSH Client	**UNIX/Linux** SSH host daemon (sshd - either SunSSH, proprietary or OpenSSH)
Windows PuTTY SSH client (included with SiteScope) or SiteScope integrated Java SSH Client	**Windows** 1. SSH server (Cygwin OpenSSH, F-Secure, or OpenSSH for Windows) 2. RemoteNTSSH package (included with SiteScope), to be installed into the required directory on the remote server

Guidelines and Limitations

- There are two different versions of the SSH protocol: version 1 and version 2. Version 1 and version 2 are different protocols and are not compatible with each other. This means that the SSH clients and SSH hosts must be configured to use the same protocol version between them to communicate. In many cases, SSH version 1 (SSH1) is the default version used. Some security vulnerabilities have been found in SSH version 1. Also, the SSH1 protocol is not being developed anymore and SSH2 is considered the current standard. We recommend using SSH version 2 (SSH2) for all SSH connections.
- The release version number of the SSH utilities and libraries you have installed must not be confused with the version of the SSH protocol that you want to be using. For example, OpenSSH release 3.5 supports both SSH1 and SSH2 protocols. The release version 3.5 does not mean that the libraries use an SSH version 3.5 protocol. You must configure the OpenSSH software to use either SSH1 or SSH2.
- If you have set up SiteScope remote monitoring using SSH connections and then make configuration changes or upgrades to the SSH daemon or server software deployed on remote servers in the environment, it may be necessary to reconfigure the SSH connectivity between the machine on which SiteScope is running and the remote servers that are being monitored.
- The availability of the Integrated Java SSH Client is indicated by using the drop-down menu in the **SSH connection method** of the Advanced Settings section of the UNIX Remote Servers and Microsoft Windows Remote Servers page. If the option for Internal Java Libraries does not appear in the list, you can still use the Plink external SSH Client for SSH connections. You can also contact an HP sales representative to upgrade to a later version of SiteScope that includes the Integrated Java SSH Client.
- If SiteScope fails to create a connection using SSH and the error.log or runMonitor.log contain a server error message similar to "resize: unknown character exiting", this is probably caused by an invalid bash-related command. SiteScope supports basic bash environments only. Bash commands are usually found in the .bashrc file under the user default directory.

Configuring Remote Windows Servers for SSH Monitoring

The default remote connection method used by SiteScope for Windows-to-Windows connectivity and monitoring in Windows NT/2000/2003 networks is NetBIOS. While this has provided ease of connectivity, it does have several disadvantages. One is that NetBIOS is relatively vulnerable in terms of network security. Another is that it does not support remote execution scripts. Running commands on remote servers requires that scripts be run locally with commands to the remote machine being written using the UNC syntax of remote servers. Even then, some parameters are not returned from the remote server by using NetBIOS.

SiteScope supports monitoring of remote Windows NT/2000 servers using SSH. This technology has been tested with the OpenSSH binaries from Cygwin (available at http://www.cygwin.com/) installed as the SSH server on the remote server. It has also been tested with the server available from F-Secure. You may also try OpenSSH for Windows (formerly Network Simplicity "OpenSSH on Windows") which is available on SourceForge (available at http://sshwindows.sourceforge.net/).

The following is a comparison overview of two of the packages.

OpenSSH Package	Advantages	Disadvantage
Cygwin OpenSSH	1. Provides access to either Windows or UNIX-style scripting on a Windows machine. 2. Provides access to UNIX-style system tools and utilities. 3. SiteScope can access the remote server both as a Windows Remote and /or a UNIX Remote.	Complicated setup procedure.
OpenSSH for Windows	Simple setup procedure.	Only provides access to Windows commands, scripts, and utilities.

Note:

- OpenSSH for Windows and the Cygwin SSH implementations are incompatible with each other. They should not be installed on the same machine.
- If there is more than one version of the Cygwin utilities or more than one SSH server installed on a machine, there may be conflicts that prevent the SSH connections from working. An error message such as could not find entry point is one indication of this kind of conflict. If you suspect this error, search the machine for multiple copies of cygwin1.dll. It may be necessary to remove all versions of the utilities and then reinstall only a single installation to resolve this problem.

For details on configuring remote Windows servers for SSH monitoring, see "Configure Remote Windows Servers for SSH monitoring" on page 1056.

Configure Remote UNIX Servers for SSH monitoring

SiteScope for Solaris or Linux supports remote monitoring by using SSH. This task describes the steps involved in configuring remote UNIX Servers for SSH monitoring with SiteScope.

Note: Setting up the SSH hosts on the remote servers you want to monitor in the UNIX environment can be very complex and is beyond the scope of this document. Some suggested resources on installation of the OpenSSH daemon are http://www.sunfreeware.com/openssh.html (for Solaris) and http://www.redhat.com/docs/manuals/linux/RHL-7.3-Manual/ref-guide/s1-ssh-configfiles.html (for Redhat Linux).

This task includes the following steps:

- "Prerequisites" on page 1055
- "Configure the SSH Client to Connect to the Remote Servers" on page 1055
- "Configure UNIX Remote Settings to Use the SSH Connection Method" on page 1055

1 Prerequisites

For details on the requirements for configuring remote UNIX servers for SSH monitoring with SiteScope in a UNIX environment, see "Configuration Requirements" on page 1069.

2 Configure the SSH Client to Connect to the Remote Servers

After you have set up SSH servers or daemons on remote servers, you must configure the SSH client that SiteScope uses to connect to the remote servers.

For details on how to perform this task, see "SiteScope SSH Client Connection Options" on page 1068.

3 Configure UNIX Remote Settings to Use the SSH Connection Method

Once you have confirmed SSH connectivity, create or configure UNIX Remote settings in SiteScope to use SSH as the connection method.

For details on the user interface, see "UNIX Remote Servers User Interface" on page 1032.

Configure Remote Windows Servers for SSH monitoring

This task describes the steps involved in configuring remote Windows Servers for SSH monitoring with SiteScope.

This task includes the following steps:

- "Install and Configure a SSH Server" on page 1056
- "Install SiteScope Remote NT SSH Files" on page 1056
- "Configure the SSH Client to Connect to the Remote Servers" on page 1057
- "Configure Windows Remote Settings to Use the SSH Connection Method" on page 1057

1 Install and Configure a SSH Server

Install and configure a SSH server on each remote server to which you want SiteScope to connect. There are two software packages generally available that enable SSH capability:

- Cygwin environment available from RedHat at http://www.cygwin.com/. For details on how to perform this task, see "Install Cygwin OpenSSH on Windows" on page 1058.
- OpenSSH for Windows available at OpenSSH for Windows. For details on how to perform this task, see "Install OpenSSH for Windows" on page 1065.

Note: These setup steps must be performed for each server that runs the SSH daemon or server.

---

2 Install SiteScope Remote NT SSH Files

Install the SiteScope remote SSH files on each remote Windows server to enable commonly used server monitoring functions.

For details on how to perform this task, see "Install SiteScope Remote NT SSH Files" on page 1067.

3 Configure the SSH Client to Connect to the Remote Servers

After you have set up SSH servers or daemons on remote servers, you must configure the SSH client that SiteScope uses to connect to the remote servers.

For details on how to perform this task, see "SiteScope SSH Client Connection Options" on page 1068.

4 Configure Windows Remote Settings to Use the SSH Connection Method

After confirming SSH connectivity between SiteScope and the remote server, you can set up Windows Remote settings in SiteScope to use SSH as the connection method. You can then configure CPU, Disk, Memory, Microsoft Windows Performance Counter, and Script monitors to use the SSH connectivity.

For details on selecting SSH as the connection method in the user interface, in "Microsoft Windows Remote Servers User Interface" on page 1025.

Install Cygwin OpenSSH on Windows

This task describes the steps involved in installing and configuring a Cygwin OpenSSH server on Windows servers.

Important: The following instructions assume that no other Cygwin or other ssh utilities are installed on the machine and that the machine has Internet access.

Note: The user login account used to install and run the SSH daemon needs adequate permissions to install the necessary programs, configure several file options, and control Windows services. It does not need to be the account that SiteScope uses to connect to the subject server, although that account must be configured within the Cygwin installation before you can monitor that server with SiteScope.

To install and configure a Cygwin OpenSSH server on Windows NT/2000 servers:

1. Create a new System Environment variable with the following definition: CYGWIN = ntsec tty.
2. Add the string ;C:\cygwin\bin to your PATH variable. Save the changes to the variables.
3. Download the Cygwin setup program into a temporary folder. For example: C:\temp. The setup program is used to select, download, and install different packages and components available with Cygwin.
4. Run the downloaded setup program and choose the **Install from Internet** option when prompted to Choose A Download Source. Click **Next** to continue.
5. If prompted, select a root install directory where the Cygwin package should be installed. This is where the SSH daemon and related files are installed. For example, C:\cygwin. Click **Next** to continue.

6 If prompted, select a temporary directory where the Cygwin installation files should be stored. For example, C:\temp. Click **Next** to continue.

7 If prompted, select an Internet Connection option. Normally, **Direct Connection** can be used. Click **Next** to continue.

8 Select a suitable mirror site from which to retrieve the files using the selection list when prompted. Click **Next** to continue.

9 The Setup program queries the mirror site for the packages available and displays a hierarchy tree of package categories. To view and select the packages to download, click on the plus (+) symbol to the left of the category name to expand any of the package trees. Packages that are selected for download and installation display a version number in the **New** column. If a version number is not displayed for a particular package, it is not downloaded and installed. Click **Skip** to the left of package name to select the package for download.

Note: Many of the development (Devel) and database (Database) tools that may be selected by default for download are not necessary to run the SSH daemon and can be deselected to reduce download time and installation space.

Select each of the following packages for download and installation:

- cygrunsrv from the Admin branch
- cygwin-doc from the Doc branch
- pdksh from the Shells branch
- openssh and openssl from the Net branch
- your choice of UNIX-style text editor from the Editors branch (for example: vim or emacs)

Then click to download the files as prompted.

10 Depending on your installation options, the Cygwin setup downloads and installs the selected packages. You may be prompted to choose to have a shortcut to the Cygwin terminal window added to the Desktop or Program Start menu. Click to continue and complete the installation.

11 After the Cygwin setup is complete, open a Cygwin terminal window by clicking on the **Cygwin** desktop shortcut or Program Start menu item.

Note: Depending on the user profile in the Windows system, the default directory that opens in the terminal window may not be within the root Cygwin installation tree. Use the pwd command to display the current directory. Typing in the command string cd / normally changes the directory to the Cygwin root, which by default corresponds to the Windows C:\cygwin directory.

Update the default Cygwin group file with the group names in use on the machine and on your network. Use the mkgroup utility to update the default Cygwin group file with the groups defined on the server and in your domain. Examples of the commands to use are as follows:

```
mkgroup -l >> ../etc/group
mkgroup -d >> ../etc/group
```

Note:

- To have Cygwin recognize both domain and local group accounts, run the mkgroup utility twice, once for local users (-l option) and once for domain users (-d option). Remember to use >> syntax and not just >, to append entries to the file.
- If you use both the local and domain options, you must manually edit the /etc/group file (using the UNIX style text editor you downloaded) to remove any duplicate group entries. You may also want to remove group entries that are not needed for monitoring or should not have access to this machine.

Update the default Cygwin user (passwd) file with the users defined on the local machine plus any individual domain users you want to grant access to Cygwin on this machine. Use the mkpasswd utility to update the default Cygwin user file.

Examples of the commands to use are as follows:

```
mkpasswd -l >> ..\etc\passwd
mkpasswd -d -u username >> ..\etc\passwd (domain users)
```

Note:

- By default, Cygwin is set to run the OpenSSH daemon as the local user called SYSTEM. To have Cygwin recognize both domain and local machine user accounts, run the mkpasswd using the -l option to add all local users, and run it with the -d and -u options to add individual domain users. Remember to use >> syntax and not just >, to append entries to the file.
- If you use both the local and domain options, you must manually edit the /etc/passwd file (using the UNIX style text editor you downloaded) to remove any duplicate user entries. You may also change the default /home path and default shell for individual users. This may be necessary to install the RemoteNTSSH package in the /home/sitescopeaccount/ directory of the user account to be used by SiteScope.

---

12 Change the active directory to the /bin directory by typing cd /bin.

13 Create a symbolic link in the /bin directory that points to the Windows Command (CMD) shell by entering the following command line (be sure to include the trailing space and period):

```
ln -s /cygdrive/c/winnt/system32/cmd.exe .
```

14 We recommend that you change permissions and ownership of several Cygwin files and directories. Also create a log file for the SSH daemon. Enter the following command lines in the Cygwin terminal command line and press ENTER after each command line entered:

```
cd /
chmod -R og-w .
chmod og+w /tmp
touch /var/log/sshd.log
```

Note:

- Exact syntax is required, including spaces.
- Inconsistent and incorrectly assigned file and directory permissions can be one reason that the SSH daemon can not be started or that SiteScope is unable to connect to and run commands or scripts on the remote server.

---

15 Configure the SSH daemon to run as a Windows service by entering the following command:

```
ssh-host-config -y
```

When presented with the CYGWIN= prompt, type ntsec tty to match the environment variable you set at the beginning of this procedure. Normally, this configures the SSH daemon or service to restart automatically if the server needs to be restarted.

16 Configure the encryption keys and files for the SSH daemon using the following command:

```
ssh-user-config -y.
```

Enter required passphrases for several keystore files when prompted. The program asks you to re-enter the passphrase for confirmation.

17 You must change the ownership of several files and folders for use by the SSH daemon. The program does not normally run if the permissions on these files enable them to be changed or run by group or "world" level users. Enter the following command strings to restrict access to these files:

```
chown SYSTEM:Users /var/log/sshd.log /var/empty /etc/ssh_h*
chmod 755 /var/empty
```

18 Check the installation by starting and then stopping the CYGWIN sshd service using the **Programs** -> **Administrative Tools** -> **Services** panel.

Note: Cygwin includes a server utility to start the SSH daemon. However, there have been a number of situations where this method failed to start the server, whereas using the Windows Services panel was able to start the server.

---

19 Configure the default shell or command environment for the user account you use for monitoring with SiteScope. The shell you select effects what types of scripts or commands can be run remotely using the SSH connection. Use the UNIX-style text editor and edit the /etc/passwd file. Find the entry for the SiteScope login account you intend to use and change the shell from /bin/bash to the shell you want to use as described below. This is normally the last entry in the line for that account entry.

a If you chose to have SiteScope interact with the remote server using the Windows Command shell, change the default shell entry to /bin/cmd. Use this option when you plan to use Windows-style batch files and scripts You must also include the symbolic link to the Windows cmd.exe kernel in the /bin directory as described in a previous step of this procedure.

b If you chose to have SiteScope interact with the remote Windows server using a Cygwin UNIX shell, change the default shell entry to be /bin/pdksh. The SiteScope SSH client may not accurately parse Cygwin's default bash shell. You must also configure a Remote UNIX server connection to this (Windows) server that connects to the Cygwin SSH daemon.

Save the changes to the file.

20 Edit the PATH and the default prompt commands in the /etc/profile file to make sure that Cygwin can find certain files and that SiteScope can parse the output from the remote shell. Use the UNIX-style text editor and edit the /etc/profile file. Find the PATH definition entry near the top of the file. For example:

```
PATH=/usr/local/bin:/usr/bin:/bin:$PATH
```

Change this to include the following:

```
PATH=.:/usr/local/bin:/usr/bin:/bin:$PATH
```

21 To change the default prompt commands, edit the /etc/profile file, and find the section similar to the following:

```
;;
sh  | -sh   | */sh  |\
sh.exe  | -sh.exe   | */sh.exe )
#Set a simple prompt
PS1='$ '
;;
```

Immediately under this entry, add the following:

```
;;
pdksh  | -pdksh   | */pdksh  |\
pdksh.exe  | -pdksh.exe   | */pdksh.exe )
#Set a simple prompt
PS1='> '
;;
```

22 Save the changes to the file.

23 Change the active directory to the home directory of the user you have created for SiteScope monitoring.

After making these changes and starting the SSH daemon, you should be able to connect to the server using an SSH client. For information about testing SSH connectivity outside of the SiteScope application on Windows NT/2000 machines, see the section on “Testing SSH Connectivity with PuTTY Utilities” on page 1076.

Note: Any time you run the mkpasswd -l /etc/passwd command (for example, when adding a new user), edit the /etc/passwd file again to make sure that the default shell for that user is set to the required value for any account being used by SiteScope.

Install OpenSSH for Windows

This task describes the steps involved in installing and configuring an OpenSSH server on Windows servers.

The OpenSSH for Windows package is an alternative to the Cygwin SSH package and can be easier to install. Like most products, the Cygwin product and the Open SSH for Windows are subject to change. There are cases where some versions of the Cygwin SSH server have not returned the data needed for SiteScope monitoring. If the OpenSSH for Windows package can solve this problem, you should use this package in place of the Cygwin package.

To install and configure an OpenSSH for Windows server on Windows NT/2000 servers:

1. Download and install the OpenSSH for Windows package.
2. Open a command prompt and change to the installation directory (C:\Program Files\OpenSSH is the default installation path).
3. Change the active directory to the OpenSSH\bin directory.
4. You must update the default group file with the group names in use on the machine and in your network. Use the mkgroup utility to update the default OpenSSH group file with the groups defined on the server and in your domain. Examples of the commands to use are as follows:

```
mkgroup -l >> ..\etc\group
mkgroup -d >> ..\etc\group
```

Note:

- To have OpenSSH recognize both domain and local group accounts, run the **mkgroup** utility twice, once for local users (-l option) and once for domain users (-d option). Remember to use >> syntax and not just >, to append entries to the file.
- If you use both the local and domain options, you must manually edit the /etc/group file (using the UNIX style text editor you downloaded) to remove any duplicate group entries. You may also want to remove group entries that are not needed or should not have access to this machine.

---

5 You must update the default OpenSSH user (passwd) file with the users defined on the local machine plus any domain user you want to grant access to the SSH server on this machine. Use the **mkpasswd** utility to update the default user file. Examples of the commands to use are as follows:

```
mkpasswd -l >> ..\etc\passwd
mkpasswd -d -u username >> ..\etc\passwd
```

Note:

- To have OpenSSH recognize both domain and local machine user accounts, run the **mkpasswd** utility using the -l option to add all local users and run it with the -d and -u options to add individual domain users. Remember to use >> syntax and not just >, to append entries to the file.
- If you use both the local and domain options, you must manually edit the /etc/passwd file (using the UNIX style text editor you downloaded) to remove any duplicate user entries. You may also change the default /home path and shell for individual users (see instructions below).

---

6 Check the installation by starting the **OpenSSH Server** service using the **Programs** > **Administrative Tools** > **Services** panel.

Install SiteScope Remote NT SSH Files

This task describes the steps involved in installing SiteScope remote NT files on each remote Windows server according to the SSH package you are working with.

To install the SiteScope SSH Files on Cygwin installations:

1. Verify that a **\sitescope_login_account_name** directory exists within the **<install_drive>:\cygwin\home** directory on each machine that is monitored by SiteScope using SSH. Replace **sitescope_login_account_name** with the user account name you use to connect to the machine using the SSH server.
2. One of the advantages of using SSH on Windows is that it allows SiteScope to run scripts on the remote server running the SSH daemon. To be able to use the Script Monitor to run remote scripts, create a **scripts** subdirectory in the **/home/sitescope_login_account_name** directory. Scripts you create for execution by the SiteScope Script Monitor must be placed inside this directory.
3. On the machine where SiteScope is installed, find the file called **RemoteNTSSH.zip** in the **<SiteScope root directory>\tools** directory.
4. Copy this file to the **<install_drive>:\cygwin\home\sitescope_login_account_name** directory on each of the remote Windows NT/2000 servers where you have installed the SSH server or daemon software.
5. Unzip the **RemoteNTSSH.zip** file on the remote server. Place the contents of the zip file into the **<install_drive>:\cygwin\home\sitescope_login_account_name** directory. This should create a **<install_drive>:\cygwin\home\sitescope_login_account_name\scripts** subfolder. You use this subfolder to hold scripts that can be run by the SiteScope Script Monitor.
6. Start the CYGWIN sshd service on the remote server.

After you have completed the steps above, we recommend that you test SSH connectivity from your SiteScope server by using **plink.exe** or **PuTTY.exe** as described in the “Testing SSH Connectivity with PuTTY Utilities” on page 1076.

To install the SiteScope SSH Files on OpenSSH for Windows installations:

1. On the machine where SiteScope is installed, find the file called **RemoteNTSSH.zip** in the **<SiteScope root directory>\tools** directory.
2. Copy this file to the **<install_drive>:\WINNT** directory on each of the remote Windows NT/2000 servers where you have installed the SSH server or daemon software.
3. Unzip the **RemoteNTSSH.zip** file on the remote server. Extract the contents of the zip file into the **<install_drive>:\WINNT** directory. This should create an **<install_drive>:\WINNT\scripts** subfolder. You use this subfolder to hold scripts that can be run by the SiteScope Script Monitor.
4. Start the OpenSSH server service on the remote server.

After you have completed the steps above, we recommend that you test SSH connectivity from your SiteScope server by using **plink.exe** or **PuTTY.exe** as described in the "Testing SSH Connectivity with PuTTY Utilities" on page 1076.

SiteScope SSH Client Connection Options

After setting up SSH servers or daemons on remote servers, configure the SSH client that SiteScope uses to connect to the remote servers using one of the following options:

- **Configure SiteScope to use the integrated Java SSH client.** SiteScope includes an integrated SSH client written in Java. This is the recommended option for SSH connectivity because it uses fewer system resources than the external clients and configuration is usually simpler.

  For details on how to configure remote servers using an external client, see "Integrated Java SSH Client Overview" on page 1072.

- **Configure SiteScope to use an external SSH client.** SiteScope on Windows includes a third-party SSH client called plink. SiteScope for Solaris and Redhat Linux make use of the SSH utilities normally bundled with those operating systems or available for download.

  For details on how to configure remote servers using an external client, see "External SSH Client Overview" on page 1074.

Configuration Requirements

The following are requirements for configuring remote UNIX servers for SSH monitoring with SiteScope in a UNIX environment:

- Secure Shell daemons or servers (sshd) must be installed on each remote server you want to monitor with SiteScope.
- The SSH daemons on the remote servers must be running and the applicable communication ports must be open. For example, the default for SSH is port number 22.
- A SSH client must be installed on the server where SiteScope is running. The SiteScope integrated Java SSH client normally fills this requirement.
- If you use an external SSH client on Solaris or Linux, the SSH client binaries must be accessible to SiteScope. When SiteScope runs the SSH client process, it searches in both **/usr/bin** and **/usr/local/bin** for the ssh command. The ssh binaries must be in one of these two locations and SiteScope must have permissions to run the ssh command.

  You should verify SSH client-to-server connectivity from the machine where SiteScope is running to the remote machine you want to monitor. You should check SSH connectivity outside of the SiteScope application before setting up remote server connections using SSH in SiteScope. For example, if SiteScope is running on Solaris or Linux, use the following command line to request an SSH connection using SSH2 to the server <remotehost>:

  ```
  ssh -2 <remotehost>
  ```

  This normally returns text information that indicates the version of SSH protocol that is being used. Also, this attempts to authenticate the current user. Use the -l username switch to request a login as a different user.

  For SiteScope running on Windows, see the section on "Testing SSH Connectivity with PuTTY Utilities" on page 1076 for information about testing SSH connectivity outside of the SiteScope application on Windows NT/2000 machines.

  Once you have confirmed SSH connectivity, create or configure UNIX Remote settings in SiteScope to use SSH as the connection method.

31

Working with SSH Clients

If you need to use Secure Shell (SSH) to connect to remote UNIX or Windows servers, SiteScope must have access to a SSH client to make the connection and transmit data. This section contains some of the client configuration possibilities and issues involved in using SSH for SiteScope monitoring.

This chapter includes:

Concepts

Tasks

Integrated Java SSH Client Overview

SiteScope provides a SSH client written in Java that is integrated into the SiteScope application. This client significantly reduces the required system resources used by SiteScope when connecting to servers by using SSH. The Java client supports both SSH version 1 (SSH1) and version 2 (SSH2) protocols as well as both password-based and key-based authentication. The SiteScope configuration for the client is identical for UNIX, Linux, and Windows SiteScope.

This section includes the following topics:

Working with the Integrated SSH Client

While SSH1 and SSH2 are both Secure Shell protocols, they are considered to be two different protocols and are not compatible with each other. Some security vulnerabilities have been found in SSH1 that has resulted in SSH2 being considered the current standard. Most SSH software supports both protocols. However, to be sure that a request for a SSH connection uses SSH2 instead of SSH1, it is necessary to configure SSH clients and SSH hosts to use the same protocol version between them to communicate. In many cases, SSH1 is the default version used for connections, as it is considered the lowest common denominator between a SSH client and a SSH host.

There are two ways to force SSH2 connections:

- **Configure all SSH daemons or servers to accept only SSH2 connection requests.** This is the most secure option but may be the most time-consuming unless each server was configured for this option when it was installed and activated.
- **Configure the SSH client on the SiteScope server to only make SSH2 requests.** Requires changes only to the client on the SiteScope server. For the integrated Java SSH client, this can be controlled by a setting in the Advanced Options section on the remote server setup page.

Setting Up Key-Based Authentication

Another part of SSH security is authentication. The integrated SSH client for SiteScope can be configured to use one of two authentication options:

- **Password Authentication.** Password Authentication is the default method for SSH connections in SiteScope.
- **Key-Based Authentication.** Key-Based Authentication adds an additional level of security through the use of a passphrase and a public-private key authentication.

  To use Key-Based Authentication for SSH remote servers, you must first create a pair of public/private keys. The public key resides on the remote and the private key is kept on the SiteScope machine. Both Cygwin OpenSSH and OpenSSH for Windows come with a key generation tool called ssh-keygen. The ssh-keygen tool allows you to create both protocol version 1 and version 2 keys. When setting up a UNIX or Windows remote server using the Internal Java Libraries Client, use the key generation tool called MindTerm to create a public/private key pair for RSA (version 1 and version 2) and DSA (version 2).

Using SSH Version 2 Protocol

By default, the SiteScope Java client uses the SSH1 Protocol if the server it is trying to connect to allows SSH1 connections. If this negotiation fails, SiteScope attempts to connect using version 2 protocol. The SiteScope Java client can be configured to use only SSH2 connections. Making the change on the SiteScope machine may be easier than having to reconfigure a large number of remote SSH servers.

For details on configuring the Integrated Java SSH Client, see "Configure the Integrated Java SSH Client" on page 1077.

External SSH Client Overview

SiteScope provides the capability of connecting to remote servers using an external SSH client. On Windows platforms, the plink client is included with SiteScope. On UNIX and Linux platforms, SiteScope can use a standard SSH client such as SunSSH or OpenSSH.

This section includes the following topics:

Working with External SSH Clients

There are two different versions of the SSH protocol: version 1 and version 2. While they are both Secure Shell protocols, they are considered to be two different protocols and are not compatible with each other. Some security vulnerabilities have been found in SSH1 that has resulted in SSH2 being considered the current standard. Most SSH software supports both protocols. However, to be sure that a request for a SSH connection uses SSH2 instead of SSH1, it is necessary to configure SSH clients and SSH hosts to use the same protocol version between them to communicate. In many cases, SSH version 1 (SSH1) is the default version used for connections, as it is considered the lowest common denominator between a SSH client and a SSH host.

There are two ways to force SSH2 connections:

- **Configure all SSH daemons or servers to accept only SSH2 connection requests.** This option is perhaps the most secure but may be the most time-consuming unless each server was configured for this option when it was installed and activated.
- **Configure the SSH client on the SiteScope server to make only SSH2 requests.** This option requires changes only to the client on the SiteScope server. For external SSH client, this is usually controlled by using the client settings.

Setting Up SSH Authentication

Another part of SSH security is authentication. The integrated SSH client for SiteScope can be configured to use one of the following two authentication options:

- **Password Authentication.** Password Authentication is the default method for SSH connections in SiteScope.
- **Key-Based Authentication.** Key-Based Authentication adds an additional level of security through the use of a passphrase and a public-private key authentication.

Monitoring with SSH on Windows Platforms

SiteScope for Windows platforms includes a SSH client to handle connections to remote SSH-enabled servers. SiteScope includes the PuTTY SSH utilities for SSH connectivity to both UNIX and Windows servers. These utilities are found in the **<SiteScope root directory>\tools** directory.

By default, SiteScope SSH connections uses the SSH1 protocol (less secure) unless the server it is connecting to accepts only SSH2 sessions. To force SiteScope to use the SSH2 protocol (more secure), you must configure the SSH client on the machine where SiteScope is running and possibly the SSH daemons/hosts on the remote servers to communicate using the SSH2 protocol. For SiteScope on Windows, configure the PuTTY SSH client utility and SiteScope as described in "Set up SSH2 on SiteScope for Windows Platforms" on page 1082.

Note: The PuTTY and plink tools supplied with SiteScope are not the latest release versions of these tools. SSH connectivity is handled by the internal Java libraries by default. Consider checking for newer versions and replacing the files supplied with SiteScope with updated versions. More information about the PuTTY SSH client can be found at http://www.chiark.greenend.org.uk/~sgtatham/putty/ or http://www.openssh.org/windows.html.

Testing SSH Connectivity with PuTTY Utilities

We recommend that you test SSH connectivity from SiteScope on Windows to remote hosts using either the **PuTTY.exe** or **plink.exe** tools. This is also useful for troubleshooting connectivity. You can use utilities to test connectivity with a SSH host. The plink utility is run from the command line.

Setting Up SSH on SiteScope for Windows Platforms

SiteScope for the Windows platform uses plink, part of the PuTTY suite of SSH tools, to create its SSH connections for remote monitoring. By default, the plink utility uses the SSH1 Protocol if the server it is trying to connect to allows SSH1 connections. The SiteScope SSH client can be configured to use only the SSH2 protocol for connections. Making the change on the SiteScope machine may be easier than having to reconfigure a large number of remote SSH servers.

Setting up SiteScope for Windows to use only SSH2 to communicate with remote UNIX or remote Windows servers requires two actions:

1. Create settings in the SSH client on the SiteScope server to use only SSH2.
2. Modify SiteScope remote server connection profiles to use the SSH2 connection profile.

   For details on configuring the external SSH2 client, see “Configure the External SSH Client” on page 1081.

Configure the Integrated Java SSH Client

This task describes the steps involved in configuring the integrated Java SSH client.

This task includes the following steps:

- "Select an Authentication Option for SSH Connections" on page 1077
- "Configure the SiteScope Java Client to Use Only SSH2 Connections" on page 1077

1 Select an Authentication Option for SSH Connections

Select an authentication option for integrating SSH client for SiteScope: password authentication (the default method in SiteScope) or key-based authentication.

For details on how to set up key-based authentication for SSH connections, see "Set Up Key-Based Authentication" on page 1078.

2 Configure the SiteScope Java Client to Use Only SSH2 Connections

When configuring your remote server profile in Microsoft Windows/UNIX Remote Servers, select the **SSH version 2 only** check box in the Advanced Settings.

Set Up Key-Based Authentication

This task describes the steps involved in setting up Key-Based Authentication for SSH remote servers using MindTerm.

Note: When using F-Secure, the F-Secure client creates an SEC SSH formatted key and the F-Secure server understands a SEC SSH formatted key. To use the key generated using the Internal Java Libraries client (which is in openSSH key format), you must convert the openSSH key to SEC SSH format.

To create a public or private key pair:

1 Open a command window on the SiteScope server, and run the following command to launch MindTerm:

<SiteScope root directory>\java\bin\java -jar c:\<SiteScope root directory>\WEB-INF\lib\mindterm.jar

---

Note: For SiteScope 7.9.5.x and earlier, type the command: <SiteScope root directory>\java\bin\java -jar c:\<SiteScope root directory>\java\lib\ext\mindterm.jar.

---

2 In MindTerm, select **File** > **Create Keypair** > **DSA (or RSA)**. Also select OpenSSH .pub format.

3 The key pair is written to the **<USER_HOME>\mindterm** directory. Copy the **identity.pub** file to the **<SiteScope root directory>\groups** directory.

4 Copy the **identity.pub** file to the **<USER_HOME>/.ssh** directory on the remote machine and rename it **authorized_keys** (or **authorized_keys2** for SSH2).

5 On the remote machine, run the following command in the **<USER_HOME>/.ssh** directory, and make sure that User has read, write, and execute permissions, and that Group and Other have read permissions on the **authorized_keys** file.

6 Create a remote connection in SiteScope for the remote server using key file authentication and Internal Java Libraries.

The private key goes in the **<SiteScope root directory>\groups** directory and the public key in the **<USER_HOME>/.ssh/authorized_keys** file on the remote machines.

The key generated from MindTerm is in **Openssh** format.

Note: You must verify that the server key and the MindTerm key are at the same level. For example, if the server key is 768 bit and the MindTerm key is 1024 bit, the authentication procedure fails.

To find out what your server is using:

1 Stop the sshd service on the remote server. On a Red Hat Linux server, run the command:

/etc/rc.d/init.d/sshd stop

2 Start the sshd service in debug mode on the remote server. On a Red Hat Linux server, run the command:

/usr/sbin/sshd -d

You should see output similar to Generating 768 bit RSA key.

Note: When using the **Key File for SSH connections** box in SiteScope, if there is a trailing space after the information entered, this causes an "unknown error (-1)" failure. Remove the trailing space to fix the problem.

To convert the openSSH key to SEC SSH format:

1. Create a RSA key in MindTerm (which is an openSSH key pair).
2. Run the following command on the remote server to convert the openSSH key to SEC SSH format:

   ssh-kegen -e -f <public key>

3. Leave the private key on the SiteScope server in the openSSH format.

Note: When using Key-Based authentication, the Key File supplied must be a version 2 private key.

Configure the External SSH Client

This task describes the steps involved in configuring the external SSH client.

This task includes the following steps:

- "Set the SiteScope PuTTY Client to Use SSH2" on page 1081
- "Configure SiteScope to Use SSH2" on page 1082
- "Test SSH Connectivity with PuTTY Utilities" on page 1082
- "Configure SiteScope to Use SSH2" on page 1082

1 Set the SiteScope PuTTY Client to Use SSH2

Create settings in the SSH client on the SiteScope server to use only SSH2.

For details on how to perform this task, see "Set up SSH2 on SiteScope for Windows Platforms" on page 1082.

2 Select an Authentication Option for SSH Connections

Select an authentication option for integrating SSH client for SiteScope: password authentication (the default method in SiteScope) or key-based authentication.

For details on how to set up key-based authentication for SSH connections, see the instructions for creating Public Keys using the PuTTYGen tool at http://the.earth.li/~sgtatham/putty/0.60/htmldoc/Chapter8.html#pubkey.

Note: SSH uses DES, BLOWFISH, RSA, or other public key cryptography for both connection and authentication. Public Keys are stored on a per-user basis so if you are using key-based logins instead of password-based logins, you should log in and run the PuTTYGen tool using the same account that is used by the SiteScope service.

---

3 Test SSH Connectivity with PuTTY Utilities

Test SSH connectivity from SiteScope on Windows to remote hosts using either the **PuTTY.exe** or **plink.exe** tools.

For details on how to perform this task, see "Test SSH Connectivity with PuTTY" on page 1084.

4 Configure SiteScope to Use SSH2

Modify SiteScope remote server connection profiles to use the SSH2 connection profile.

For details on how to perform this task, see "Configure SiteScope to Use SSH2" on page 1085.

Set up SSH2 on SiteScope for Windows Platforms

This task describes the steps involved in setting up the PuTTY client on the SiteScope server to use only SSH2.

To set up PuTTY to use SSH2:

1. Log on to the server where SiteScope is running as the user who runs the SiteScope service. To see which user this is, open the Services control panel, right-click the SiteScope service, select **Properties**, and click the **Log On** tab.
2. Find the **PuTTY.exe** tool in the **<SiteScope root directory>\tools** directory. Alternatively, you can download an updated PuTTY version from the Internet.
3. Launch the PuTTY utility by double-clicking the icon in Windows Explorer (or typing **putty** in a command window with a path to the **<SiteScope root directory>\tools** directory). No installation steps are needed. The Putty Configuration console opens.
4. With the **Session** tab or tree selected, enter the host name or IP address of the remote machine to be monitored in the **Host Name** box. Select the SSH radio button below the host name in the Protocol section.

5 Select the **Connection** tab or tree, and enter the user name on the remote machine in the Auto-login user name box. This should be a user account with permissions to monitor processes and hardware statistics on the remote server. Optionally, this user account might also have execution privileges to enable SiteScope to run scripts on the remote server.

6 Select the **SSH** tab or tree under the Connection tree, and then choose the **2** radio button in the Preferred SSH Protocol Version section.

7 Return to the Session tab. In the Saved Sessions text box, enter a name for these settings. Any previously saved settings appear in the list box below.

Note: The Saved Session name should not be a resolvable host name on your network, nor can it contain a white space character. For instance, if these settings are for a machine named myhost.mydomain.com, the session settings name cannot be myhost, myhost.mydomain.com, or myhost settings (the latter is not allowed because of the white space between the words). Choose a name, such as myhost-settings.

---

8 Click the **Save** button. The name of your new settings should appear in the list of saved settings.

Repeat this process to create settings for each remote machine you wish to monitor with SiteScope using SSH2.

Note: Make a note of the Saved Session name for each machine that you configure, to enter this name into the SiteScope configuration file.

Test SSH Connectivity with PuTTY

This task describes the steps involved in testing SSH connectivity from SiteScope on Windows to remote hosts using either the **PuTTY.exe** or **plink.exe** tools.

To test SSH connectivity with PuTTY:

1. Log on to your Windows machine as the user who runs the SiteScope service.
2. Open a command window to the **<SiteScope root directory>\tools** directory.
3. Run the plink utility with the following syntax:

   plink -ssh <remoteuser>@<hostname>

   where <remoteuser> is the login username for a valid user account on the <hostname> server.
4. Follow the prompts in the terminal window to confirm that the remote login is successful. Log out of the terminal session when you are satisfied that the connection is working correctly.

   If you want to use the SSH2 protocol for connections, you must use the PuTTY utility to configure the PuTTY client to use SSH2 instead of the default SSH1. This requires that you save session settings as described in the section "Set up SSH2 on SiteScope for Windows Platforms" on page 1082. After you have done this, you can also use PuTTY to test SSH connectivity.

To test SSH2 connectivity with PuTTY:

1. Log on to your Windows machine as the user who runs the SiteScope service.
2. Launch the PuTTY utility.
3. From the Session tab or tree, select the Saved Session name of the remote connection you want to test and click the **Load** button to the right of the selection box.
4. Click the **Open** button near the bottom of the dialog box. This launches a terminal emulation window.

5 Follow the prompts in the terminal window to confirm that the remote login is successful.

6 Log out of the terminal session when you are satisfied that the connection is working correctly.

Configure SiteScope to Use SSH2

This task describes the steps involved in configuring SiteScope to use SSH2 for connecting to remote UNIX or remote Windows servers.

To configure SiteScope to use SSH2:

1 Open SiteScope in a Web browser.

2 In the remote server view, right-click **Microsoft Windows/Unix Remote Servers**, and select **New Microsoft Windows/UNIX Remote Server**.

3 Configure the remote server settings as follows:

- **Server.** Enter the name of the settings you saved. For example, to use the settings for myhost.mydomain.com, type myhost-settings in the box.
- **User name.** Leave the box empty.
- **Password.** Enter the password to log in to the remote machine.

For UNIX remote servers:

- **Operating system.** Select the applicable operating system of the target remote server.
- **Prompt.** If the shell prompt for the remote UNIX server is something other than #, enter that prompt in the box.
- **Login prompt.** Leave the box empty.
- **Password prompt.** Leave the box empty.

Click **OK** to add the remote server profile.

Note: The remote connection test fails. You may see a message similar to the following error message:

```
Connecting to myhost-settings...
Waiting for prompt(#)...
Unable to open connection:
Host does not exist
Remote command error: unknown host name (-997)
```

Go to the <**SiteScope root directory**>**groups** directory and make a backup copy of the **master.config** file. Rename the backup file to **master.config.SAV**.

---

4. Open the **master.config** file in a text editor, and locate the section of entries or lines beginning with the string _remoteMachine. If you have configured multiple remote server connections, there are multiple entries that begin with this string. Locate the line that includes the string _host=myhost-settings, where myhost-settings is the name of the host settings you entered in the Server Address box in PuTTY Configuration tool.
5. Add the following string to the end of that line:

```
_sshCommand=<SiteScope root directory>\tools\plink.exe_-ssh_$host$_-pw_$password$
```

Note: This string must be entered on the same line. Do not add any carriage returns, new lines, or extra spaces.

Replace <**SiteScope root directory**> with the path to your SiteScope installation. For example, if SiteScope is installed at C:\SiteScope, the string would read:

```
_sshCommand=C:\SiteScope\tools\plink.exe_-ssh_$host$_-pw_$password$
```

After you have finished making modifications, the entire line should look similar to the following example:

```
_remoteMachine=_os=Linux _id=11 _trace= _method=ssh
_password=(0x)MGJJKDKLKJNINPNJMJ _login= _host=myhost-settings
_name= _sshCommand=C:\SiteScope\tools\plink.exe_-ssh_$host$_-
pw_$password$
```

Note: This example wraps across multiple lines to fit on this page. When entering this setting into the SiteScope configuration file, be sure that it is entered all a single line.

---

6. Repeat this step to modify each _remoteMachine entry, using the applicable host name setting created for each host using the PuTTY Configuration tool in the previous section.
7. Save and close the **master.config** file.
8. Stop and restart the SiteScope service.
9. Open a Web browser to the SiteScope server, and in the remote server view, click **Microsoft Windows/UNIX Remote Servers**.
10. In the Servers table for the remote you configured, click the **Test** button (for Windows remote servers) or **Detailed Test** button (for UNIX remote servers) to test the connection and verify that it works.

32

UNIX Operating System Adapters

This chapter includes the main concepts, tasks, and reference information to enable SiteScope to monitor different versions of UNIX.

This chapter includes:

Concepts

Tasks

Reference

SiteScope UNIX Operating System Adapters Overview

You can use SiteScope UNIX operating system adapters to extend SiteScope to connect to, and remotely monitor other versions of UNIX, in addition to those supported by default. This is done by configuring an adapter file to support the particular version of UNIX you want to monitor.

SiteScope uses adapter files to describe the commands that are needed to retrieve a variety of system resource information from servers running different versions of the UNIX operating system. These adapter files are written in plain text and are stored in the **SiteScope/templates.os** directory. For a list of the default UNIX adapters that are provided with SiteScope, see "UNIX Adapters Provided with SiteScope" on page 1091.

You can modify existing adapter files to adjust for specific system requirements in your environment. You can also create your own adapter files to enable SiteScope monitoring of other UNIX versions.

Add an Adapter

This task describes the steps involved in adding an adapter to specific versions of UNIX.

To add a UNIX adapter:

1. Read the Adapter Kit documentation thoroughly.
2. If the UNIX platform to which you want to add support is similar to one of the default SiteScope-supported UNIX platforms, make a copy of the adapter file for that UNIX version and use that as a starting point for your adapter.
3. Modify the adapter file to match the command line requirements for the UNIX version to which you want SiteScope to connect.
4. Save your adapter file to the **SiteScope/templates.os** directory. The filename must use the **.config** extension.
5. Open the installation SiteScope to which you have added the new adapter file.
6. In the left pane, click **Remote Servers** to display the remote servers view.
7. In the remote servers tree, right-click **UNIX Remote Servers**, and select **New UNIX Remote Server**. The New UNIX Remote Server dialog box opens.
8. In the **Operating system** box, select the name of the UNIX adapter that you have created.

9 Click **OK**. SiteScope uses the new adapter file to try and retrieve that applicable data from the remote server.

10 If you make changes to the adapter file after you have configured one or more server connection profiles to use the adapter, you can use the **Detailed Test** option in the UNIX Remote Servers to test your adapter. After adding the remote server, the Detailed Test displays the output of the command that SiteScope is running remotely, along with SiteScope's parsing of the output.

The amount of work required to modify a particular template depends on how different the new UNIX platform is from the supported UNIX platforms.

UNIX Adapters Provided with SiteScope

The default UNIX adapters that are provided with SiteScope, include:

Filename	Description
AIX.config	Adapter file for IBM AIX
Digital.config	Adapter file for Digital Tru64 UNIX (Pre 4.x)
FreeBSD.config	Adapter file for FreeBSD 3.x
HP.config	Adapter file for Hewlett-Packard HP/UX
HP64.config	Adapter file for Hewlett-Packard HP/UX 64-bit
Linux.config	Adapter file for Linux (Redhat and others)
MacOSX.config	Adapter file for Apple MacIntosh OS X
OPENSERVER.config	Adapter file for SCO OpenServer
SCO.config	Adapter file for SCO UNIXWare
SGI.config	Adapter file for Silicon Graphics Irix
Sun.config	Adapter file for Sun Microsystems Solaris
Tru64.config	Adapter file for Compaq Tru64 UNIX 5.x

Adapter File Format

Each UNIX platform supported for remote monitoring by SiteScope has an adapter file in the **SiteScope/templates.os** directory. These files use SiteScope's standard setting file format.

The first group of settings (those settings before the first # sign line) describe the platform:

```
id=yourPlatform
name=your Platform Name
```

The id is the SiteScope internal ID for the OS. This ID must be unique, contain no spaces, and can be alphanumeric. We recommend that you use the name of the adapter file as the ID name. For example, if the name of your adapter file is linux.config, your ID would be linux.

The name is the name you want displayed in the drop-down list when adding or editing remote servers.

The rest of the template file contains groups of settings representing a single command, separated by a line of # characters. For example, the following settings represent the disk space command:

```
id=disks
command=/usr/bin/df -k
mount=6
name=1
```

Where:

id=disks is the id that SiteScope uses to look up a command. This must be one of the set of SiteScope commands (see "Adapter Command List" on page 1093). This entry is case sensitive.

command=/usr/bin/df -k means that the usr/bin/df -k command is run to get the information about the disks.

mount=6 and name=1 mean that the mount name is in column 6 and the name of the mount or file system is in column 1. The data names vary from command to command and are documented below.

Applying the above for the following command output:

```
Filesystem kbytes used avail capacity Mounted on /proc 0 0 0 0%
/proc /dev/dsk/c0t3d0s0 73049 42404 23341 65% /
```

where the disks command automatically skips lines not starting with (/dev) reads column 1 (/dev/dsk/c0t3d0s0) as the name of the file system, and column 6 ("/") as the mount name.

Adapter Command List

SiteScope requires settings for each the following commands to operate properly. Each command description requires an ID and a command, one or more fields to specify where the data is being read from, and optionally a set of modifiers that are used to filter the output of the command to eliminate certain sets of lines (such as header lines).

Where the variable column is used below, it means the number of the column in which the data appears, where columns are space delimited sets of data.

In addition, there are certain fields that can be optionally applied to any command description. For details, see "Optional Adapter Command Details" on page 1097.

Disk Listing

ID	Description	Used by	Fields
disks	Returns a list of the file systems on the system. The /usr/bin/df -k command is the standard way to get this data. Lines returned that do not start with /dev are automatically skipped.	Disk Space Monitor	**name**. The column of the name of the file system. **mount**. The column of the name of the mount.

Disk Information

ID	Description	Used by	Fields
disk	Takes a disk as an argument and returns the total, free, and percent used for the disk.	Disk Space Monitor	**total**. The column of the total kilobytes capacity of the file system. **free**. The column of the free kilobytes of the file system.

Memory

ID	Description	Used by	Fields
memory	The amount of swap spaced used and available.	Memory Monitor	**swapUnit**. The multiplier applied to used, free, or total swap space to give bytes. **used**. The amount of swap space used. **free**. The amount of swap space free. **total**. The amount of total swap space. **Note:** Only two of used, free, and total fields need to read. The other is computed.

Page Faults

ID	Description	Used by	Fields
pageFault	The number of page faults/sec. If multiple page faults lines are matched, they are added up.	Memory Monitor	**pageFaults**. The column of the number of page faults. **inPageFaults**. The column of the number of page in faults. **outPageFaults**. The column of the number of page out faults. **units**. pages (default), pages/sec, or k/sec units for the paging data. **pageSize**. If units are k/sec, the **pageSize** is used to compute the number of pages. Otherwise it is ignored. **Note:** Either use **pageFaults**, if there is a single column of data, or **inPageFaults** and **outPageFaults**, if there are two columns of page fault data. **inPageFaults** and **outPageFaults** are added together to get the total page faults.

CPU Usage

ID	Description	Used by	Fields
cpu	Returns the wait and idle % of the CPU.	CPU Monitor	**idle**. The idle % for the CPU. **wait**. The wait % for the CPU (optional).

Process List

ID	Description	Used by	Fields
process	A list of processes with long process names. Typically this is /usr/bin/ps -ef	Service Monitor	**name**. The column of the names of the processes.

Process List with Details

ID	Description	Used by	Fields
process Detail	A list of processes with size of the process. Typically this is /usr/bin/ps -el	Service Monitor (with Check Memory option enabled)	**name**. The column of the names of the processes **size**. The column of the size of the processes. **pageSize**. Page size on the system (optional). The default is 8192.

Optional Adapter Command Details

The following fields can optionally be applied to any command description:

Process List with Details

ID	Description
startLine	The line number where the command starts looking for data.
endLine	The line number where the command ends looking for data.
skipLine	The pattern that if matched, skips the line.
matchLine	The pattern that if matched, looks for data in that line.
startMatch	The pattern that if matched, starts the command looking for data.
endMatch	The pattern that if matched, ends the command looking for data.
reverseLines	If true, the command output lines are reversed and read back to front. This is useful if there is data at the end of the command and it is too difficult to work out when to start reading.

If a field name has the format, fieldnameColumnName=COLUMN, the adapter searches the headers (first line) for COLUMN and records the columns containing the data, and then use those settings to read the fieldname field. This is useful where the width of the columns varies, and the data has spaces in it.

For example, to read the my data information from the following command output:

```
MEM NAME DESC
12K my data some of my data
```

you would specify the name field in the command description as:

```
nameColumnName=NAME
```

The adapter reads the header line, finds NAME, and records where the previous column ends (MEM in this case) and where the specified column ends (NAME), and uses that to read, in this case, the text in character columns 6 through 22.

To see an example of the ColumnName reading in action, look at the process and processDetail commands for the supported UNIX platforms. They use this method to get the process name and the size of the process.

Part VI

Preferences

33

Working with Preferences

This chapter includes the main concepts, tasks, and reference information for SiteScope monitor preferences.

This chapter includes:

Concepts

Tasks

Reference

- SiteScope Log Database Table Structure on page 1128
- Password Requirement Parameters on page 1130
- SiteScope Preferences User Interface on page 1130

Troubleshooting and Limitations on page 1231

Preferences Overview

SiteScope Preferences enable you to configure specific properties and settings related to most of the administrative tasks within SiteScope.

Note: Only an administrator, or a user granted **Edit preferences and remote servers** permissions, can create or make changes to SiteScope Preferences and restart SiteScope from Infrastructure Settings Preferences.

The following table lists Preferences available for SiteScope. The sections that follow contain more information about each Preference.

Preference	Description
General Settings Preferences	Use to perform various post-configuration tasks, such as enter standard and optional SiteScope license keys, control display functions, and set security options. For details, see "General Settings Preferences" on page 1104.
Infrastructure Settings Preferences	Use to define the values of global settings that determine how SiteScope runs. For details, see "Infrastructure Settings Preferences" on page 1107.
Integration Preferences	Use to configure SiteScope as a data collector for Business Availability Center. For details, see "Integration Preferences" on page 1108.

Preference	Description
Failover Preferences	Use to indicate a primary SiteScope to be mirrored and set how often the configurations should be mirrored to the SiteScope Failover installation. For details, see "Failover Preferences" on page 1112.
Log Preferences	Use to controls the accumulation and storage of monitor data logs. For details, see "Log Preferences" on page 1113.
E-mail Preferences	Use to define e-mail server settings and profiles for SiteScope e-mails alert and status reports. For details, see "E-mail Preferences" on page 1114.
Pager Preferences	Use to configure settings and additional pager profiles that SiteScope uses for sending Pager alerts. For details, see "Pager Preferences" on page 1114.
SNMP Trap Preferences	Use to define settings that are used by SiteScope SNMP Trap alerts when sending data to management consoles. For details, see "SNMP Trap Preferences" on page 1115.
Schedule Preferences	Use for customizing the operation of SiteScope monitors and alerts to run only at specific times or during specific time periods. For details, see "Schedule Preferences" on page 1115.
User Management Preferences	Use to define and manage user login profiles that control how others access SiteScope. For details, see "User Management Preferences" on page 1118.
Credential Preferences	Use to create and manage credentials for SiteScope resources. For details, see "Credential Preferences" on page 1121.

General Settings Preferences

This section includes the following main concepts of SiteScope General Preferences:

Note: For information on general preferences relating to internationalization issues, see "Using SiteScope in an Internationalization (I18N) Environment" on page 1233.

Using Default Authentication Credentials

You use this section to enter default authentication credentials that SiteScope uses to log into certain applications and systems. This user name and password are used if the following conditions are met:

- No other authentication credentials are entered as part of an individual monitor configuration.
- The target application or system requires authentication credentials. The URL Monitor, URL Sequence Monitor, and Web Service Monitor can use this function.

Suspending Monitor Processes

In large and complex monitoring environments, it is possible that SiteScope can become heavily loaded with a large number of monitors running and the responsiveness may become slow. This may be due to some monitors being configured to monitor too aggressively or systems that are becoming overloaded. If monitoring actions are slowing the performance of SiteScope, it can be useful to temporarily suspend monitoring actions to make configuration changes. You can temporarily suspend monitors to reduce the time required to complete large configuration operations such as a global search and replace operation. The **Suspend all monitors** option provides this function.

Working with SiteScope Configuration Files

SiteScope uses a binary monitor and system configuration data storage for the SiteScope application. This is different than versions of SiteScope earlier than 8.0.0.0 which stored monitor and system configuration data in text files in the **<SiteScope root directory>\groups** folder.

The **Enable configuration files** option is selected by default when SiteScope is installed. You should leave this option selected if you plan to make changes or additions to the **master.config** file or manually edit other files in the groups folder. If this option is not selected, SiteScope ignores changes made to the text configuration files.

Disabling this option may improve SiteScope performance.

Note: If you disable this option and later want to re-enable it, you must select the box, click **Save** to save the change, and then restart SiteScope to complete the change.

Web Script Monitor Files Directory

The Web Script Monitor runs VuGen scripts to monitor performance and content on Web applications. The VuGen scripts used by the monitor can be stored in the default directory for these scripts, **<SiteScope root directory>\templates.webscripts**, or you can define a different directory in General Preferences.

Note: The Web Script monitor is available only to users accessing SiteScope directly and not to users accessing SiteScope by using System Availability Management Administration in HP Business Availability Center.

Setting the SiteScope Restart Schedule

Restarting the SiteScope server is necessary for clearing problems and resetting monitors. You can select a schedule used for restarting SiteScope in the Main Panel of the General Settings page. Selecting a convenient restart schedule helps minimize or avoid gaps in monitoring coverage and data.

For details on configuring these preferences, see "General Settings Preferences User Interface" on page 1131.

Infrastructure Settings Preferences

Infrastructure Settings Preferences enable you to view and define global SiteScope settings without having to access the **master.config** file. Infrastructure Settings Preferences are sorted and grouped into the following categories: General Settings, Server Settings, Monitor Settings, Alert Settings, Template Settings, Persistency Settings, Report Settings, Baseline Settings, Dashboard Settings, and Custom Settings.

After you edit setting values in Infrastructure Settings Preferences, SiteScope validates that all input data is in the correct format and warns you if restarting SiteScope is required. You can restart SiteScope from the Infrastructure Settings Preferences page.

For details on configuring infrastructure preference values, see "Infrastructure Settings Preferences User Interface" on page 1139.

Integration Preferences

Using the Integration Preferences interface, you can create integration instances, enabling SiteScope to report monitoring data to the following applications:

- **HP Business Availability Center**
  - For details on understanding the integration, see "Integrating with HP Business Availability Center" on page 129
  - For details on the integration preferences, see "HP Business Availability Center Integration Preferences" on page 1109.
  - For details on the user interface, see "New/Edit BAC Integration Dialog Box" on page 1168.
- **HP Diagnostics**
  - For details on understanding the integration, see "Diagnostics Integration Overview" on page 1111.
  - For details on the user interface, see "New/Edit Diagnostics Integration Dialog Box" on page 1178.
- **Generic data applications.**
  - This is a generic integration that can be used to forward data to another application that can receive the xml files that SiteScope forwards. These files contain information regarding the status of groups, monitors, and measurements.
  - For details on the user interface, see "New/Edit Data Integration Dialog Box" on page 1172.

For details on configuring integration preference values, see "Integration Preferences User Interface" on page 1165.

HP Business Availability Center Integration Preferences

To enable logging of SiteScope monitor data to Business Availability Center, the SiteScope must be configured as a data collector for Business Availability Center. This involves adding a SiteScope to the System Availability Management Administration page in the Business Availability Center. Once the SiteScope is added and a connection is established, a BAC Integration Preference appears in the Integration Preferences page that includes the relevant configurations as entered in the New SiteScope Page in System Availability Management Administration.

You use the Integration preference to:

- Modify the available integration settings.
- Disable logging all data to Business Availability Center. This includes topology reporting.
- Create an integration for an empty SiteScope profile. If when adding the SiteScope to System Availability Management Administration, the SiteScope was not accessible to Business Availability Center (for example, when working in HP Software-as-a-Service), you add a SiteScope with an **Inaccessible profile** to System Availability Management Administration. You then configure the connection and the integration in the Integration Preferences. For details on this task, see "Configure SiteScope-HP Business Availability Center Integration Preferences for Inaccessible Profiles" on page 1124.

  If the HP Business Availability Center Server to which you are connecting is on a different machine than the HP Business Availability Center Server that SiteScope reports data, you must provide connection information for both servers under the **Main Settings** in SiteScope's Integration Preferences, or in the **Distributed Settings** in System Availability Management Administration's New SiteScope Page.

This section contains the following topics:

Using SSL for SiteScope-HP Business Availability Center Communication

You can use Secure Sockets Layer (SSL) to transmit data from SiteScope to the Business Availability Center server. If you have installed a certificate signed by a root Certificate Authority on the Business Availability Center server, no additional setup is required on the SiteScope server. If you are using a self-signed certificate on the HP Business Availability Center server and want to use that certificate for secure communication with SiteScope, you must perform the steps as described in "Use SSL for SiteScope-HP Business Availability Center Communication" on page 1126.

Note:

- You only need to specify these settings if the certificate installed on the Business Availability Center machine is not signed by a root Certificate Authority (CA). For example, if you are using a certificate signed by a Certificate Authority like Verisign, you do not need to change these settings.
- You can import the self-signed certificate into the same keystore file used for other SiteScope monitors but that is not required. You can create a separate keystore for the Business Availability Center server certificate.

Changing the Gateway Server to Which SiteScope Sends Data

You can change the Gateway Server to which a SiteScope reports its data. Generally, this is only applicable if you are working with an HP Business Availability Center deployment with components installed on more than one server. You make this change by entering the required Gateway Server name or IP address in the **Business Availability Center server machine name/IP address** box in the Integration Preferences page. You must also update the SiteScope settings with the **Gateway Server** name in System Availability Management Administration.

Note: This function can only be used for changing the Gateway Server for a SiteScope that is already registered with a given HP Business Availability Center installation. It cannot be used to add a new SiteScope, or to connect a SiteScope to a different HP Business Availability Center system.

For information about troubleshooting reporting data to HP Business Availability Center, see "Troubleshooting and Limitations" on page 1231.

For details on configuring these preferences, see "Integration Preferences User Interface" on page 1165.

Diagnostics Integration Overview

SiteScope forwards data to HP Diagnostics enabling you to see a more complete view of the application servers that are monitored by Diagnostics. The data can provide insight into the infrastructure components onto which the application servers are deployed.

For example, integrating data from the SNMP by MIB monitor can help determine problems with the infrastructure on which the application server runs.

SiteScope forwards data on groups, monitors, and measurements. HP Diagnostics can read the data sent from SiteScope and present the data in its reports and graphs.

Units of Measurements in Diagnostics

SiteScope generates a file **<SiteScope root directory>/conf/integration/data_integration_uom.xml** that controls the mappings of SiteScope monitors to Diagnostics metrics and the units of measurement used for the metrics. Diagnostics accepts data from SiteScope only if the data is associated with a unit of measurement that Diagnostics can recognize. SiteScope units are captured from the monitored source and may need to be mapped to the appropriate Diagnostics unit of measurement. The units of

measurements used by SiteScope monitors vary, depending on the type of data being monitored. For example, the unit of measurment used for the CPU monitor is a percentage and the unit of measurement used for the Disk Space monitor is number of bytes. It is therefore recommended that you modify the xml file as needed so that Diagnostics recognizes the unit of measurment to use for the monitor data coming from SiteScope.

When new monitors are added to the SiteScope that report data to Diagnostics, it is recommended that you edit the Diagnostics Integration Preference and click the **Generate UOM XML** button. SiteScope generates a list of currently deployed monitors and their corresponding metrics. This list merges with the **<SiteScope root directory>/conf/integration/data_integration_uom.xml** file and updates only those values in the xml file that were not manually changed. If any values were manually changed in the xml file, those values are not updated and are preserved. This merge of information on units of measurements occurs when you click this button and upon each SiteScope restart (by default every 24 hours).

For details on the user interface, see "New/Edit Diagnostics Integration Dialog Box" on page 1178.

Failover Preferences

Note: Failover Preferences are available only to users accessing SiteScope Failover that have a SiteScope Failover license.

When using SiteScope Failover, a special version of SiteScope that includes automated mirroring and failover functionality, you can use Failover Preferences to indicate a primary SiteScope to be mirrored and set how often the configurations should be mirrored to the failover SiteScope installation. For information on using SiteScope Failover, refer to the *SiteScope Failover Guide* PDF.

For details on configuring these preferences, see "Failover Preferences User Interface" on page 1184.

Log Preferences

Log Preferences enable you to select how much monitor data is accumulated and maintained on the SiteScope server. It also configures SiteScope to export monitor data to an external database.

By default, SiteScope saves monitor results, alert data, error data, and other readings returned by monitors into log files. For monitor data results, a date-coded log file is created for each 24-hour period of monitoring. This data is stored as tab delimited text. SiteScope uses the log files to create management reports on system availability and performance over time.

Storing data logs can become a problem over time. However, you can limit how much log information SiteScope saves to the local file system by setting the number of days to maintain log files or by setting a maximum data log file size. You can also send monitoring data to an external database application. This helps reduce the data storage capacity required on the SiteScope server and makes the monitoring data available to other reporting tools.

Note: To create SiteScope Management Reports the monitoring log information for the desired time period of the report must be available on the SiteScope server file system. For details on creating management reports, see "Management Report" on page 1684.

For details on configuring these preferences, see "Log Preferences User Interface" on page 1186.

E-mail Preferences

You use E-mail Preferences to configure the settings SiteScope needs to communicate with an external e-mail server. These are the default settings that SiteScope uses to send alerts as e-mail messages.

The E-mail Preferences page displays the defined custom E-mail Recipient profiles to send e-mail alert messages to recipients. The E-mail Recipient profile can be associated with one or more E-mail alerts by editing the applicable alert definition.

For details on configuring these preferences, see “E-mail Preferences User Interface” on page 1189.

Pager Preferences

You use Pager Preferences to configure the settings SiteScope needs to communicate with an external electronic paging service. These are the default settings that SiteScope uses to send alerts to an electronic pager.

The Pager Preferences page displays the defined custom Pager Recipient profiles. These profiles can be associated with one or more Pager alerts by editing the applicable alert definition.

You define Pager Recipient profiles in the New/Edit Pager Recipient page. The preferred pager connection option is **Modem to modem connection**. When this connection is used, SiteScope is able to verify that the message was sent successfully and can receive messages describing any communication problem. The other connection options generally send messages to automated voice response systems using touch tone dialing. The touch tone dialing method is limited to numeric messages and SiteScope cannot confirm that your paging service correctly received the message.

For details on configuring these preferences, see “Pager Preferences User Interface” on page 1197.

SNMP Trap Preferences

You use SNMP Preferences to configure the settings SiteScope needs to communicate with an external SNMP host or management console. These are the default SNMP parameters for use with SNMP Trap alerts.

The SNMP Preferences page displays the defined custom SNMP Trap profiles or templates to send traps to hosts. The SNMP Trap profile can be associated with one or more SNMP Trap alerts by editing the applicable alert definition.

For details on configuring these preferences, see "SNMP Trap Preferences User Interface" on page 1205.

Schedule Preferences

SiteScope monitors, alerts, and reports are enabled 24 hours a day, 7 days a week, 365 days a year by default. This means that as long as a monitor is enabled, it is run according to the update frequency specified in the individual monitor configuration. For example, if a monitor is configured to run every 30 seconds, SiteScope attempts to run the monitor every 30 seconds throughout the day. If SiteScope detects an error condition, any alert associated with the monitor is triggered as well, regardless of the time of day.

In some situations, it is useful to enable certain SiteScope actions to correspond with a single event or a particular time of day. For example, you may want to use this type of scheduling for monitors, such as the Link Checking monitor, which you want to run only once a day at a time when the server generally has a lighter load. You use Absolute Schedules to do this.

You may also want to disable certain SiteScope actions based on the schedules of the individuals or groups responsible for the servers and systems being monitored. You use Range Schedules to instruct SiteScope to enable or disable monitors according to time periods that you define.

This section includes:

Absolute Schedules

Absolute Scheduling lets you set specific times that a monitor is run on a weekly basis. Absolute schedules are reset at the end of the week and repeated each week. Absolute Schedules trigger a monitor to run only once at each time specified in the schedule.

Absolute Schedules are inactive until they are explicitly associated with a monitor instance. To associate Absolute Schedules with a monitor, use the **Monitor schedule** field in the **Monitor Run Settings** panel for the monitor that you want to schedule.

Note: Absolute Schedules are associated to alerts indirectly by way of the monitors associated with the alert. Any alerts associated with the monitors disabled by Absolute Schedules are effectively unavailable for the period during which those monitors are disabled. However, if an alert is associated with other monitors that are not controlled by the same schedule, that alert is still triggered if the other monitors report an error condition.

For details on configuring Absolute Schedule preferences, see "Absolute Schedule User Interface" on page 1210.

Range Schedules

You can use Range Scheduling to specify a time range during which SiteScope either enables or disables particular monitors. If you specify an enabled time range for a monitor (in the **Monitor schedule** field of the **Monitor Run Settings** panel for the specific monitor), SiteScope only runs the monitor during that range. For example, if you create a range of 8AM-9PM, Monday through Friday, any monitors that have that range schedule associated with them are run only during those times.

A common use of range scheduling is to set up different pager alerts associated with monitors running at times that coincide with work shifts when different administrators are on call. The schedule helps prevent pager alerts being sent to individuals at an inappropriate time of day relative to the work schedule of that individual.

Range Schedule Preferences are inactive until they are explicitly associated with a monitor instance. You use the Monitor Run Settings panel of a monitor configuration page to associate Range Schedule Preferences with a monitor.

Note: Range Schedules are associated to alerts indirectly by way of the monitors associated with the alert. Any alerts associated with the monitors disabled by Range Schedules are effectively unavailable for the period during which those monitors are disabled. However, if an alert is associated with other monitors that are not controlled by the same schedule, that alert is still triggered if the other monitors report an error condition.

For details on configuring Range Schedule preferences, see “Range Schedule User Interface” on page 1212.

User Management Preferences

Note: User Management Preferences are available only to users accessing SiteScope directly and not to users accessing SiteScope using System Availability Management Administration in HP Business Availability Center. For details on how SiteScope permissions interact with HP Business Availability Center, see "Accessing SiteScope and Building Permissions Model" on page 143.

You manage SiteScope user accounts from the User Management page. This page enables you to administer the users that are allowed access to SiteScope.

As a client-server based architecture, a single SiteScope user profile can be accessed by multiple users simultaneously. You can define multiple SiteScope user accounts that provide different views and edit permissions for different audiences. For example, you can create a user profile that allows users to view monitor status and reports but does not enable the users to add or edit monitor configurations or alerts.

A user profile limits access to SiteScope to those users that enter a correct user name and password. Optionally, user authentication can be handled by submitting a query to an LDAP database. For more restrictive access control to SiteScope, see "General Settings Preferences User Interface" on page 1131.

A user profile has two main components:

- User authentication information and access permission
- Action permissions

Configure these settings for each user profile in the applicable User Profile container.

This section includes:

User Types

SiteScope provides the following user types:

➤ **Administrator.** SiteScope provides a single administrator by default. An administrator can view and change anything in SiteScope. It has other special properties as well, such as being allowed to create other users and to change their profiles in the User Management page. The administrator account cannot be disabled or deleted.

➤ **Power user (super user).** A power user can create, edit, or delete other users, except the administrator. A power user can also edit, but not delete, himself. Both an administrator and a power user can create a power user. There may exist any number of power users. For details about enabling this user type, see "Permissions" on page 1220.

➤ **Regular User.** A regular user cannot create, delete, or edit any user, including himself. It has all the permissions defined for it by the administrator or power user.

Notes on User Accounts

➤ The administrator account is the default account used when accessing SiteScope. This means that anyone requesting the server address and port number where SiteScope is running is, by default, logged in on the administrator account. To restrict access to this account and its privileges, you must edit the administrator account profile to include a user login name and login password. SiteScope then displays a login dialog before SiteScope can be accessed.

- You can create a named user account that does not require a user login name and password. You do this by creating a new user profile in the standard format (providing a **Displayed user name**), but leave the **Login name** and **Password** boxes blank. With this configuration, users accessing SiteScope are presented with an authentication dialogue. They may be authenticated as this named user by leaving the **Login Name** and **Password** boxes blank and clicking the **Log In** button. This user is displayed as **guest** on the upper right side of the SiteScope UI.
- You should restrict the permissions on regular user accounts to avoid unauthorized changes to your SiteScope configuration.

Changing a User's Password

You can change a user's password by clicking the **Change Password** link in the SiteScope Login window, and entering the user's user name, current password, and a new password in the Change Password dialog box.

If the new password does not comply with password configuration rules, an error message is displayed and the password is not changed. For password configuration rules, see "Password Requirement Parameters" on page 1130.

Note: The SiteScope login password is case sensitive.

For details on the user interface, see "User Management Preferences User Interface" on page 1216.

Credential Preferences

Credential Preferences provide centralized credential management for SiteScope resources. It enables you to input user names and passwords for SiteScope monitors, templates, and remote hosts once as a credential profile, and then have SiteScope automatically supply that information when you configure those resources.

Using Credential Preferences enables you to:

- Create and manage your credentials. You can add, modify, and delete credentials from one central location.
- Update credentials. If credentials for a resource expire or need to be updated, the credential profile can be updated and the changes are applied to all usages of the resource within SiteScope. This saves having to find and manually update all usages of the resource in SiteScope.
- Keep user credentials secure. All passwords stored in Credential Preferences are encrypted. Only an administrator, or a user granted **Edit preferences and remote servers** permissions, can make changes to the credentials.
- Search and replace by credential properties, and replace credentials with other credentials using Global Search and Replace.
- Copy monitors in SiteScope with their credential settings. You can also copy monitors to other SiteScopes when there is more than one SiteScope connected to Business Availability Center (only available through System Availability Management Administration). If a credential profile does not exist in the SiteScope to which the monitor is copied, the credential profile is created in that SiteScope.

This section includes:

Monitoring Credential Profiles

If user credentials expire or change, the monitors using these credentials will fail and be in **Error** status. To avoid this situation, you can create a monitor for each credential profile that checks the authentication, and makes all monitors of the monitor type dependent on the test monitor. For example, you can create an IPMI monitor, IPMI_test_credentials, and manually configure the server login and password. When you configure your IPMI monitors, in the Dependencies panel, enter IPMI_test_credentials in the **Depends on** box and select Available as the **Depends condition**. If the IPMI_test_credentials monitor becomes unavailable for any reason, the IPMI monitors are automatically disabled.

Supported Monitors

You can use Credential Preferences to store credentials for the following monitors:

Monitor Category	Monitor
Application	➤ COM+ Server ➤ SAP CCMS ➤ SAP CCMS Alert ➤ SAP Java Web Application Server ➤ SAP Performance ➤ SAP Work Processes ➤ Siebel Application Server ➤ WebSphere Application Server
Database	➤ Database Counter ➤ DB2 8.x ➤ Oracle Database
Server	➤ IPMI
Web Transaction	➤ URL ➤ URL Content ➤ URL List

Notes

- Copying credential settings to other SiteScopes is not supported when copying monitors to older versions of SiteScope.
- You cannot delete a credential profile if it is referenced by a monitor or a remote host. You must remove the credential profile from each dependency before you can delete the credential profile.
- If a credential that is used in a template remote host or template monitor has been deleted, you must add the missing credential to Credential Preferences or manually enter credentials for the resource in the template object before deploying the template.

  For details on how to configure Credential Preferences, see "Configure Credential Preferences" on page 1127.

  For details on the user interface, see "Credential Preferences User Interface" on page 1225.

Search/Filter Tag Preferences

You use Search/Filter Tag Preferences to manage the Search/Filter Tags defined in SiteScope. These tags can be assigned to items in the context tree or preference profiles, and they are used as objects for a filter.

The Search/Filter Tag Preferences page displays the list of Search/Filter Tags. You can add, edit, or delete Search/Filter Tags from this page.

For details on configuring these preferences, see "Search/Filter Tag Preferences User Interface" on page 1229.

Configure SiteScope-HP Business Availability Center Integration Preferences for Inaccessible Profiles

This task describes the steps involved in configuring SiteScope as a data collector for Business Availability Center when the SiteScope is inaccessible to the Business Availability Center, for example when working in HP Software-as-a-Service.

This task includes the following steps:

- "Add a SiteScope Profile to HP Business Availability Center" on page 1124
- "Specify Connection Parameters to HP Business Availability Center Servers" on page 1124
- "Configure SSL for SiteScope-HP Business Availability Center Communication" on page 1125

1 Add a SiteScope Profile to HP Business Availability Center

In Business Availability Center, create an empty profile for the SiteScope in System Availability Management Administration's New SiteScope page by selecting **Inaccessible profile**. For details on the user interface, see "New SiteScope Page" on page 113.

2 Specify Connection Parameters to HP Business Availability Center Servers

In SiteScope, add a new BAC Integration Preference to the Integration Preferences. Enter the values for the Business Availability Center integration. When adding the integration, click the **Get Available Profile** button and select the empty profile you created in Business Availability Center. For details on the user interface, see "New/Edit BAC Integration Dialog Box" on page 1168.

3 Configure SSL for SiteScope-HP Business Availability Center Communication

If you are using a self-signed certificate on the HP Business Availability Center server and want to use that certificate for secure communication with SiteScope, you must import the certificate from the Business Availability Center server to the keystore on the SiteScope server and add three entries to the **master.config** file on the SiteScope server.

For details on this task, see "Use SSL for SiteScope-HP Business Availability Center Communication" on page 1126.

Use SSL for SiteScope-HP Business Availability Center Communication

This task describes the steps involved in enabling secure communication between SiteScope and HP Business Availability Center using a self-signed certificate.

To use a self-signed certificate on the HP Business Availability Center server for secure communication with SiteScope:

1. Obtain a copy of the self-signed certificate from the Business Availability Center server saved in a DER-encoded binary X.509 format. Normally, the certificate file has an extension of *.cer.
2. Import the certificate into a keystore on the SiteScope server using the procedures described in "Configuring SiteScope to Use SSL" in the *HP SiteScope Deployment Guide* PDF.

Note: It is not necessary to create the certificate request file, because you already have a certificate.

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3. Edit the **master.config** file in the <**SiteScope root directory**>**groups** using a text editor. Add the following three entries with the data indicated:

```
_sslTrustedCertKeyStoreFile=<path>\<filename>
_sslTrustedCertKeyStorePassword=<keystorepassword>
_sslAcceptAllUntrustedCerts=<boolean>
```

For example, the entries added to the **master.config** file may be as follows:

```
_sslTrustedCertKeyStoreFile=c:\keystores\topaz.keystore
_sslTrustedCertKeyStorePassword=sUp3rS3cr3tP@ssw0RD
_sslAcceptAllUntrustedCerts=false
```

4. Save the changes to the file.
5. Restart the SiteScope server.

Configure Credential Preferences

This task describes the steps involved in configuring and managing credentials for SiteScope objects that require user authentication.

This task includes the following steps:

1 Prerequisites

To create or make changes to the credentials, you must be an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions.

For details on user permissions, see "Permissions" on page 1220.

2 Create a Credential Profile

Configure a credential profile in Credential Preferences for each SiteScope resource that requires user authentication. For details on the user interface, see "Credential Preferences User Interface" on page 1225.

For a list of supported monitors, see "Supported Monitors" on page 1122.

3 Configure SiteScope Resources Using Credential Profiles

When you configure a SiteScope resource that has a credential profile, select the profile in the **Credentials** box in the resource's settings area.

- For details on the user interface when configuring a monitor, see the Monitor Settings for the specific monitor.
- For details on the user interface when configuring a remote server, see "Microsoft Windows Remote Servers User Interface" on page 1025, and "UNIX Remote Servers User Interface" on page 1032.

4 Update Credential Profiles

If credentials for a resource change, you can update the credential profile without having to find all usages of the resource and update each resource separately in SiteScope. To change a profile, select the profile in Credential Preferences, click **Edit Credential Profile**, and make the necessary changes. For details on the user interface, see "Credential Preferences User Interface" on page 1225.

5 Results

SiteScope authenticates the login and password for the resource using the credentials supplied in Credential Preferences.

SiteScope Log Database Table Structure

When database login is enabled, monitor data is contained in a single table called **SiteScopeLog**. The first nine fields of each database record are the same for all monitors. The next ten fields contain different measurements depending on the kind of monitor supplying the data. All the fields in the table use the VARCHAR(255) data type. A description of the fields in the log database record are shown in the table below along with their default field names:

Field Name	Example Data	Description
datex	1999-01-20 11:54:54	The first field contains the date that the monitor ran.
serverName	demo.sitescope.com	The second field contains the name of the server where SiteScope is running.
class	URLMonitor	The third field contains the type of the monitor.
sample	23	The fourth field contains the sample number of this monitor.
category	good	The fifth field contains the category name of the monitor.

Field Name	Example Data	Description
groupName	URLs	The sixth field contains the group name of the monitor.
monitorName	Home Page	The seventh field contains the name of the monitor.
status	1.01 seconds	The eighth field contains the status of the monitor.
monitorID	10	The ninth field contains the ID of the monitor.
value1, value2, ... value10	(variable)	The tenth through nineteenth fields contain the monitor specific data as described in the Log Columns page. The first variable field (value1) corresponds to the value listed as column 7 in the log files.

The SQL statement that is used for database logging can be changed by editing the parameter _logJdbcInsertSiteScopeLog= in the **<SiteScope root directory>\groups\master.config** file. A stored procedure can be called by replacing the insert statement with a call statement. For example, call logit(?,?,?) would call the stored procedure named logit passing it the first three parameters.

Password Requirement Parameters

You can configure password requirements by setting the following parameters in **<SiteScope root directory>\groups\master.config**:

Parameter	Description
_adminMinimumLength = x	The password length must be at least **x** characters.
_adminRequireAlpha = (1,0)	➤ **0.** Password does not require an alphabetic character. ➤ **1.** Password must contain an alphabetic character.
_adminRequireNumber = (1,0)	➤ **0.** Password does not require a numeric character. ➤ **1.** Password must contain a numeric character.
_adminRequirePunctuation = (1,0)	➤ **0.** Password does not require punctuation. ➤ **1.** Password must contain punctuation.

SiteScope Preferences User Interface

This section describes:

- Absolute Schedule User Interface on page 1210
- Range Schedule User Interface on page 1212
- User Management Preferences User Interface on page 1216
- Credential Preferences User Interface on page 1225
- Search/Filter Tag Preferences User Interface on page 1229

General Settings Preferences User Interface

Description	Use to enter and view licensing information, and other general display functions, optional functions, and access options for SiteScope. **To access:** Open the **Preferences** context and click the **General Settings** menu. In the right pane, click **Main Panel** to display the general SiteScope Preferences.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions, can create or make changes to SiteScope Preferences.
Included in Tasks	"Configure SiteScope for a Non-English Locale" on page 1235
Useful Links	"General Settings Preferences" on page 1104

Main Panel

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
License number	Enter SiteScope license number to register SiteScope monitors. This number is issued when purchasing a set of monitors. A license must be purchased if intending to use SiteScope beyond the trial period.
License status	Displays information about the license. This includes the license type, total number of monitor points permitted by the license, and how many points have been used.
Monitor licenses	If you have purchased licensing for optional SiteScope monitoring capabilities, click the **Add** button and enter the license number in the Option Licenses dialog box. Generally, this license key has the same syntax as the SiteScope license. If you have purchased multiple license keys, enter each key separated with a comma. To remove a monitoring option license, select the license, and click the **Delete** button.
VuGen scripts path root	Enter a directory to store the zip files of VuGen scripts for use by the Web Script Monitor. The files in the directory you enter here appear in the list of available scripts when configuring the Web Script Monitor. If you do not enter a value here, the files in the default directory **<SiteScope root directory>\templates.webscripts** appear when configuring the monitor. For details on working with the monitor, see "Web Script Monitor Overview" on page 802.
Default authentication user name	Enter the default user name to be used for authentication with remote systems. Both <username> and <DOMAIN>\<username> are valid formats. SiteScope uses this user name unless a different user name is entered explicitly as part of the monitor configuration.

GUI Element	Description
Default authentication password	Enter the default password to be used for authentication with remote systems. SiteScope uses this password for the monitor types listed above unless a different password is entered explicitly as part of the monitor configuration.
Pre-emptive authorization	Select an option used for authenticating the default user credentials when SiteScope requests the target URL. ➤ **Authenticate first request.** Sends the username and password on the first request SiteScope makes for the target server. ➤ **Authenticate if requested.** Sends the username and password on the second request if the server requests a username and password. **Default value:** Authenticate first request
SiteScope restart schedule	Select the schedule used for restarting SiteScope. You can define schedules in Absolute Schedule Preferences. For details, see "Absolute Schedule User Interface" on page 1210. **Note:** SiteScope must be restarted at least once every 24 hours. Any Absolute Schedule that contains an interval of more than 24 hours between schedule times is not displayed in the restart schedule list. **Default value:** Every 24 hours after start
Number of backups per file	Enter the number of SiteScope configuration file backups to be kept. This function helps preserve important monitor, alert, and general SiteScope configuration information. This number represents the number of backups per file that is maintained. SiteScope uses a naming convention of filename.bak.1, filename.bak.2, filename.bak.#, where 1 is the latest backup file. **Example:** You can backup files containing general SiteScope configuration information in **<SiteScope root directory>\groups**. **Default value:** 1

GUI Element	Description
Locale-specific date and time	Select to have SiteScope display dates and times in a format that is applicable to a certain locale, country, or culture. To use a different locale setting, modify the SiteScope configuration file to include the codes for the desired locale and select this option in the General Preferences Settings. For details on how to perform this task, see "Configure SiteScope for a Non-English Locale" on page 1235. **Default value:** Selected (the default is United States format)
International version	Select to enable international character sets. When this option is selected, SiteScope honors all character encoding. Use this option to instruct SiteScope to simultaneously handle character encoding from multiple sources and operating systems (for example, foreign language Web pages). If not selected, only the default character set of the operation system where SiteScope is installed is supported. The exceptions are all the URL monitor types, the Log File Monitor, and the File Monitor. These monitor types support multiple character encoding regardless of the International Version option setting. or details on how to perform this task, see "Configure SiteScope for a Non-English Locale" on page 1235. **Default value:** Not selected

GUI Element	Description
Suspend all monitors	Select to temporarily suspend the execution of all monitors. Use to make configuration changes across your monitoring infrastructure. To reactivate monitoring, clear the option. **Note:** This option disables all monitors currently defined for this SiteScope installation. If setting Suspend Monitors and later clearing this option to re-enable the monitors, the individual monitors that were set as disabled prior to the Suspend Monitors action, retain their original disabled state. Using this option may affect reports. Monitors that would have run during the time that monitoring was suspended may display blanks for that period in reports. **Warning:** There is currently no visual indication in the interface that SiteScope is in a suspended monitor state. When the **Suspend all monitors** option is enabled, the following message is displayed: SiteScope is in Suspended mode; no monitors are currently running. **Default value:** Not selected
Enable configuration files	This option enables the use of the master and monitor group configuration files for SiteScope. When enabled, SiteScope periodically checks for changes to any files in the **SiteScope\groups** directory and updates the binary configuration data accordingly. **Default value:** Selected

SSH Preferences

Description	Use to configure preferences for securely accessing a remote computer. **To access:** Open the **Preferences** context and click the **General Settings** menu. In the right pane, click **SSH Preferences** to display the SSH Preferences.
Useful Links	"General Settings Preferences" on page 1104

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SSH V2 connect timeout (seconds)	Enter the total number of seconds SiteScope should wait for a successful reply. When the time is exceeded, the connection is automatically closed. **Default value:** 30 seconds
SSH V2 hello timeout (seconds)	Enter the handshake timeout (in seconds). **Default value:** 30 seconds
SSH V2 key exchange timeout (seconds)	Enter the total number of seconds SiteScope should wait for SSH key exchange. **Default value:** 30 seconds
SSH V2 authentication phase timeout (seconds)	Enter the total number of seconds SiteScope should wait for SSH authentication. **Default value:** 30 seconds

Dashboard Monitor History View Options

Description	You configure Monitor History to view monitor history on all monitors and monitor groups. **To access:** Open the **Preferences** context and click the **General Settings** menu. In the right pane, click **Dashboard Monitor History View Options** to display the Dashboard monitor options.
Important Information	In the Dashboard layout, you can then use a filter to further limit the monitors displayed to those that meet selected criteria. Your preferences are saved with the Dashboard filter settings. For details, see "Dashboard Filter Overview" on page 1489.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Enable monitor history view	Select to enable Monitor History. **Default value:** Not selected
Display data collected during time period	Select the time frame for displaying past runs. **Default value:** Past 1 hour
Monitor run status	Select the required run status. **Default value:** Any
Maximum number of runs to display	Enter the number of rows of data to keep in memory. **Default value:** 100000

JDBC Global Options

Description	Use to apply global JDBC options to the following resources that connect to the database: ➤ SiteScope database logger ➤ Database tools (Database Connection, Database Information) ➤ Database alerts ➤ Database monitors (Oracle database, Database Counter, Database Query, DB2 8.x, Technology Database Integration) **To access:** Open the **Preferences** context and click the **General Settings** menu. In the right pane, click **JDBC Global Options** to display the JDBC options.
Useful Links	"General Settings Preferences" on page 1104

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Connection timeout	The amount of time, in seconds/minutes/hours/days, to wait for a new SQL connection to be made. Not all SQL drivers have this function. If your SQL driver does not support this function, this parameter is ignored. **Default value:** 5 minute
Driver trace log file	Used to create a driver trace log file for troubleshooting database drivers. This box is empty by default, and we recommend that you use it only for troubleshooting. To create the log file, enter the full path or UNC name of the driver trace file (for example, e:\mydir\myfile.log). **Note:** The target log file can contain login information, table names and queries.

Infrastructure Settings Preferences User Interface

Description	Enables you to define the values of settings that determine how SiteScope runs. **To access:** Open the **Preferences** context and click the **Infrastructure Settings** menu.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences and restart SiteScope from Infrastructure Settings Preferences. Most Custom settings do not have a user-friendly text labels and are listed only by their corresponding property name from the **master.config** file.
Useful Links	"Infrastructure Settings Preferences" on page 1107

General Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Accept untrusted SSL certificates	Allows SiteScope to accept any untrusted certificate when SSL is used. Otherwise, only certificates specified in the keystore file or that have a trust chain leading to a registered CA certificate are accepted. **Default value:** Not selected **Property name:** _sslAcceptAllUntrustedCerts
Allow Unix to NT	Allows using remote Windows servers if SiteScope is running on UNIX. **Default value:** Not selected **Note:** ➤ Only the Microsoft Windows Performance Counter monitor is supported. ➤ You must restart SiteScope if you change this setting. **Property name:** _allowUnixToNT

GUI Element	Description
Disable quotes for cmd.exe	Avoids wrapping parameters in quotes when running cmd.exe for various tasks. **Default value:** Not selected **Property name:** _disableDoubleQuotesInTemplates
DNS name tags	A comma-separated list of values considered by DNS-related functionality as the DNS "name" tag. **Default value:** Name:,Nombre:,Navn:,Nome:,Nom :,Nom\u00FF: **Property name:** _dnsNameTags
DNS server tags	A comma-separated list of values considered by DNS-related functionality as the DNS "server" tag. **Default value:** Server:,Servidor:,Serveur:,Serveur\u00FF: **Property name:** _dnsServerTags
Don't check default thresholds	SiteScope checks monitor results against user selected thresholds only and not against the default SiteScope monitor thresholds. **Default value:** Selected **Property name:** _noCheckDefaultThresholds
E-mail character set	These properties set the character set for E-mails generated by SiteScope in E-mail Preferences and E-mail alerts. **Default value:** If no value is entered, UTF-8 is used. **Property name:** _mailCharSet
E-mail subject character set	These properties set the subject character set for E-mails generated by SiteScope in E-mail Preferences and E-mail alerts. **Default value:** If no value is entered, UTF-8 is used. **Property name:** _mailSubjectCharSet

GUI Element	Description
Enable report credentials to BAC	If selected, SiteScope sends the credentials of any host to HP Business Availability Center. **Default value:** Not selected **Property name:** _sendCredentials
Log only enabled monitors	SiteScope does not log runs for disabled monitors in the daily log files. **Default value:** Not selected **Property name:** _onlyLogEnabledMonitors
Maximum idle threads per pool	The maximum number of idle threads allowed per thread pool. **Default value:** 100 **Note:** You must restart SiteScope if you change this setting. **Property name:** _threadPoolMaxIdle
Maximum processes per pool	The maximum number of processes allowed per process pool. **Default value:** 200 **Note:** You must restart SiteScope if you change this setting. **Property name:** _processPoolMaxPerPool
Monitor delay between refresh (milliseconds)	The amount of time, in milliseconds, to wait before running a monitor after it has already been run since startup. **Default value:** 1000 milliseconds **Property name:** _monitorDelayBetweenRefresh
NT SSH timeout (seconds)	The number of seconds to wait for an SSH connection to remote Windows servers before timing out. **Default value:** 0 seconds **Property name:** _NTSSHTimeout

GUI Element	Description
Number of open port tries	The maximum number of attempts to open a reserved port in the 811-1024 range for rlogin and rsh remote access methods. **Default value:** 25 **Note:** You must restart SiteScope if you change this setting. **Property name:** _localPortRetryCount
Numeric values format	The format of numeric values when converting to string representation. **Default value:** #.## **Property name:** _noScientificNotation **Tip:** For more detailed information on numeric values format, refer to the HP Software Self-solve knowledge base (http://h20230.www2.hp.com/selfsolve/document/KM305059). To enter the knowledge base, you must log in with your HP Passport ID.
Perfex timeout (seconds)	The number of seconds for perfex to attempt to make a connection or to attempt to run a monitor before timing out. **Default value:** 120 seconds **Property name:** _perfexTimeout
Process pool kill timeout (milliseconds)	The number of milliseconds to wait before SiteScope kills a non-responsive process. This is to avoid killing processes on every timeout. **Default value:** 60000 milliseconds **Note:** You must restart SiteScope if you change this setting. **Property name:** _processPoolKillTimeout

GUI Element	Description
Recursive 'depends on'	Allows recursion in the monitor **Depends on** box. This means that subgroups become disabled when the parent group is disabled because of a dependency. By default, only the immediate group impacted by the dependency is disabled. **Default value:** Not selected **Note:** You must restart SiteScope if you change this setting. **Property name:** _dependsOnRecursive
SiteScope sleep delay (milliseconds)	The amount of time, in milliseconds, of the sleep interval in the main thread. **Default value:** 180 milliseconds **Note:** You must restart SiteScope if you change this setting. **Property name:** _monitorProcessCheckDelay
SiteScope tree refresh rate (in seconds)	The amount of time, in seconds, to wait between refreshing the SiteScope tree. The minimum value is 30 seconds. **Default value:** 60 seconds **Property name:** _sisTreeRefreshRateSecs
Sleep interval on error (milliseconds)	The amount of time, in milliseconds, to wait before rerunning a monitor using the **Verify error** option. **Default value:** 5000 milliseconds **Property name:** _verifySleepDuration

GUI Element	Description
Time zone offset	Manually sets the time zone offset, in hours, from Greenwich Mean Time (GMT). You can enter both positive and negative, integer and non-integer values. **Default value:** -999 (no offset) **Example:** In Eastern US (EST), the time zone offset is GMT -5. **Note:** You must restart SiteScope if you change this setting. **Property name:** _timeZoneOffset
Traceroute command	(For Unix) Specify the path to the traceroute command to override the default for the platform. **Default value:** No value **Property name:** _tracerouteCommand

Server Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Host name override	Allows overriding of the SiteScope host name for Business Availability Center. **Default value:** No value **Property name:** _sisHostNameOverride
Kill processes	Allows SiteScope to kill its child processes when the SiteScope process is stopped. **Default value:** Selected **Property name:** _killProcesses
Maximum monitor processes	The maximum number of monitor processes in the process pool. **Default value:** 100 **Note:** You must restart SiteScope if you change this setting. **Property name:** _maxMonitorProcesses
Maximum monitor running	The maximum number of running monitor processes in the queue. **Default value:** 400 **Note:** You must restart SiteScope if you change this setting. **Property name:** _maxMonitorsRunning
Maximum monitor skips	The maximum number of consecutive monitor skips allowed before a monitor is disabled or SiteScope is shut down. **Default value:** 10 **Note:** You must restart SiteScope if you change this setting. **Property name:** _maxMonitorSkips

GUI Element	Description
Shutdown on monitor skips	SiteScope shuts down with an error if a monitor exceeds its maximum allowed skip count. **Default value:** Selected **Property name:** _shutdownOnSkips
SiteScope restart timeout for UNIX machines (minutes)	The maximum time allowed for SiteScope to restart itself on UNIX machines. **Default value:** 15 minutes **Property name:** _restartTimeout
SiteScope shutdown timeout (seconds)	The amount of time, in seconds, that SiteScope should wait to shutdown before timing out. **Default value:** 60 seconds **Property name:** _shutdownTimeout
Startup script	Runs this script whenever SiteScope starts up, regardless of the platform or procedure used to start SiteScope. (Empty=none) **Default value:** No value **Property name:** _startupScript

Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Additional error tokens	Additional list of keywords that should be handled as signs of failure during server output parsing. **Default value:** Failed to .* Error code: **Property name:** _scriptMonitorErrorMsgs2
Browsable EXE timeout (milliseconds)	The maximum amount of time, in milliseconds, to wait for retrieving counter information and for running the monitor. This setting only applies to executable-based browsable monitors, such as SAP, Sybase, and DB2 monitors. **Default value:** 45000 **Property name:** _browsableExeTimeout
Browsable monitors - If in error, send status of all counters to BAC	When a browsable monitor is in error status, SiteScope only sends the list of counters in error and their current values to BAC. At other times (when the monitor is in good status), SiteScope forwards all the counter names and values to BAC. If selected, SiteScope sends all the counters (the ones in error, and the ones with good status) and their values to BAC even during error. **Default value:** Not selected **Property name:** _isSendStatusOfAllBrowsableCountersToBAC
CPU error at 100%	The CPU monitor switches to the default error status when CPU utilization reaches 100% on the target machine. **Default value:** Selected **Property name:** _cpuEnableErrorAt100

GUI Element	Description
CPU maximum units	The maximum number of CPU units supported by the CPU monitor. **Default value:** 16 **Property name:** _cpuMaxProcessors
DB maximum columns	The maximum number of columns processed by DB monitors. **Default value:** 10 **Property name:** _databaseMaxColumns
DB maximum rows	The maximum number of rows processed by DB monitors. **Default value:** 1 **Property name:** _databaseMaxRows
DB maximum value length	The maximum length, in characters, of the data processed by DB monitors. **Default value:** 200 **Property name:** _databaseMaxSummary
Default precision	The default precision for floating-point values processed by some monitors. **Default value:** 0 (disabled) **Property name:** _defaultPrecision
Dialup options	Options for **dialup.exe** when running it from the Microsoft Windows Dial-up monitor. Set to -silent to have the modem dial silently. Set to -debug to enable dialup debugging. **Default value:** 0 **Property name:** _dialupOptions
Empty last line reading	Includes the last empty line in the Script monitor output. **Default value:** Not selected **Property name:** _enable_script_monitor_non_empty_last_line_reading

GUI Element	Description
Enable JDBC logging	Enables JDBC search results logging for the Link Check monitor. **Default value:** Not selected **Property name:** _linkMonitorJdbcEnabled
Error tokens for Script monitor	List of keywords that should be handled as signs of failure during server output parsing. **Default value:** not found, Not Found, denied, Denied, cannot execute such file or directory **Property name:** _scriptMonitorErrorMsgs
Event log messages to save	The number of Microsoft Windows Event Log descriptions to save when saving diagnostic text for alerts. **Default value:** 10 **Property name:** _eventLogMessagesToSave
Exclusive monitor timeout (seconds)	The maximum amount of time, in seconds, that exclusive monitors must wait for other monitors to finish before running. The only monitor affected by this is the Microsoft Windows Dial-up monitor. **Default value:** 120 seconds **Property name:** _exclusiveMonitorTimeout
FTP content match maximum size	The maximum size of the buffer used to match FTP content. **Default value:** 50000 **Property name:** _ftpContentMatchMax
FTP download limit	The maximum number of bytes downloaded from each file to match. **Default value:** -1 (no limit) **Property name:** _ftpDownloadLimit

GUI Element	Description
FTP maximum threads	The maximum number of simultaneous FTP worker threads allowed. **Default value:** 1 **Property name:** _ftpMaxThreads
HTTP content match display limit	The maximum number of bytes to display for URL monitor content match. **Default value:** 150 **Property name:** _urlContentMatchDisplayMax
HTTP content match limit	The maximum number of bytes to check for URL monitor content match. **Default value:** 50000 **Property name:** _urlContentMatchMax
Initial monitor delay (seconds)	The time, in seconds, over which to randomly schedule monitor updates after a SiteScope restart. When changing a monitor's frequency so that its next run occurs immediately (for example, if a monitor has not run in 5 minutes, and you change the frequency to less than 5 minutes), SiteScope randomly schedules the next run during the specified period. **Default value:** 600 seconds **Property name:** _initialMonitorDelay
Keep Astra log files	Allows the Astra monitor to keep Astra log files. **Default value:** Not selected **Property name:** _astraKeepLogFiles
Mail attachment content support base64	Supports mail attachment content-transfer-encoding with base64 for the Mail monitor. **Default value:** Not selected **Note:** You must restart SiteScope if you change this setting. **Property name:** _mailAttachmentBase64Support

GUI Element	Description
Maximum BMC counters	The maximum number of BMC Patrol counters the monitor is allowed to retrieve. **Default value:** 50 **Property name:** _browsableBMCContentMaxCounters
Maximum browsable counters to be selected	The maximum number of browsable counters that can be selected from the browsable tree. **Default value:** 100 **Property name:** _browsableContentMaxCounters
Maximum Performance Counter monitor counters	The maximum number of counters allowed for each instance of a Microsoft Windows Performance Counter monitor. **Default value:** 8 **Property name:** _NTCounterMonitorMaxCounters
Microsoft Windows Media Server monitor service names	Enter the service names to monitor using the Microsoft Windows Media Server monitor. **Default value:** Windows Media Station Service, Windows Media Unicast Service **Property name:** _counterObjectsWindowsMediaMonitor
MS Media Player 9 account blocked	Select this option and add the account directory path to the **MS Media Player 9 account directory** box if your Media Player account stops working with a 17999 error. **Default value:** Not selected **Property name:** _MediaPlayer9AccountBlocked
MS Media Player 9 account directory	Enter the Media Player account directory if you get a 17999 error for the Media Player monitor. **Example:** C:\Documents and Settings\<USER>\Local Settings\Application Data\Microsoft\Windows Media\9.0 **Property name:** _MediaPlayer9AccountBlockedDir

GUI Element	Description
Network Bandwidth monitor sanity check	Performs a sanity check on the Network Bandwidth monitor. **Default value:** Selected **Property name:** _performNetworkBandwidthSanityCheck
Real Media Server monitor service names	Enter the service names to monitor using the Real Media Server monitor. **Default value:** RMServer **Property name:** _counterObjectsRealMonitor
Run script through perfex tool	Runs the script through the perfex tool. **Default value:** Selected **Property name:** _scriptRunThroughPerfex
Script monitor output limit	The number of lines to save from Script output after launching the Script monitor. **Default value:** 25 **Property name:** _scriptMonitorLinesToSave
Script monitor replacement strings	Stores a list of space-separated strings which are parameter tags in the remote script. When the Script monitor is run, it replaces parameters tags from the script command with actual parameter values from monitor preferences. **Default value:** $ % **Property name:** _scriptMonitorReplacementChars **Example:** If the script command is test $ %, replacement chars are $ %, and parameters are Param1 Param2, the the monitor runs the following command: test Param1 Param2.

GUI Element	Description
Simultaneously running DNS monitors	The maximum number of DNS monitors that can run simultaneously. This is relevant only when using the **roundTripTime** counter. The NSLookup operation can load the operating system and affect the values. **Default value:** 0 (0 means that the number of simultaneous DNS monitors is unlimited) **Note:** You must restart SiteScope if you change this setting. **Property name:** _maxDnsMonitorsRunning
SNMP monitors maximum number	The maximum number of SNMP monitors that can run at any given time. **Default value:** 10 **Note:** You must restart SiteScope if you change this setting. **Property name:** _snmpMonitorMaximum
SNMP Trap encoding	SNMP Trap encoding for the SNMP Trap monitor. Empty=ISO8859-1. **Default value:** ISO8859-1 **Property name:** _snmpTrapEncoding
SNMP Trap monitor log limit	The maximum number of lines to look through SNMP Trap log for the SNMP Trap monitor. This box is filled only if **Run Alerts** is set to **Once, after all SNMP Traps have been checked** in the SNMP Trap monitor page. **Note:** Setting a high limit may increase the size of the **SiteScope.log** or **RunMonitor.log**. **Default value:** 1000 **Property name:** _SNMPTrapMonitorDetailsMax
Web Service monitor: maximum read length (bytes)	The maximum amount of data, in bytes, to read from the log file for the Web Server monitor. **Default value:** 50000 bytes **Property name:** _maxAmountToRead

Template Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Allow creation of template monitors directly under template entity	Enables you to add a monitor directly under a template without creating a group in the template. **Note:** You must restart SiteScope if you change this setting. **Default value:** Not selected **Property name:** _allowTemplateMonitorDirectlyUnderTemplate

Alert Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Alert attempt delay (seconds)	The number of seconds to wait between each attempt to send a Post Alert. **Default value:** 120 seconds **Property name:** _postAttemptDelay
Maximum alert threads	The maximum number of alert threads in the pool. **Default value:** 100 **Property name:** _threadPoolAlertMaxThreads
Maximum runs for Post action	The maximum number of attempts to send a Post Alert. **Default value:** 4 **Property name:** _postAttempts
Maximum script alert processes	The maximum number of Script Alert processes that are allowed to run simultaneously. **Default value:** 25 **Property name:** _maxScriptAlertProcesses

GUI Element	Description
Maximum sound alert length (milliseconds)	The maximum length of time, in milliseconds, of the Sound Alert sound. **Default value:** 0 **Property name:** _AudioSleepTime
Pager delay (seconds)	The delay between pager signals when using a Pager Alert. **Default value: 5** **Property name:** _delayBetweenPages

Persistency Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Maximum changes per persistency delta file	The maximum number of persistency changes kept in each persistency delta file. **Default value:** 51 **Note:** You must restart SiteScope if you change this setting. **Property name:** _PersistencyMaxChangesInDeltaFile
Maximum persistence history items	The maximum number of history items kept in persistence. **Default value:** 1000 **Property name:** _PersistencyMaxHistoryItems

GUI Element	Description
Maximum persistence history size	The maximum size of persistence history in bytes. **Default value:** 20000 **Note:** You must restart SiteScope if you change this setting. **Property name:** _PersistencyMaxHistorySize
Maximum temp directory size	The maximum size, in kilobytes, of the temp directory. **Default value:** 10000 **Note:** You must restart SiteScope if you change this setting. **Property name:** _tempDirMaxSize

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Include alert.log.old in report	Includes the **alert.log.old** file in the Alert Report. **Default value:** Selected **Property name:** _includeAlertLogOld
Maximum errors in monitor history report	The maximum number of errors shown in the monitor history report. **Default value:** 100 **Property name:** _maxReportErrors
Maximum warnings in monitor history report	The maximum number of warnings shown in the monitor history report. **Default value:** 100 **Property name:** _maxReportWarnings

Baseline Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Activation thread priority	The priority assigned to the activation thread. The priority, if specified, must be between 1-10 inclusive. If not specified, the priority is set to 1. Generally, the higher the priority, the faster the baselines are activated. Keep the priority as low as possible, so as not to interfere with SiteScope online functionality. **Default value:** 1 (low priority) **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningActivationThreadPriority
Automatically create an error boundary if no error thresholds are defined	Automatically creates a baseline threshold using the error boundary offset value when no error thresholds have been defined for a monitor. **Default value:** Selected **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningAutomateUpperBoundCreation
Calculation thread priority	The priority assigned to the calculation thread. The priority, if specified, must be between 1-10 inclusive. If not specified, the priority is set to 1. Generally, the higher the priority, the faster the baseline calculations take to complete. Keep the priority as low as possible, so as not to interfere with SiteScope online functionality. **Default value:** 1 (low priority) **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningCalculationThreadPriority

GUI Element	Description
Failed parsings handler thread priority	The priority assigned to the failed parsing thread handler. The priority, if specified, must be between 1-10 inclusive. If not specified, the priority is set to 1. Generally, the higher the priority, the faster the baseline calculations take to complete. Keep the priority as low as possible, so as not to interfere with SiteScope online functionality. **Default value:** 1 (low priority) **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningFailedParsingHandlerThreadPriority
Include today's data in calculation	Specifies whether to include the current day's data in the baseline calculation. **Default value:** Selected **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningCalculationIncludesToday
Interval for saving accumulated baseline data to disk (minutes)	The interval, in minutes, used by SiteScope to save baseline data accumulated in the memory to the disk. A shorter interval reduces the memory consumption, but increases the vulnerability to failures and reduces performance. **Default value:** 30 minutes **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningSaveAccumulatedDataIntervalMinutes

GUI Element	Description
Maximum number of days to include in calculation	The number of days of historical data that are included in baseline calculations. The higher the number, the more precise the baseline result, but the calculation takes more time and uses more disk space. Data that is older than this value is not included in the calculation. For more details on the calculation model, see "How SiteScope Calculates Thresholds" on page 276. **Default value:** 30 days **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningDaysToIncludeInCalculation
Maximum number of percentile ranges	Limits the number of percentile ranges displayed in the Percentile Ranges Mapping Table. **Default value:** 8 **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningMaxNumberOfPercentilesRanges
Minimum number of days required for baselining	The minimum number of days that the monitors must have run for SiteScope to calculate the baseline. **Default value:** 14 days **Minimum value:** 1 (if you enter a value of less than 1, the default value is used instead). **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningMinimumNumberOfDays

GUI Element	Description
Minimum number of samples required for baselining	The minimum number of samples required for SiteScope to calculate the baseline. **Default value:** 2016 (the number of samples produced for a monitor running over a two week period, where the monitor runs every 10 minutes) **Minimum value:** 1 (if you enter a value of less than 1, the default value is used instead). **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningMinimumNumberOfSamples
Offset for calculating error boundary	Specifies the offset value to use for calculating the error boundary. The baseline threshold is multiplied by this value when: ➤ The **Automatically create Error Threshold Boundary if no error thresholds are defined** option is selected (see below), or ➤ The current most extreme error threshold is less extreme than the calculated baseline threshold. **Default value:** 0.3 **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningUpperBoundOffset
Parsing chunk size	Specifies the number of monitors that are handled simultaneously by the log file parser. The higher the number, the faster the baselining calculation, but more file handlers are used. **Default value:** 100 **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningParsingChunkSize

GUI Element	Description
Parsing thread priority	The priority assigned to the parsing thread. The priority, if specified, must be between 1-10 inclusive. If not specified, the priority is set to 1. Generally, the higher the priority, the faster the baseline calculations take to complete. Keep the priority as low as possible, so as not to interfere with SiteScope online functionality. **Default value:** 1 (low priority) **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningParsingThreadPriority
Percentile of discarded samples	The percentile of the most extreme samples (considered "noise" measurement samples) that are not included in the baseline calculation. **Default value:** 2.0 **Note:** You must restart SiteScope if you change this setting. **Property name:** _baseliningNoiseMarginPercentile

Dashboard Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Dashboard refresh rate (in seconds)	The amount of time, in seconds, to wait between refreshing the Dashboard. The minimum value is 30 seconds. **Default value:** 60 seconds **Property name:** _dashboardRefreshRateSecs
Maximum number of icons displayed in Dashboard Icon View	The maximum number of icons that can be displayed in the Dashboard's Icon View. **Default value:** 700 **Note:** If the selected element has more icons than the maximum number that can be displayed, you should try to create a more restrictive tree filter or configure a Dashboard filter instead of increasing this setting. **Property name:** _dashboardClientNodeLimit
Maximum number of objects displayed in Dashboard	The maximum number of objects that can be displayed in the Dashboard table for a selected element. **Default value:** 4000 **Note:** If the selected element has more objects than the maximum number that can be displayed, you should try to create a more restrictive tree filter or configure a Dashboard filter instead of increasing this setting. **Property name:** _dashboardClientNodeLimit

Custom Settings

Note: Most Custom settings do not have a user-friendly text label and are listed only by their corresponding property name from the **master.config** file. These settings are not included in the documentation.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Auto Deployment Check Frequency (seconds)	The time interval in seconds that the auto template deployment xml files in the **persistency\autodeployement** directory are deployed. For details on the feature, see "Auto Template Deployment" on page 1319. **Default value:** 120 **Property name:** _autoDeploymentCheckFrequency

Integration Preferences User Interface

Description	Use to configure SiteScope as a data collector for HP Business Availability Center, Diagnostics, or other applications. If SiteScope has been configured as a data collector for HP Operations Manager, you can also view and modify some of the integration settings. **To access:** Open the **Preferences** context and click the **Integration Preferences** menu.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences.
Included in Tasks	"Configure SiteScope-HP Business Availability Center Integration Preferences for Inaccessible Profiles" on page 1124
Useful Links	"Integration Preferences" on page 1108 "Troubleshooting and Limitations" on page 1231

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click the **New Integration** button to create a new integration in SiteScope. For details on the user interface, see "Integration Preference Type Dialog Box" on page 1167.
	Click the **Edit Integration** button to edit an existing integration in SiteScope. The Edit Integration dialog box opens according to the integration type selected. ➤ For details on the BAC Integration user interface, see "New/Edit BAC Integration Dialog Box" on page 1168. ➤ For details on the Data Integration user interface, see "New/Edit Data Integration Dialog Box" on page 1172. ➤ For details on the Diagnostics Integration user interface, see "New/Edit Diagnostics Integration Dialog Box" on page 1178.
	Click the **Delete Integration** button to delete the selected integration from Integration Preferences.
	Click the **Select All** button to select all listed integrations.
	Click the **Unselect All** button to clear the selection.
Integration Name	The text name string assigned to the integration when you create a new Integration Preference.
Integration Description	A description of the integration that was assigned when creating or editing the Integration Preference.

Integration Preference Type Dialog Box

Description	Use to select the type of integration preference you want to configure. **To access:** Open the **Preferences** context and click the **Integration Preferences** menu. Click the **New Integration** button.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences.
Useful Links	"Integration Preferences" on page 1108

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Quick Search	Enter an integration type in the **Quick Search** box.
Select Integration Preference Name	Select an integration preference type: ➤ **BAC Integration.** Use to configure SiteScope as a data collector for HP Business Availability Center. For details on the user interface, see "New/Edit BAC Integration Dialog Box" on page 1168. ➤ **Data Integration.** Use to create a generic data integration. For details on the user interface, see "New/Edit Data Integration Dialog Box" on page 1172. ➤ **Diagnostics Integration.** Use to create a diagnostics integration. For details on the user interface, see "New/Edit Diagnostics Integration Dialog Box" on page 1178.

New/Edit BAC Integration Dialog Box

Description	Enables you to modify Business Availability Center integration settings and to create a new Business Availability Center integration for a profile that was created in System Availability Management Administration but when the SiteScope was inaccessible. **To access:** Open the **Preferences** context and click the **Integration Preferences** menu. In the Integration Preferences page, click the **New Integration** button and select **BAC Integration**, or select an existing BAC integration and click **Edit Integration**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences.
Useful Links	"Integration Preferences" on page 1108 "Integration Preferences User Interface" on page 1165 "Integration Preference Type Dialog Box" on page 1167

BAC Integration Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Business Availability Center machine name/IP address	Enter the machine name or IP address of the Business Availability Center server to which you want this SiteScope to connect. **Note:** This is a required field.
SiteScope agent machine location	Enter the location of the SiteScope server that you are connecting to Business Availability Center. You can specify any value that helps you identify the location of this specific SiteScope server. **Note:** This is a required field.
Business Availability Center user name	Enter the username of a Business Availability Center administrator-level user.

GUI Element	Description
Business Availability Center user password	Enter the password for the specified user.
Disable all logging to Business Availability Center	Select to stop SiteScope from sending data to Business Availability Center. This also disables all topology reporting. Clear the check box to enable logging again. **Default value:** Not selected
<profile>	The SiteScope profile in which Business Availability Center stores the data collected by SiteScope. **Note:** The profile must previously have been configured in Business Availability Center's System Availibility Management Administration.
Get Available Profile	Click to display a list of available profiles. Use this button only if registering the SiteScope to an empty profile (Inaccessible Profile) that was created in System Availibility Management Administration.

Web Server Security Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Authentication user name	If the Business Availability Center server is configured to use basic authentication, enter the username to access the server.
Authentication password	If the Business Availability Center server is configured to use basic authentication, enter the password to access the server.
Use SSL (HTTPS protocol)	Select this option if the Business Availability Center server is configured to use the HTTPS protocol. **Default value:** Not selected

Proxy Server Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Address	Enter the proxy server address if applicable.
User name	Enter the username for the proxy server.
Password	Enter the password for the specified server.

Topology Reporting Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Topology resynchronization time interval (days)	The number of days for SiteScope to synchronize topology data with Business Availability Center. The topology information SiteScope reports to Business Availability Center is synchronized when SiteScope restarts after this time interval has been reached. SiteScope restarts by default every 24 hours. **Default value**: 7 days **Note**: All topologies created by SiteScope and stored in CMDB are subjected to the aging process. To prevent aging, see "Aging of CIs in CMDB" on page 139.
Default topology probe domain	Enter the default domain of the SiteScope topology probe. **Default value**: DefaultDomain **Note:** You must restart SiteScope if you change this setting.

GUI Element	Description
Topology receiver port	Enter the topology receiver port used in Business Availability Center. **Default value:** 80 **Note:** You must restart SiteScope if you change this setting.
Topology receiver SSL port	Enter the topology receiver SSL port used in Business Availability Center. **Default value:** 443 **Note:** You must restart SiteScope if you change this setting.

BAC Preferences Available Operations

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Reset	This deletes all the Business Availability Center related settings from the SiteScope server and all SiteScope configurations are deleted from Business Availability Center. This also sends a message to the applicable Business Availability Center server to release the SiteScope agent from the corresponding profile. **Note:** If you choose to reset the current settings, you have to create or use a different profile to reconnect SiteScope with Business Availability Center. Business Availability Center does not enable you to select a previously used connection profile.

GUI Element	Description
Re-Synchronize	Forces SiteScope to resend all its configuration data to Business Availability Center. This data consists of all the group and monitor definitions. Re-synchronize also forces SiteScope to resend all topology data to Business Availability Center.
Hard Re-Synchronize	Forces SiteScope to resend all its configuration data and topology data to Business Availability Center. For configuration data, it also deletes the existing monitor and group data from Business Availability Center for this SiteScope profile.

New/Edit Data Integration Dialog Box

Description	Enables you to create a new generic data integration or edit an existing data integration. This can be used to forward SiteScope data to an application for which a direct integration does not exist. **To access:** Open the **Preferences** context and click the **Integration Preferences** menu. In the Integration Preferences page, click the **New Integration** button and select **Data Integration**, or select an existing Data integration and click **Edit Integration**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences.
Useful Links	"Integration Preferences" on page 1108 "Integration Preferences User Interface" on page 1165 "Integration Preference Type Dialog Box" on page 1167

General Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a name by which to identify this integration in the SiteScope interface. **Note:** This is a required field.
Description	Optionally, enter a description of the integration. This could include information on the application receiving the data from SiteScope. This description appears only in the Integration Preferences page in SiteScope.

Data Integration Preferences Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Receiver URL	The URL of the application server to receive the SiteScope data. This must be a full URL including server, port, and path. If secure connection (SSL), then enter https. **Syntax:** http or https://<fully qualified domain name of the receiving server>:<port number receiving data>/<path>
Encoding	Encoding used by the receiving application. **Default value:** UFT-8
Reporting interval (seconds)	Time in seconds between when SiteScope finishes sending data to the next period SiteScope begins sending data. **Default value:** 60 seconds

GUI Element	Description
Time synchronization interval (minutes)	To synchronize between the time of the SiteScope server and the server receiving SiteScope data, SiteScope can periodically report the time that is registered on its server. The receiving server can then synchronize the time of the data samples coming from SiteScope with the time on its own server so that there is no discrepency between the time of the SiteScope data and the application's own data. Select in minutes how often you want SiteScope to report to the time of the SiteScope server to the server receiving SiteScope data.
GZIP compression	If selected, SiteScope compresses the sample data sent to the receiving server. If the data is compressed, then performance is improved because the time to send data is reduced. Select or clear this field depending on the amount of data being sent and whether the receiving application can handle compressed data. **Default value:** Not selected
Include additional data	If cleared, SiteScope reports the status of the following SiteScope objects: ➤ groups ➤ monitors ➤ counters If selected, the status of these objects are reported along with the status string, which includes the descriptions of each object. It is recommended not to include this data as it slows performance and the status string repeats the status data sent by default. **Default value:** Not selected
Error on redirect	If selected , SiteScope returns an error status if the target URL is redirected. **Default value:** Not selected

GUI Element	Description
Request timeout (seconds)	Sets the timeout in seconds until a connection is established with the server. A value of zero means there is no timeout used. **Default value:** 120
Connection timeout (seconds)	Sets the socket timeout in seconds to wait for data. A timeout value of zero means there is no timeout used. **Default value:** 120
Number of retries	The number of times SiteScope attempts to establish a connection. **Default value:** 3
Authentication when requested	If selected, enables SiteScope to send user name and password credentials if requested. If cleared, SiteScope does not forward credentials. **Default value:** Selected
Disable integration	If selected, SiteScope does not forward data to the server. The integration preference setting remains. Use when temporarily disabling the integration. **Default value:** Not selected

Web Server Security Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Authentication user name	If the server is configured to use basic authentication, enter the username to access the server.
Authentication password	If the server is configured to use basic authentication, enter the password to access the server.
Use SSL (HTTPS protocol)	Select this option if the server is configured to use the HTTPS protocol. **Default value:** Not selected

Proxy Server Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Address	Enter the proxy server address if applicable.
User name	Enter the username for the proxy server.
Password	Enter the password for the specified server.

Integration Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	SiteScope uses the tag selected here to determine what data is forwarded to the receiving application. You must select one tag for each integration. That same tag must be selected for the groups, subgroups, and monitors whose data you want forwarded to the receiving application. When selecting an integration tag for an object, the tag propogates to that object's children. If you tag a group with this Integration tag, all its subgroups and monitors report their status to the receiving application. **Example:** Create a tag called Integration1 and select it here. For each group and/or monitor whose status you want to report to the receiving application, select this tag under the **Search/Filter Tags** setting for the object. **Note**: You can select only one tag for each integration preference. However, you can select multiple Integration tags for the objects to be reported.
Add Tag	Click to open the New SiteScope Tag page and create a new tag. **Tip**: Use the word Integration when creating an Integration tag. Because the Integration tags appear along with all other Search/Filter tags created for the SiteScope, this helps you identify which tag to select for enabling a group or monitor for the integration. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

New/Edit Diagnostics Integration Dialog Box

Description	Enables you to create a new integration with HP Diagnostics or edit an existing Diagnostics integration. **To access:** Open the **Preferences** context and click the **Integration** menu. In the Integration Preferences page, click the **New Integration** button and select **Diagnostics Integration**, or select an existing Diagnostics integration and click **Edit Integration**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences.
Useful Links	"Diagnostics Integration Overview" on page 1111 "Integration Preferences User Interface" on page 1165 "Integration Preference Type Dialog Box" on page 1167

General Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a name by which to identify this integration in the SiteScope interface. **Note:** This is a required field.
Description	Optionally, enter a description of the integration. This could include information on the Diagnostics server receiving the data from SiteScope. This description appears only in the Integration Preferences page in SiteScope.

Diagnostics Integration Preferences Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Receiver URL	The URL of the Diagnostics server to receive the SiteScope data. This must be a full URL including server, port where diagnostics receives data, and path. The path must always include **/metricdata/siteScopeData**. If secure connection (SSL), then enter https. **Syntax:** http or https://<fully qualified domain name of the receiving server>:<port number receiving data>**/metricdata/siteScopeData** **Example**: http://DiagnosticsServer1.hp.net:2006/metricdata/siteScopeData
Encoding	Encoding used by the Diagnostics application. **Default value:** UTF-8
Reporting interval (seconds)	Time in seconds between when SiteScope finishes sending data to the Diagnostics server to the next period SiteScope sends data. This time interval can prevent communication delays between the servers as it is an interval of time when no data is sent. **Default value:** 60
Time synchronization interval (minutes)	To synchronize between the time of the SiteScope server and the Diagnostics server, SiteScope periodically reports the time that is registered on its server. Diagnostics then synchronizes the time of the data samples coming from SiteScope with the time on its own server so that there is no discrepency between the time of the SiteScope data and the Diagnostics data. Select in minutes how often you want SiteScope to report to Diagnostics the time of the SiteScope server.

GUI Element	Description
GZIP compression	If selected, SiteScope compresses the sample data sent to the Diagnostics server. If the data is compressed, then performance is improved because the time to send data is reduced. The Diagnostics application can handle compressed data. Select or clear this field depending on the amount of data being sent. **Default value:** Selected
Include additional data	If cleared, SiteScope reports the status of the following SiteScope objects: ➤ groups ➤ monitors ➤ counters If selected, the status of these objects are reported along with the status string, which includes the descriptions of each object. It is recommended not to include this data as it slows performance and the status string repeats the status data sent by default. **Default value:** Not selected
Error on redirect	If selected, SiteScope returns an error status if the target URL is redirected. **Default value:** Not selected
Request timeout (seconds)	Sets the socket timeout in seconds which is the timeout for waiting for data. A timeout value of zero is interpreted as an infinite timeout. **Default value:** 120
Connection timeout(seconds)	Sets the timeout until a connection is established. A value of zero means the timeout is not used. **Default value:** 120
Number of retries	The number of times SiteScope attempts to establish a connection. **Default value:** 3

GUI Element	Description
Authentication when requested	If selected, enables SiteScope to send user name and password credentials if requested. If cleared, SiteScope does not forward credentials. **Default value:** Selected
Disable integration	If selected, SiteScope does not forward data to the Diagnostics server. The integration preference settings remain. Use when temporarily disabling the integration. **Default value:** Not selected
Generate UOM XML	Click this button to generate a units of measurment xml file to merge with the **<SiteScope root directory>/conf/integration/data_integration_uom.xml** file. This file enables Diagnostics to read the SiteScope data and apply the appropriate unit of measurement to the data. It is recommended that you click this button when a monitor instance is added that reports data to Diagnostics. If any values were manually changed in the **data_integration_uom.xml** file, those values remain and are not updated by this merge file. This merge file is also generated and updates the xml file upon every SiteScope restart (by default every 24 hours). For details, see "Units of Measurements in Diagnostics" on page 1111.

Web Server Security Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Authentication user name	If the server is configured to use basic authentication, enter the username to access the server.
Authentication password	If the server is configured to use basic authentication, enter the password to access the server.

Proxy Server Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Address	Enter the proxy server address if applicable.
User name	Enter the username for the proxy server.
Password	Enter the password for the specified server.

Integration Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	SiteScope uses the tag selected here to determine what data is forwarded to Diagnostics. You can select more than one tag for each integration. The tag must be selected for the groups, subgroups, and monitors whose data you want forwarded to Diagnostics. When selecting an Integration tag for an object, the tag propogates to that object's children. If you tag a group with this Integration tag, all its subgroups and monitors report their status to Diagnostics. **Example:** Create a tag called Diagnostics_Integration1 and select it here. For each group and/or monitor whose status you want to report to Diagnostics, select this tag under the **Search/Filter Tags** setting.
Add Tag	Click to open the New SiteScope Tag page and create a new tag. **Tip**: Use the word Integration when creating an Integration tag. Because the Integration tags appear along with all other Search/Filter tags created for the SiteScope, this helps you identify which tag to select for enabling a group or monitor for the integration. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

Failover Preferences User Interface

Description	SiteScope Failover is a special version of SiteScope that includes automated mirroring and failover functionality. It enables you to implement failover capability for infrastructure monitoring by provisioning for backups, redundant, and failover mechanisms. Use the Failover Preferences to indicate a primary SiteScope to be mirrored and set how often the configurations should be mirrored to the failover SiteScope installation. **To access:** Open the **Preferences** context and click the **Failover** menu.
Important Information	The Failover Preferences are available only to users accessing SiteScope Failover that have a SiteScope Failover License. Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences. SiteScope Failover restarts itself after each mirroring operation. For information on using SiteScope Failover, refer to the *SiteScope Failover Guide* PDF.
Useful Links	"Failover Preferences" on page 1112

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Host	Enter the name or IP address of the server that you want this SiteScope Failover server to mirror configurations from.
Port	Enter the SiteScope port of the server that you want this SiteScope Failover server to mirror configurations from. **Default value:** 8888

GUI Element	Description
Use SSL	When this box is checked, the mirror server contacts the primary SiteScope server by using HTTPS. **Default value:** Not selected
Admin login	The login name used to access the administrator login account for the primary SiteScope instance. If no administrator login has been configured on the target machine, leave this box blank.
Admin password	The password used to access the administrator login account for the primary SiteScope instance. If no SiteScope administrator login has been configured on the primary SiteScope, leave this box blank.
Mirror every (hours)	The schedule for synchronizing (mirroring) configuration data to the failover SiteScope from the primary SiteScope. This is used to make sure that the SiteScope Failover configuration reflects updates and changes to the monitoring configuration on the primary SiteScope server. Values for this box should be between 1 to 23 hours. Enter values as whole numbers. **Default value:** 4 hours
Last mirror time	The time and date of the most recent mirroring operation.
Next mirror time	The time and date of the next scheduled mirroring operation.
Mirror Configuration Now	Click to mirror the primary SiteScope configuration data now.

Log Preferences User Interface

Description	Effective system availability monitoring requires that monitoring data be recorded and stored for a required interval of time. SiteScope Log Preferences controls the accumulation and storage of monitor data. **To access:** Open the **Preferences** context and click the **Log** menu.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences.
Useful Links	"Log Preferences" on page 1113 "SiteScope Log Database Table Structure" on page 1128 "Troubleshooting and Limitations" on page 1231

SiteScope Log File Preferences

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Daily logs to keep	Enter the number of days of monitoring data to keep. Once a day, SiteScope deletes any logs older than the specified number of days. **Default value:** 40 **Note:** ➤ The last two logs (today's and yesterday's) are always preserved, regardless of the number of logs or maximum log size specified. ➤ Keeping monitor data logs for long periods can cause a data storage problem for the SiteScope server depending on the total number of monitors configured and how often the monitors run per day. You should monitor the size of the log files in the **<SiteScope root directory>\logs** directory to estimate the data accumulation rate, and adjust this setting or server resources as necessary.

GUI Element	Description
Maximum size of logs (MB)	Enter the maximum size allowed for all monitoring logs. Once a day, SiteScope checks the total size of all monitoring logs and removes any old logs that are over the maximum size. **Default value:** 0 (the log size is not checked)

Database Logging Preferences

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Database connection URL	To enable Database logging, enter a URL to a Database Connection. The easiest way to create a database connection is to use ODBC to create a named connection to a database. **Example:** First use the ODBC control panel to create a connection called SiteScopeLog. Then, enter jdbc:odbc:SiteScopeLog in this box as the connection URL. **Note for using Windows Authentication:** If you want to access the database using Windows authentication, enter jdbc:mercury:sqlserver://<server name or IP address>:1433;DatabaseName=<database name>;AuthenticationMethod=type2 as the connection URL, and com.mercury.jdbc.sqlserver.SQLServerDriver as your database driver. Leave the **Database user name** and **Database password** boxes empty, since the Windows user credentials of the account from which the SiteScope service is running are used to establish a connection to the database.

GUI Element	Description
Database driver	Specify the database driver SiteScope should use to connect to the database. The driver should be a JDBC driver. To have SiteScope use another driver the driver must also be installed in the **<SiteScope root directory>\WEB-INF\lib** directory and the path and filename must be entered in this box. **Default value:** sun.jdbc.odbc.JdbcOdbcDriver
Database user name	Enter the user name used to log in to the database. If using Microsoft SQL server, leave this blank and choose NT Authentication when setting up the ODBC connection. With NT Authentication, SiteScope connects using the login account of the SiteScope service.
Database password	Enter a password used to login to the database. If using Microsoft SQL server, leave this blank and choose NT Authentication when creating the ODBC connection. With NT Authentication, SiteScope connects using the login account of the SiteScope service.
Backup database connection URL	Enter a URL to a backup database. Use this option to provide failover of SiteScope database logging if the primary database becomes unavailable. **Note:** The same database table definition, database driver, user name, and password are applied to both database connections. After saving changes to the Database preferences, stop and restart the SiteScope service for the changes take effect.

E-mail Preferences User Interface

Description	E-mail is the default media for sending event alerts when a problem has been detected by SiteScope (in addition to the visual icons and status messages displayed in the SiteScope interface). Use the E-mail Preferences to indicate the SMTP mail server, recipient addresses, and other settings that SiteScope should use when sending e-mail alerts and other SiteScope messages. **To access:** Open the **Preferences** context and click the **E-mail** menu.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences.
Useful Links	"E-mail Preferences" on page 1114 "New/Edit E-mail Recipient Dialog Box" on page 1191 "E-mail Preferences Default Settings Dialog Box" on page 1194

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click the **New E-mail Recipient** button to create a new E-mail Recipient profile. For details on the user interface, see "New/Edit E-mail Recipient Dialog Box" on page 1191.
	Click the **Edit E-mail Recipient** button to edit the E-mail Recipient profile. For details on the user interface, see "New/Edit E-mail Recipient Dialog Box" on page 1191.
	Click the **Delete E-mail Recipient** button to delete the selected E-mail Recipient profile from E-mail Preferences.
	Click the **Test E-mail Recipient** button to test that you can send a message to the E-mail address. Enter a message in the E-mail dialog box, and click **Test**.

GUI Element	Description
	Click the **Select All** button to select all listed E-mail Recipient profiles.
	Click the **Unselect All** button to clear the selection.
Default Settings	Click the arrow next to **Default Settings**, and select an option: ➤ **Edit.** Opens the E-mail Preferences Default Settings dialog box which enables you to change the default settings displayed in the New E-mail Preferences dialog box. For details on the settings, see "E-mail Preferences Default Settings Dialog Box" on page 1194. ➤ **Test.** Test that you can send an e-mail to the selected addresses. Select the e-mail recipients you want to test from the list of Available Recipients, or enter e-mail addresses in the **E-mail addresses** box.
Name	The text name string assigned to the setting profile when you create a new E-mail Recipient.
Description	A description of the setting profile that was assigned when creating or editing the profile.
E-mail	The e-mail address to which the alert is to be sent.
Enabled	The enabled/disabled status of the e-mail alert. If the status is **No**, e-mail alerts are stopped from being sent to these e-mail addresses.

New/Edit E-mail Recipient Dialog Box

Description	Enables you to create a new E-mail Recipient profile or edit an existing profile. SiteScope uses E-mail Recipient profiles for sending e-mail alerts. **To access:** Open the **Preferences** context and click the **E-mail** menu. In the E-mail Preferences page, click the **New E-mail Recipient** button, or select an existing E-mail Recipient profile and click **Edit E-mail Recipient**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences.
Useful Links	"E-mail Preferences" on page 1114 "E-mail Preferences User Interface" on page 1189 "E-mail Preferences Default Settings Dialog Box" on page 1194

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a text description for the E-mail Recipient profile definition. The name is used to identify the E-mail Recipient profile definition in the product display.
Description	Enter a description for the setting profile, which appears only when editing or viewing its properties. You can include HTML tags such as the , <HR>, and <B> tags to control display format and style. **Note:** HTML code entered in this box is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected. The following is prohibited HTML content: ➤ Tags: **script**, **object**, **param**, **frame**, **iframe**. ➤ Any tag that contains an attribute starting with **on** is declined. For example, onhover. ➤ Any attribute with **javascript** as its value.
E-mail to	The e-mail addresses to which you want to send the alert. **Example:** test@mycompany.com You can enter multiple e-mail addresses by separating the e-mail addresses with commas. **Example:** test@mycompany.com, sysadmin@thiscompany.com
Disabled	Stops e-mail alerts from being sent to these e-mail addresses. Use this option to temporarily disable a particular e-mail without editing every alert that contains this e-mail setting.

Advanced Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Template	Select a template from the drop-down list to define the e-mail alert settings. Once a setting is defined, a single alert is sent to people and pagers. Use the **ShortMail** template for pagers.
Schedule	Use this option to specify when e-mail settings should be enabled. You may select a more restricted schedule from the names schedules in the drop-down menu. **Default value:** every day, all day

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

E-mail Preferences Default Settings Dialog Box

Description	Enables you to configure the default E-mail Recipient settings. **To access:** Open the **Preferences** context and click the **E-mail** menu. In the E-mail Preferences page, click the **Edit Default Settings** button.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences.
Useful Links	"E-mail Preferences" on page 1114 "E-mail Preferences User Interface" on page 1189 "New/Edit E-mail Recipient Dialog Box" on page 1191

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
E-mail server domain name	Enter the domain name of the SMTP mail server that SiteScope should use when sending e-mail messages. **Example:** mail.thiscompany.com If you are unsure of your mail server's domain name, check with your Systems Administrator.
Administrator e-mail address	Enter the e-mail address to which SiteScope should send status messages. **Example:** sysadmin@thiscompany.com
Daily status	Select this option to have SiteScope send a brief daily status message to the administrator's e-mail address. This e-mail is scheduled to be generated at 7:07 AM every day. The subject of e-mail sent includes: "SiteScope daily status". The e-mail content includes the number of active monitors and groups, along with a URL link to the applicable SiteScope main page plus the version number of SiteScope installation.

GUI Element	Description
SiteScope starts/restarts	Select this option to have SiteScope send a brief message each time that SiteScope restarts. Normally, SiteScope automatically restarts itself once a day. Other restarts may be an indication of a monitor run problem. For more information, see "SiteScope Server Health" on page 1529.
From e-mail address	Enter the e-mail address used as the From Address for mail generated by SiteScope. Specifying an e-mail address may make it easier to browse and sort e-mail sent by SiteScope. If nothing is entered, the **From e-mail address** stays the same as the address where the mail is sent from. **Example:** sitescope@mycompany.com **Note:** If the mail server being used required NTLM authentication (see below), the e-mail address entered here must be a valid e-mail address.
Backup e-mail server domain name	Enter the domain name of the SMTP mail server that SiteScope should use whenever the primary mail server cannot be reached. If unsure of backup mail server's domain name, check with the Systems Administrator. **Example:** gateway.mycompany.com.
Login	Enter the username required by the SMTP server in this box. This user name is used for both the primary and backup mail servers. **Note:** You must restart SiteScope if you change this setting.
Password	If the SMTP server you want SiteScope to use requires authentication, enter the password for username entered in the **Login** box. This password is used for both the primary and backup mail servers. **Note:** You must restart SiteScope if you change this setting.

GUI Element	Description
NTLM authentication	Select an NTML authentication option from the drop-down list: ➤ **none**. Select if the mail server does not require NTLM authentication. ➤ **NTLMv1**. Select if the mail server requires authentication using NTLM version 1. ➤ **NTLMv2**. Select if the mail server requires authentication using NTLM version **Note:** You must restart SiteScope if you change this setting. **Default value:** none
Timeout (seconds)	Enter an optional length of time to wait for a response from the SMTP server. If a response from the primary mail server is not received within the timeout period, SiteScope switches to use the backup mail server. **Default value:** 60 seconds

Pager Preferences User Interface

Description	Used to define pager recipient profiles and settings that SiteScope uses for sending Pager alerts to individuals or groups. Lists all the currently defined Pager Recipient profiles. ➤ Sends an automated notification to system administrators who may not have immediate access to e-mail. ➤ Sends alert escalation or notifies support personnel who may be away from the office. **To access:** Open the **Preferences** context and click the **Pager Preferences** menu.
Important Information	You cannot delete a Pager Recipient profile if it is referenced by an alert action. You must change the recipient in the alert before you can delete the profile.
Useful Links	"Pager Preferences" on page 1114 "New/Edit Pager Recipient Dialog Box" on page 1199

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click the **New Pager Recipient** button to create a new Pager Recipient profile. For details on the user interface, see "New/Edit Pager Recipient Dialog Box" on page 1199.
	Click the **Edit Pager Recipient** button to edit the Pager Recipient profile. For details on the user interface, see "New/Edit Pager Recipient Dialog Box" on page 1199.
	Click the **Delete Pager Recipient** button to delete the selected Pager Recipient profile from Pager Preferences.

GUI Element	Description
	Click the **Test Pager Recipient** button to test that you can send a message to the pager. Enter a message in the Test Pager dialog box, and click **Test**. You can enter a prefix that can be added to the pager message. If you are sending the message to a numeric pager, do not enter more than 32 digits.
	Click the **Select All** button to select all listed Pager Recipient profiles.
	Click the **Unselect All** button to clear the selection.
Default Settings	Click the arrow next to **Default Settings**, and select an option: ➤ **Edit.** Opens the Pager Preferences Default Settings dialog box which enables you to change the default settings displayed in the New Pager Preferences dialog box. For details on the settings, see "New/Edit Pager Recipient Dialog Box" on page 1199. ➤ **Test.** Opens the Test Pager dialog box which enables you to test that you can send a message to the default pager. Enter a message in the **Message** box, and click **Test**. You can enter a prefix that can be added to the pager message. If you are sending the message to a numeric pager, do not enter more than 32 digits.
Name	The text name string assigned to the setting profile when you create a new pager recipient.
Description	A description of the setting profile that was assigned when creating or editing the profile.

New/Edit Pager Recipient Dialog Box

Description	Enables you to create a new Pager Recipient profile or edit an existing profile. SiteScope uses Pager Recipient profiles for sending Pager alerts. **To access:** Open the **Preferences** context and click the **Pager Preferences** menu. In the Pager Preferences page, click the **New Pager Recipient** button, or select an existing pager profile and click **Edit Pager Recipient** .
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences.
Useful Links	"Pager Preferences" on page 1114 "Pager Preferences User Interface" on page 1197

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter the text name string assigned to the setting profile when you create a new pager recipient.
Modem port	Select the communications port that the modem is connected to on the SiteScope server. For SiteScope on Solaris or Linux, enter the path and device name for the modem. On Microsoft Windows NT/2000 platforms, SiteScope uses COM port numbers for both RS-232C type serial ports as well as for USB modem ports. If you are using a USB type modem, select the COM port associated with the USB port to have SiteScope use the USB modem. To find the COM port number for the USB modem, use the **Settings** > **Network and Dial-up Connections** menu. Right-click the desired modem, and then click **Properties**. The properties should show the COM port number that is associated to the modem. **Default value:** COM1

GUI Element	Description
Connection speed (bit/sec)	Select the modem speed used for connections to the paging service from the drop-down list. **Default value:** 1200 bit/sec
Pager connection options	Select an option for sending a message to your paging service: ➤ **Modem to modem connection (Preferred).** Select if you have an alphanumeric pager and use an alphanumeric paging service. ➤ **Dial and enter message.** Select to dial a direct phone number to send a page. ➤ **Dial, enter command and enter message.** Select if you have a direct number, but need to enter a command before sending a page. ➤ **Custom modem connection.** Select if your paging company does not use any of the previous connection choices. For details of the information required for the selected option, see the table below.

Pager Connection Options

Enter the information required for the selected Pager Connection option:

GUI Element	Description
Modem number	Enter the phone number to use for sending alphanumeric pages to the paging service modem.
Modem pin number	Enter the last seven digits of the PIN number for your alphanumeric pager. If you use an alphanumeric paging service, you must enter the phone number to use for sending alphanumeric pages to the paging service modem. This number is provided by your paging service. The paging service sometimes refers to this as the TAP/IXO number.

GUI Element	Description
Phone number	Enter the phone number exactly as you would dial it from your telephone, including other numbers you may need, such as a number to get an outside line. You can use dashes to make the number easier to read. Use commas to separate the portions of the phone number. Each comma causes the modem script to pause for a few seconds before dialing the rest of the number. **Example:** If you are dialing your pager from your office, and you have to dial 9 to get an outside line, enter: 9, 555-6789.
Send page command	Enter the page command exactly as you would dial it from your touch tone telephone.
Custom modem command	Enter the entire modem command including the phone number to dial, any additional digits, and $message. SiteScope replaces $message with the message you specified for each alert. **Example:** If the number for the pager company is 123-4567, your pager PIN is 333-3333, and your pager company requires that you follow each command with the **#** key, the command might look like this: ATDT 123-4567,,333-3333#,,$message# **Note:** For SiteScope running on UNIX, enter the device path for your modem in the **Modem Path** box. To see a list of devices using Solaris, use the ls /dev/term/* command.
Disabled	Select to temporarily disable a particular pager without editing every alert that contains this persons pager. **Default value:** Not selected

Advanced Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Schedule	Specifies when pager settings should be enabled. A more restricted schedule can be selected from the drop-down list. **Default value:** every day, all day
Description	Enter a description for the setting profile, which appears only when editing or viewing its properties. You can include HTML tags such as the , <HR>, and <B> tags to control display format and style. **Note:** HTML code entered in this box is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected. The following is prohibited HTML content: ➤ Tags: **script**, **object**, **param**, **frame**, **iframe**. ➤ Any tag that contains an attribute starting with **on** is declined. For example, onhover. ➤ Any attribute with **javascript** as its value.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

SNMP Trap Preferences User Interface

Description	Used to define settings that are used by SiteScope SNMP Trap alerts when sending data to management consoles. SiteScope uses the SiteScope SNMP Trap Alert type to integrate with SNMP-based network management systems. **To access:** Open the **Preferences** context and click the **SNMP** menu.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences. You cannot delete an SNMP Trap profile if it is referenced by an alert action. You must change the SNMP Trap in the alert before you can delete the SNMP Trap profile.
Useful Links	"SNMP Trap Preferences" on page 1115 "New/Edit SNMP Trap Dialog Box" on page 1207

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click the **New SNMP Trap** button to create a new SNMP Trap profile. For details on the user interface, see "New/Edit SNMP Trap Dialog Box" on page 1207.
	Click the **Edit SNMP Trap** button to edit the SNMP Trap profile. For details on the user interface, see "New/Edit SNMP Trap Dialog Box" on page 1207.
	Click the **Delete SNMP Trap** button to delete the selected SNMP Trap profile from SNMP Preferences.
	Click the **Test SNMP Trap** button to test that you can send a message to the SNMP trap. Enter a message in the Test SNMP Trap dialog box, and click **Test**.
	Click the **Select All** button to select all listed SNMP Trap profiles.

GUI Element	Description
	Click the **Unselect All** button to clear the selection.
Default Settings	Click the arrow next to **Default Settings**, and select an option: ➤ **Edit.** Opens the SNMP Trap Preferences Default Settings dialog box which enables you to change the default settings displayed in the New SNMP Trap dialog box. For details on the settings, see "New/Edit SNMP Trap Dialog Box" on page 1207. ➤ **Test.** Opens the Test SNMP Trap dialog box which enables you to test that you can send a message to the default SNMP trap. Enter a message in the Test SNMP Trap dialog box, and click **Test**.
Name	The text name string assigned to the setting profile when you create a new SNMP trap profile.
Description	A description of the setting profile that was assigned when creating or editing the profile.
Host	The domain name or IP address of the machine that receives all SNMP trap messages.
Port	The SNMP port to which the trap is sent.

New/Edit SNMP Trap Dialog Box

Description	Enables you to create a new SNMP Trap profile or edit an existing profile. **To access:** Open the **Preferences** context and click the **SNMP** menu. In the SNMP Trap Preferences page, click **New SNMP Trap** or select an existing SNMP Trap profile and click **Edit SNMP Trap**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences. For details on this topic, see "User Management Preferences" on page 1118.
Useful Links	"SNMP Trap Preferences" on page 1115 "SNMP Trap Preferences User Interface" on page 1205

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter the text name string assigned to the setting profile when creating a new SNMP recipient.
Description	Enter a description for the setting profile, which appears only when editing or viewing its properties. You can include HTML tags such as the , <HR>, and <B> tags to control display format and style. **Note:** HTML code entered in this box is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected. The following is prohibited HTML content: ➤ Tags: **script**, **object**, **param**, **frame**, **iframe**. ➤ Any tag that contains an attribute starting with **on** is declined. For example, onhover. ➤ Any attribute with **javascript** as its value.
Send to host	Enter the domain name or IP address of the machine that receives all SNMP trap messages. This machine must be running an SNMP console to receive the trap message. **Examples:** snmp.mydomain.com or 206.168.191.20.
SNMP port	The SNMP port to which the trap is sent. **Default value:** 162
SNMP community	The default SNMP community name used for sending traps. The community string must match the community string used by the SNMP management console. **Default value:** public

GUI Element	Description
SNMP trap ID	The type of trap to send. There are several predefined ID types for common conditions. ➤ Select a generic SNMP type from the **Generic SNMP trap ID** drop-down list. ➤ To use an enterprise specific SNMP ID type, enter the number of the specific trap type in the **Enterprise-Specific SNMP trap ID** box.
SNMP trap version	Select the default SNMP protocol version number to use. SNMP V1 and V2c are currently supported. **Default value:** V1
SNMP object ID	This identifies to the console the object that sent the message. ➤ Select one of the predefined objects from the **Preconfigured SNMP object IDs** drop-down list. ➤ To use another object ID, enter the other object ID in the **Other SNMP object ID** box.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

Absolute Schedule User Interface

Description	Used for customizing the operation of SiteScope monitors and alerts to run only at specific times. **To access:** Open the **Preferences** context and click the **Schedule** menu. In the Schedule toolbar, click the **New** button, and select **New Absolute Schedule**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences. You cannot delete an Absolute Schedule profile if it is referenced by an alert action, report, monitor, or monitor threshold. You must remove the profile from each dependency before you can delete the profile.
Useful Links	"Schedule Preferences" on page 1115

General Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a name for the Absolute Schedule. The name is used to identify the Absolute Schedule in the product display.
Description	Enter a description for the setting profile, which appears only when editing or viewing its properties. You can include HTML tags such as the , <HR>, and <B> tags to control display format and style. **Note:** HTML code entered in this box is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected. The following is prohibited HTML content: ➤ Tags: **script**, **object**, **param**, **frame**, **iframe**. ➤ Any tag that contains an attribute starting with **on** is declined. For example, onhover. ➤ Any attribute with **javascript** as its value.

Absolute Schedule Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<days of the week>	Enter the time or times that the monitor needs to run in the boxes next to the day of the week. Time values for absolute schedules must be limited to the 24-hour period of a standard day for each day. To enter multiple times for a single day, separate the times by a comma (,). **Example:** 01,02:30,23:30 runs the monitor at 1:00 AM, 2:30 AM, and 11:30 PM

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

Range Schedule User Interface

Description	Used for customizing the operation of SiteScope monitors and alerts to run only during specific time periods. **To access:** Open the **Preferences** context and click the **Schedule** menu. In the Schedule toolbar, click the **New** button, and select **New Range Schedule**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences. You cannot delete a Range Schedule profile if it is referenced by an alert action, report, monitor, or monitor threshold. You must remove the profile from each dependency before you can delete the profile.
Useful Links	"Schedule Preferences" on page 1115

General Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a name for the Range Schedule.
Description	Enter a description for the setting profile, which appears only when editing or viewing its properties. You can include HTML tags such as the , <HR>, and <B> tags to control display format and style. **Note:** HTML code entered in this box is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected. The following is prohibited HTML content: ➤ Tags: **script**, **object**, **param**, **frame**, **iframe**. ➤ Any tag that contains an attribute starting with **on** is declined. For example, onhover. ➤ Any attribute with **javascript** as its value.

Range Schedule Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<days of the week>	Select the day of the week and enter the time or times the monitor needs to run. Time values for range schedules must be limited to the 24 hour period of a standard day for each day. Select **Enabled** to run monitors during the specified time range only, or **Disabled** to run monitors during all hours of the applicable day, except during the time range. **Note:** The range schedule uses a 24 hour time format only. **Example:** To disable monitors from 6:00 PM on Thursday evening until 8:00 AM the following morning, enter a **From** value of 18 and a **To** value of 24 for Thursday and then enter a **From** value of 0 and a **To** value of 8 for Friday. If you enter a **From** value of 18 and a **To** value of 8 on the Thursday schedule, the schedule becomes invalid. To enter multiple times for a single day, separate the times by a comma (,). For example, to disable from 2-3AM and 7-8AM, in the **From** box enter 2:00,7:00 and in the **To** box enter 3:00,8:00. **Default value:** Enabled (no time values specified). See the table below for more information.

Days of the Week

Enable Setting (Enable / Disable)	Time Range (From /To)	Schedule Effect
Enable	**From** and **To** time values specified	Monitors are enabled to run only during the **From** and **To** time range.
Enable	(no time values specified)	Monitors are enabled to run during all hours of the applicable day. This is the default setting for 24-hour operation.
Disable	**From** and **To** time values specified	Monitors are enabled to run during all hours of the applicable day, except during the **From** and **To** time range.
Disable	(no time values specified)	Monitors are disabled during all hours of the applicable day.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

User Management Preferences User Interface

Description	The data provided by SiteScope can be made available to multiple users without granting full administrative privileges to all users. This page allows you to create multiple user accounts that provide different view and edit permissions for different audiences. **To access:** Open the **Preferences** context and click the **User Management** menu.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences. To edit other users, a user must also be granted **Edit user preferences** permissions. The Administrator account is the default account that is active when the product is installed. To create other accounts, you must first edit the Administrator account profile to include a user login name and login password.
Useful Links	"User Management Preferences" on page 1118

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click the **New User** button to create a new user profile. For details on the user interface, see "New/Edit User Dialog Box" on page 1217.
	Click the **Edit User** button to edit the selected user profile. For details on the user interface, see "New/Edit User Dialog Box" on page 1217.
	Click the **Delete User** button to delete the selected user profiles.
	Click the **Select All** button to select all listed user profiles.
	Click the **Unselect All** button to clear the selection.

GUI Element	Description
User Name	The title for this user profile that was provided in the **Displayed user name** box. If a name was not provided, the **Login name** value is used instead.
Login Name	Displays the login name.
Login Disabled	Displays the login status. If the check box is cleared, access to SiteScope using the user profile is enabled. If the check box is selected, access to SiteScope with this user profile is not allowed.
User Type	The type of user. For details on the different user types, see "User Types" on page 1119.

New/Edit User Dialog Box

Description	Enables you to create a new user profile or edit an existing profile. **To access:** Open the **Preferences** context and click the **User Management** menu. In the User Management page, click the **New User** button, or select an existing User profile and click **Edit User**.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences. To edit other users, a user must also be granted **Edit user preferences** permissions. For users who do not have relevant permissions, this dialog box is presented as **Read Only**.
Useful Links	"User Management Preferences" on page 1118 "User Management Preferences User Interface" on page 1216

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Displayed user name	(Optional) Enter a title for this User profile. The title is displayed in the list of users. If you do not enter a title, the **Login name** value is used as the Displayed user name.
Login name	Enter the SiteScope login name to access SiteScope using this profile. Alternatively, users can log into SiteScope using LDAP authentication by entering a value in the relevant LDAP cells. **Allowed characters**: Latin alphanumeric. **Note**: Entering characters other than the allowed characters does not cause an error when creating the user profile. However, the user cannot log in to SiteScope using that login name.
Password	Enter the SiteScope login password for this user. If using LDAP for user authentication, there is no need to enter a password here. Users enter their LDAP password in the SiteScope login dialog box when they log in to their user account. For information about password requirements, see "Changing a User's Password" on page 1120. All SiteScope passwords are encrypted using 3DES (also known as TDES or Triple Data Encryption Algorithm). Although the TDES key is stored in SiteScope, it cannot be modified. For more information, refer to "Hardening the SiteScope Platform" in the *HP SiteScope Deployment Guide* PDF. **Note:** The SiteScope login password is case sensitive.
Confirm password	Re-enter the password entered in the **Password** box. This is used when creating a new user profile or changing the password of an existing user profile.

GUI Element	Description
LDAP service provider	To access the SiteScope service using a centralized LDAP authentication rather than the SiteScope specific password, enter the URL of the applicable LDAP server. This way, password authentication for access to SiteScope can be performed by LDAP. **Example:** ldap://ldap.mydomain.com:389. **Note:** ➤ Users still need to have a SiteScope login name defined. ➤ Users can use LDAP to access SiteScope, but they must have a user login and security principal assigned to them on the LDAP server.
LDAP security principal	When using LDAP authentication to access the SiteScope service, enter the Security Principal for this user. **Example:** uid=testuser,ou=TEST,o=this-company.com **Note:** Users may be defined with special characters on the LDAP server. However, SiteScope does not support users that contain the following characters in their user name: equal ("="), semi-colon (";"), inverted commas (""""). A user name containing invalid characters is unable to log in to SiteScope.
Login disabled	Select to disable access to SiteScope with this user name and password. Clear the check box to enable access using the user profile.

GUI Element	Description
Allowed groups	Displays the list of groups that can be accessed by this user profile. Click the N**ew** button to open the Select User's Allowed Groups dialog box, and select groups. For details on the user interface, see "Select User's Allowed Groups Dialog Box" on page 1224. To remove user access to a group, select the group and click the **Delete** button. It is not possible to delete all groups in the list. **Default value:** The SiteScope node is checked to enable access to all groups. **Note:** This field is not visible for an Administrator's settings.

Permissions

Note: The **Permissions** pane is not visible to administrators, since they have full permissions which cannot be changed.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Groups	
Edit groups	Enables the user to add new groups, rename, copy, or delete existing monitor groups.
Refresh groups	Enables the user to refresh or force all the monitors within a group to run regardless of their schedule.
Disable groups	Enables the user to disable groups.
Monitors	

GUI Element	Description
Edit monitors	Enables the user to add new monitors, edit existing monitor configurations, or delete monitors.
Refresh monitors	Enables the user to refresh or force individual monitors to run regardless of their schedule.
Acknowledge monitors	Enables the user to use the Acknowledge function to comment on monitor status on the group detail page.
Disable monitors	Enables the user to disable monitors within a group.
Alerts	
View alerts list	Enables the user to view the list of currently configured alert definitions on the Alert List page.
Edit alerts	Enables the user to add a new alert, edit, or delete existing alerts. **Note:** This option is enabled only if the **View alerts list** option is selected.
Test alerts	Enables the user to test an existing alert definition. **Note:** This option is enabled only if the **View alerts list** option is selected.
Disable alerts indefinitely	Enables the user to disable or enable one or more alerts indefinitely. **Note:** This option is enabled only if the **View alerts list** option is selected.
Disable alerts temporarily	Enables the user to disable or enable one or more alerts temporarily.
Reports	
Generate Monitor Summary report	Enables the user to use the Browse Monitor form and the Monitor Summary Report.
Generate Management report	Enables the user to create a scheduled Management report manually.
Edit Management report	Enables the user to add new report definitions, and edit or delete existing report definitions.

GUI Element	Description
Generate Quick report	Enables the user to create ad hoc SiteScope management reports.
Generate Alert report	Enables the user to create ad hoc or quick alert reports.
Preferences and Remote Servers	
Edit preferences and remote servers	Enables the user to use any of the forms available on the Preferences submenu to add or edit SiteScope settings for e-mail alerts and other SiteScope messages, logging, integration, connectivity to remote servers, and so forth. It also enables the user to edit remote servers. **Note:** This option does not enable performing operations in the **Search/Filter Tags** tab.
Edit user preferences	Enables the user to edit or delete user preferences for all other users, except the SiteScope administrator user. **Note:** This option is enabled only if the **Edit preferences and remote servers** option is selected.
Test preferences and remote servers	Enables the user to test any preference setting that is testable. This is usually a setting for communicating with an external service such as e-mail, modem, SNMP, or other external application. It also enables the user to test remote servers. **Note:** This option does not enable performing operations in the **Search/Filter Tags** tab.
Tags	
View tags	Enables the user to view the New/ Edit SiteScope Tag dialog box to see a list of defined tags.
Edit tags	Enables the user to add, edit, or delete search/filter tags and tag values. **Note:** This option is enabled only if the **View tags** option is selected.
Templates	

GUI Element	Description
View templates	Enables the user to view templates that exist in the monitor tree.
Edit templates	Enables the user to add, edit, and delete templates. **Note:** This option is enabled only if the **View templates** option is selected.
Other Options	
Use tools	Enables the user to view and use the tools in the Tools container.
Use monitor tools	Enables the user to use the Diagnostic Tools form for certain monitor types. When a diagnostic tool is available for a monitor type, the **Tools** button  is enabled in the Dashboard toolbar for that monitor in the group detail page. **Note:** ➤ Diagnostic tools may expose sensitive system information. ➤ This option is enabled only if the **Use Tools** option is selected.
View progress	Enables the user to view the progress page showing monitors that are running and SiteScope monitoring load.
View logs	Enables the user to view the raw data reported by SiteScope monitors sent by alerts, and other SiteScope logs.
Dashboard Options	
Edit favorites	Enables the user to add or delete items in the favorite views list in the Dashboard view.
View monitor history	Enables the user to view the recent history report for a monitor.

Select User's Allowed Groups Dialog Box

Description	Enables you to select the groups and/or subgroups that the user is allowed to access. Select the box next to individual groups or subgroups to enable access to that group. By default, access is allowed to all groups. To restrict user access to fewer groups, clear the check box for the SiteScope node and then select the individual groups below the SiteScope node to which you want to enable access. **To access:** Open the **Preferences** context and click the **User Management** menu. In the User Management page, click the **New User** button, or select an existing user profile and click **Edit User**. In the New/Edit User dialog box, click the **New** button in the **Allowed groups** area.
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope User Preferences. To edit other users, a user must also be granted **Edit user preferences** permissions. When selected, each of a group's subgroups are also added to the list of allowed groups.
Useful Links	"User Management Preferences" on page 1118 "User Management Preferences User Interface" on page 1216

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Represents an individual SiteScope server. **Default value:** The current container and all child elements are selected.
	Represents a SiteScope monitor group or subgroup (with enabled monitors/with no monitors or no enabled monitors). If an alert has been set up for the monitor group or subgroup, the alert symbol is displayed next to the group icon. If a Management report has been set up for the monitor group or subgroup, the report symbol is displayed next to the group icon.
	Represents the collection of available health monitors that are deployed to check proper functioning of SiteScope monitors.

Credential Preferences User Interface

Description	Provides centralized credential management for SiteScope resources. This enables you to add, update, and delete credentials that are used in configuring SiteScope monitors, templates, and remote hosts. **To access:** Open the **Preferences** context and click the **Credentials** menu.
Important Information	You cannot delete a credential profile if it is referenced by a monitor. You must remove the profile from each dependency before you can delete the profile. Only an administrator, or a user granted **Edit preferences and remote servers** permissions, can create or make changes to the credentials.

Included in Tasks	"Configure Credential Preferences" on page 1127
Useful Links	"Credential Preferences" on page 1121 "New/Edit Credential Profile Dialog Box" on page 1227

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click the **New Credential Profile** button to open the New Credential Profile dialog box that enables you to create a new credential profile. For details on the user interface, see "New/Edit Credential Profile Dialog Box" on page 1227.
	Click the **Edit Credential Profile** button to open the Edit Credential Profile dialog box that enables you to edit a credential profile. For details on the user interface, see "New/Edit Credential Profile Dialog Box" on page 1227.
	Click the **Delete Credential Profile** button to delete the selected credential profile from Credentials Preferences.
	Click the **Select All** button to select all listed credential profiles.
	Click the **Unselect All** button to clear the selection.
Name	The text name string assigned to the setting profile when you create a new credential profile.
Login	The user name to access the resource using this credential profile.
Description	A description of the setting profile that was assigned when creating or editing the credential profile.

New/Edit Credential Profile Dialog Box

Description	Enables you to create a new credential profile or edit an existing profile. You use credential profiles for storing and managing authentication credentials for SiteScope resources. **To access:** Open the **Preferences** context and click the **Credentials** menu. In the Credentials page, click **New** and select **New Credentials**, or select an existing credential profile and click **Edit** .
Important Information	Only an administrator in SiteScope, or a user granted **Edit preferences and remote servers** permissions can create or make changes to SiteScope Preferences. This page opens in view mode or edit mode depending on your user permissions. For details on this topic, see "User Management Preferences" on page 1118.
Included in Tasks	"Configure Credential Preferences" on page 1127
Useful Links	"Credential Preferences" on page 1121 "Credential Preferences User Interface" on page 1225

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a descriptive name for the credential profile. **Maximum length:** 50 characters
Domain	(Optional) Enter the domain for the credential. During the connection, the domain is added to the login in the format: <domain>\<login>.
Login	Enter the user name to access the resource using this credential profile.

GUI Element	Description
Password	Enter the password to access the resource using this credential profile. All SiteScope passwords are encrypted using 3DES (also known as TDES or Triple Data Encryption Algorithm). For more information, refer to "Hardening the SiteScope Platform" in the *HP SiteScope Deployment Guide* PDF.
Confirm password	Re-enter the password entered in the **Password** box. This is used when creating a new credential or changing the password of an existing credential.

Advanced Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Description	Enter a description for the setting profile, which appears only when editing or viewing its properties. You can include HTML tags such as the , <HR>, and <B> tags to control display format and style. **Note:** HTML code entered in this box is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected. The following is prohibited HTML content: ➤ Tags: **script**, **object**, **param**, **frame**, **iframe**. ➤ Any tag that contains an attribute starting with **on** is declined. For example, onhover. ➤ Any attribute with **javascript** as its value.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

Search/Filter Tag Preferences User Interface

Description	Used to manage the Search/Filter tags defined in SiteScope. You can assign tags to one or more items in the context trees and preference profiles, and then use the tags as an object for a filter. **To access:** Open the **Preferences** context and click the **Search/Filter Tags** menu.
Included in Tasks	"Create and Define a New Search/Filter Tag" on page 88
Useful Links	"Working with Search/Filter Tags" on page 87 "Search/Filter Tag Preferences" on page 1123

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click the **New Tag** button to open the New Tag dialog box which enables you to create a new search/filter tag. For details on the user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.
	Click the **Edit Tag** button to open the Edit Tag dialog box which enables you to edit a search/filter tag. For details on the user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.
	Click the **Delete Tags** button to delete the selected tag from Search/Filter Tag Preferences.
	Click the **Select All** button to select all listed search/filter tags.
	Click the **Unselect All** button to clear the selection.
Name	The text name string assigned to the setting profile when you create a new search/filter tag.
Description	A description of the setting profile that was assigned when creating or editing the search/filter tag.

Troubleshooting and Limitations

This section contains troubleshooting and limitations for issues relating to SiteScope preferences.

It contains the following topics:

Reporting Data to Business Availability Center

Due to the complexity of some monitoring deployments and network communications, there may be some time when SiteScope is temporarily unable to communicate with the Business Availability Center server. SiteScope Health monitoring includes several monitors for watching connectivity and data transfers to the Business Availability Center server.

If SiteScope is unable to connect to the HP Business Availability Center Server, SiteScope continues to record and store monitor data files locally. Once the number of data files exceeds a specified threshold, SiteScope saves the data files in a a cache folder with the syntax <SiteScope_root>\cache\persistent\topaz\data<index>.old.

Note: By default, the threshold number of data files is set to 1,000 files. You can change this setting by modifying the **_topazMaxPersistenceDirSize** property in the **master.config** file.

After the connection between SiteScope and the Agent Server is restored, you must manually copy the files from these folders to the **<SiteScope root directory>\cache\persistent\topaz\data** folder. We recommend that you only copy these files when the data folder is empty to avoid overloading the system with large amounts of data to upload. When the number of **data.old** folders exceeds a specified threshold, by default 10 folders, the oldest folders are deleted.

Note: You can configure the number of **data.old** folders to keep by modifying the **_topazMaxOldDirs** property in the **master.config** file.

Database Logging Connections

When Database logging is active and working correctly, you should see a table called **SiteScopeLog** in your database and a record added to the table every time a monitor runs. The data is sent to the database as a single table in a flat-file format.

If the **SiteScopeLog** table is not created or is empty, check the **<SiteScope root directory>\logs\RunMonitor.log** and **<SiteScope root directory>\logs\Error.log** files for log messages starting with "jdbc" or "odbc". When Database logging is working correctly, you should see a set of messages in **RunMonitor.log** that looks like this:

```
jdbc log, reconnect seconds=600
jdbc log, loading, driver=sun.jdbc.odbc.JdbcOdbcDriver
jdbc log, connecting, url=jdbc:odbc:SiteScopeLog,
jdbc log, logged in
jdbc log, checking log table
jdbc log, created log table
jdbc log, prepare insert, 19, INSERT INTO SiteScopeLog...
jdbc log, connected
```

If these entries do not appear in the log file there is a problem with the database interface or configuration of the database connection. You should also check the Database Connection URL you entered. This parameter is case sensitive. Check the spelling and letter case of the connection URL and be sure there are no leading or trailing spaces present in the text box.

You can also check the HP Software Self-solve knowledge base (http://h20230.www2.hp.com/selfsolve/documents) for other information relating to database logging. To enter the knowledge base, you must log in with your HP Passport ID.

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Using SiteScope in an Internationalization (I18N) Environment

This chapter includes the main concepts, tasks, and reference information for working with SiteScope in an I18N environment.

This chapter includes:

Concepts

Tasks

Reference

Multi-Lingual User (MLU) Interface Support

The SiteScope user interface can be viewed in the following languages in your Web browser:

Language	Language Preference in Web Browser
English	English
Simplified Chinese	Chinese (China) [zh-cn], Chinese (Singapore) [zh-sg]
Korean	Korean [ko]
Japanese	Japanese [ja]

Use the language preference option in your browser to select how to view SiteScope. The language preference chosen affects only the user's local machine and not the SiteScope machine or any other user accessing the same SiteScope. For details on setting the user interface viewing language, see "View SiteScope User Interface in a Specific Language" on page 1237.

Note: The language is determined when you log in to SiteScope; changing the language preference in your browser once you have logged in has no affect until you log out and log back in.

Notes and Limitations

- There is no language pack installation. All translated languages are integrated into SiteScope Multi-lingual User interface (MLU).
- Data stays in the language it was entered in, even if the language of the Web browser changes. Changing the language of the Web browser on your local machine does not change the language of monitor definitions and configurations.
- Names of entities included with the SiteScope installation, such as template examples, solution templates, views, and health monitors, are in English only.
- SiteScope Help can be viewed in Japanese if that is the language that you have selected for the user interface. When you select **Help on this page** or **SiteScope Help**, it is displayed in Japanese. To activate this function, you must install a software patch. Contact HP Software Support (http://www.hp.com/go/hpsoftwaresupport) for further information.
- Other links in the Help drop-down list, such as **Troubleshooting & Knowledge Base**, **HP Software Support**, and **HP Software Web Site**, are also displayed in the user interface language you selected.

Configure SiteScope for a Non-English Locale

This task describes the steps involved in configuring SiteScope for a non-English locale.

This task includes the following steps:

1 Change the Locale Version Setting

In the monitor tree, select **Preferences** > **General Settings**. In the Main Panel, select **International version**, and click **Save**. Restart SiteScope. This enables SiteScope to work with multiple character sets.

For details on the user interface, see "International version" on page 1134.

2 Set New Locale Time and Data Settings

You can set a new locale time and data settings for SiteScope.

a Open **<SiteScope root directory>\groups\master.config** in a text editor.

b Find the entry _localeCountry=, and assign it an uppercase 2-character ISO-3166 country code. For example: _localeCountry=US. A list of country codes is available at http://www.chemie.fu-berlin.de/diverse/doc/ISO_3166.html.

c Find the entry _localeLanguage=, and assign it a lowercase 2-character ISO-639 language code. For example: _localeLanguage=en. A list of language codes is available at http://www.ics.uci.edu/pub/ietf/http/related/iso639.txt.

d Save the file and restart SiteScope.

3 View SiteScope User Interface in a Specific Language

Select a language preference for viewing the SiteScope user interface.

For details on how to perform this task, see "View SiteScope User Interface in a Specific Language" on page 1237.

4 Results

SiteScope is configured to work with multiple foreign character sets, the time and data settings are displayed in a locale-specific format, and the user interface is displayed in a foreign language.

View SiteScope User Interface in a Specific Language

This task describes how to select a language preference for viewing the SiteScope user interface.

Note: For a list of supported languages, see "Multi-Lingual User (MLU) Interface Support" on page 1234.

To view SiteScope user interface in a specific language:

1. Install the required language's fonts on your local machine if they have not yet been installed. If you choose a language in your Web browser whose fonts have not been installed, the SiteScope user interface uses the default language of your local machine.

   For example, the default language on your local machine is English and the Web browser is configured to use Japanese. If Japanese fonts are not installed on the local machine, the SiteScope user interface is displayed in English.

2. If you use Internet Explorer, configure the Web browser on your local machine to select the language in which you want to view the SiteScope user interface. For details, see http://support.microsoft.com/kb/306872/en-us. Go to step 4.

3. If you use FireFox, configure the Web browser on your local machine as follows:

   a. Select **Tools** > **Options** > **Advanced**. Click **Edit Languages**. The Language dialog box opens.

   b. Highlight the language in which you want to view SiteScope.

      If the language you want is not listed in the dialog box, expand the **Select language to add...** list, select the language, and click **Add**.

   c. Click **Move Up** to move the selected language to the first row.

   d. Click **OK** to save the settings. Click **OK** to close the Language dialog box.

4. Click **LOGOUT** at the top of the SiteScope window. SiteScope refreshes and the user interface is displayed in the selected language.

Monitors Tested for Internationalization

The following monitors have been tested for internationalization.

Monitors Tested for Windows Operating Systems

CPU Monitor
Database Counter Monitor
Database Query Monitor
Disk Space Monitor
Link Check Monitor
Log File Memory Monitor
Microsoft IIS Server Monitor
Microsoft SQL Server Monitor
Microsoft Windows Event Log Monitor
Microsoft Windows Performance Counter Monitor
Microsoft Windows Resources Monitor
Oracle 9i Application Server Monitor
Oracle 10g Application Server Monitor
Ping Monitor
Script Monitor
Service Monitor
SNMP Monitor
SNMP Trap Monitor
UDDI Monitor
URL Monitor
URL Content Monitor
URL List Monitor

URL Sequence Monitor
Web Script Monitor

Monitors Tested for UNIX Operating Systems

CPU Monitor
Database Query Monitor
Disk Space Monitor
Log File Monitor
Port Monitor
Script Monitor
Service Monitor
UNIX Resources Monitor
URL Monitor
URL Content Monitor
URL Sequence Monitor

Troubleshooting and Limitations

This section contains troubleshooting and limitations for the following issues relating to working with SiteScope in an internationalization environment.

General Limitations for Using SiteScope in an I18N Environment

- User name, password, and URLs must be in English characters.
- Support for internationalization is available only in the new user interface.
- The machine on which SiteScope is installed (SiteScope machine) and the monitored machine must have the same locale. English is the default locale.
- The SiteScope machine can have a non-English locale in addition to English. For example, the monitored machine supports the German locale while the SiteScope machine supports German and English. For details on setting a non-English locale, see "Configure SiteScope for a Non-English Locale" on page 1235.
- When deploying the Web Script Monitor, script names and transaction names must also be in English characters.
- Script monitor on Redhat ES4 does not support parameters in any language other than English.
- SiteScope always uses "en_US" locale for parsing dates retrieved from remote UNIX machines (for example during a File monitor run). If the UNIX machine's default locale is different from en_US, in the definition of the UNIX remote for this machine, the **Initialize Shell Environment** field must contain "LANG=C; export LANG".

➤ You might experience character set problems on the SiteScope Tools page if the SiteScope client uses a multibyte locale that is different from the SiteScope server. **Workaround:** Set the value in the **master.config** file for the **_httpCharset** setting to **UTF-8**. By default, the **_httpCharset** value is empty, which means that the default server locale is used.

Database Environment Issues

➤ When you create a new Oracle instance in an Oracle database, you must specify the character set for the instance. All character data, including data in the data dictionary, is stored in the instance's character set.

➤ The Database Query Monitor can connect to an Oracle database but the Oracle user names and passwords must contain only English characters.

Troubleshooting Remote UNIX Servers Not Configured For an English Locale

Problem:

The File Monitor and Directory Monitor may fail when using UNIX remote servers that are not configured by default for an English locale or language.

Resolution:

Add "LANG=C; export LANG" to the **Initialize Shell Environment** property of the problematic UNIX remote server.

Part VII

Templates

35

SiteScope Templates

This chapter includes the main concepts, tasks, and reference information for SiteScope templates.

This chapter includes:

Concepts

Tasks

Reference

SiteScope Templates Overview

You use templates to rapidly deploy sets of monitors that check systems in the infrastructure that share similar characteristics.

SiteScope provides three types of templates: user-defined templates, Monitor Deployment Wizard templates, and predefined solution templates. This chapter discusses user-defined templates. For information on Monitor Deployment Wizard templates, see "Monitor Deployment Wizard Templates and Variables" on page 1456. For information on predefined solution templates, see "SiteScope Solution Templates" on page 1341.

Advantages of using SiteScope user-defined templates include:

- You can create and customize your own templates to meet the requirements of your organization.
- SiteScope templates are used to standardize a set of monitor types and configurations into a single structure. This structure can then be repeatedly deployed as a group of monitors targeting multiple elements of the monitored environments.
- Templates provide an enterprise solution for standardizing the monitoring of the different IT elements in your enterprise, including servers, applications, databases, network environments, and so forth.
- Templates speed the deployment of monitors across the enterprise through the single-operation deployment of groups, monitors, alerts, remote servers, and configuration settings.
- Templates provide the ability to view how the actual monitored deployments comply with the standardized deployment as defined in the template. This ensures that any changes in the monitored environment can be quickly updated in the monitoring infrastructure and that the monitoring infrastructure is still compliant with the standards set in the template.
- You can use silent template deployment to submit deployment requests, and continue to use SiteScope without having to wait for the template deployment process to finish. The template deployment requests are queued and processed in the background. If SiteScope restarts before all requests in the queue are complete, it automatically continues the deployment process after the restart.

➤ The Publish Template Changes Wizard provides the ability to make changes to the template, and publish the changes to all SiteScope objects deployed by the template. If a change is required to a template object, for example, a threshold value changes or a new monitor or alert is required, you can update the template once and publish the changes to all deployed groups without having to update each object individually.

Template Elements and Features

You create templates within a template container in the template view. These elements are then displayed in the template tree where you can access them for changes or deployment. For more information, see "Understanding Templates" on page 1248.

You use templates to deploy a standardized pattern of monitoring to multiple elements in your infrastructure. Effective development and use of templates requires some planning because you can add multiple objects types to the template. For more information, see "Planning Templates" on page 1252.

You create a template by adding and configuring groups, remote server definitions, monitors, alerts, and variables to the template. You use template variables as substitution markers for configuration settings that you want to change dynamically or interactively each time you deploy the template. Creating and referencing variables is an action that is unique to templates. For more information, see "Working with Template Variables" on page 1254.

Several SiteScope monitor types use a measurement counter browser function to dynamically query applications and systems for the metrics that are available for monitoring. When you create one of these monitors manually, you use a multiple step procedure to view and select counters. An alternative method is used to select counters when deploying templates. For details, see "Modify Counter Selection Strings to Use Regular Expressions" on page 1282.

After you create and configure templates, you deploy them in the SiteScope hierarchy. For details on deploying templates, see "Deploy the Template" on page 1271. If you subsequently want to make changes to the source template, you can automatically publish the changes to SiteScope objects deployed by the template using the Publish Template Changes Wizard. For details on updating templates, see "Updating Template Deployments" on page 1264.

Note: For information on configuring internal properties in SiteScope templates, refer to the HP Software Self-solve knowledge base (h20230.www2.hp.com/selfsolve/documents). To enter the knowledge base, you must log in with your HP Passport ID.

Understanding Templates

Templates are objects you use to reproduce groups, servers, monitors, and alerts according to a predefined pattern and configuration. You can deploy all of the items defined in the template in a single operation by copying the template to a location in the SiteScope hierarchy. Templates also use template variables that you use to interactively set certain monitor, server, and alert configuration settings when you deploy the template. Once you have created a template, you can use it to deploy monitors as often as needed.

The following methods are used for adding configurations to the created template.

- Copy an existing group and monitor hierarchy from a SiteScope to the template and edit the elements for use as a template. For details, see "Create a Template by Copying Existing Configurations" on page 1274.
- If there are no applicable SiteScope monitor elements in your enterprise or if you want to create new objects or settings, you can manually create template groups, monitors, servers, and alerts in the template. For details, see "Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266.

Tip:

- If SiteScope monitoring has not yet been configured and you are not familiar working with SiteScope monitors and groups, you should set up some sample groups, monitors, and alerts before you create templates. This helps familiarize you with the monitor configurations and the relationship between monitors, groups, and alerts. Afterwards, you can copy the structure from the SiteScope and convert the configurations to a template.
- To help you get started with templates, SiteScope provides example templates for monitoring in Windows and UNIX environments. For details, see "Template Examples" on page 1251.

Template Objects

Templates are created and stored in a template container in the template tree. The template variable definitions and SiteScope objects configurable using the template are displayed as objects within the template.

The following table describes the objects used in templates:

Icon	Object Type	Description
	Template Container	A template container enables you to manage your template monitoring solutions. You can add a template to a template container only. For details on configuring this object, see "New Template Container Page" on page 1289.
	Template	The template contains the SiteScope group, monitors, remote servers, variable definitions, and alerts that make up the template monitoring solution. For details on configuring this object, see "New Template Page" on page 1291.
	Template Variable	A variable is used to prompt for user input during template deployment. Template variables are either user-defined or predefined system variables. For details on configuring this object, see "New Template Variable Page" on page 1293.

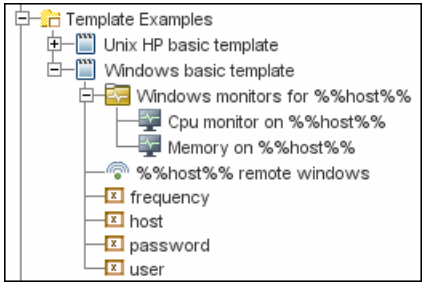
Icon	Object Type	Description
	Template Remote Server	A template remote server is used to define Windows or UNIX remote server preferences that are created when the template is deployed. For details on configuring this object, see "New Template Remote Server Page" on page 1295.
	Template Group	A template group contains the template monitors and associated alerts. You use template groups to manage the deployment of monitors and associated alerts in your infrastructure. For details on configuring this object, see "New Template Group Page" on page 1297.
	Template Monitor	Template monitors are used to define monitors that are created when the template is deployed. For details on configuring this object, see "New Template Monitor Page" on page 1300.
	Template Alert	Template alerts are used to define alerts on groups and monitors that are created when the template is deployed. If an alert has been set up for the template monitor or group, the alert symbol is displayed next to the monitor or group icon. For details on configuring this object, see "New Template Alert Page" on page 1302.

Template Examples

SiteScope provides template examples for monitoring in Windows and UNIX environments. These templates are available from the **Template Examples** folder in the template tree. You can use the template examples to help familiarize you with using SiteScope templates. Amongst other things, you can use it to see the following:

- How template groups, monitors, and remote servers are used
- The connection between the template remote server and the monitor using it
- Variable value usage and system variable usage

The following example shows the **Windows basic template**. The template contains a template group, **Windows monitors for %%host%%**, two template monitors (CPU and Memory), four user-defined variables (host, user, password, and frequency), and a template remote server.



Planning Templates

Template planning is important for effective SiteScope management. You should consider the group and monitor relationships and properties in the template structure and how it fits into the overall monitoring environment.

The following are things to consider as you plan templates:

Object	Consideration
Variable properties	Decide which monitor configuration properties vary from one template deployment to another. For example, the target server address or resource to be monitored is a common variable property. You should also consider what naming conventions you want to use for groups and monitors. You use template variables to enter or select values for variable properties each time you deploy the template. Not all monitor configuration properties can be configured using variables. For more information, see "Working with Template Variables" on page 1254.
Servers	Decide which servers are the target servers. This is where the objects being monitored are located. Template servers are replicated automatically when the template is deployed. You can also define them manually in the Microsoft Windows Remote Servers or UNIX Remote Servers container of the remote server tree. For more information, see "Remote Servers Overview" on page 1014.
Monitor types	Decide which monitor types you want to replicate using templates. These should be monitor types that monitor multiple systems. For example, CPU, Disk, Memory and Service monitor types are commonly deployed for each server in the infrastructure. You can also include multiple instances of the Service Monitor type in a template to monitor different services or processes running on each server.

Object	Consideration
Common properties	For configuration properties that should be the same from one template deployment to another, you must decide what the values should be. For example, the **Frequency** setting is a required setting for each monitor type. The default setting is 10 minutes. Depending on what is to be monitored and the overall monitor load, you may want to change this value so that monitors created using the template run more often.
Group structure	Decide the group structure you want to use to organize the monitors. The organization groups and monitors in the template should be compatible with your overall plan for organizing the monitoring in your environment. The group structure you use may affect reporting, alerting, and monitoring.
Alerts	Decide if you want to deploy alerts as part of the template. Consider which alert types and actions you want to associate with the templates and monitors. Alerts deployed as part of a template have their **Alert Targets** property set to all monitors defined in the template (see "SiteScope Alerts Page" on page 1610). For example, a template alert added to a template group alerts on any monitor belonging to that group. If this does not fit your alerting plan, you must edit the alert configuration after deployment or add alerts manually.

Working with Template Variables

While you can create templates without using template variables, the use of variables is central to the power and utility of templates. Template variables are substitution markers for monitor configuration settings. You create template variables to represent monitor configuration settings that you want to be able to modify whenever you deploy the template. You reference the variable in a text box in one or more template monitors.

Examples of common uses for template variables are:

- server or host addresses
- disk drive designators
- file paths
- monitor name descriptions

Perform the following steps to enable template variables:

1. **Create the template variable in the template.**

   For more information, see "New Template Variable Page" on page 1293.

2. **Reference the variable in one or more configuration objects in the template.**

   For more information, see "Referencing Template Variables" on page 1258.

   Each variable that is referenced in a monitor or group object in a template prompts the display of a corresponding entry box when the template is deployed. The variable name is used as a label for the text entry box.

   Some monitor configuration settings cannot be set using template variables. With the exception of the remote server selection menu, configuration items that are normally selected using a selection drop-down cannot be defined using template variables. Configuration items that are normally selected using a check box or radio selection cannot be configured using template variables.

Template variables are always child elements of the template container in which they reside. Variables can be referenced and used to define configuration settings for group, monitor, or alert configuration templates within the template. For information about the types of template variables in SiteScope and the specific syntax conventions, see "Variable Syntax" on page 1255.

You should plan and create the template variables before you create other template objects, such as servers and monitors. This enables you to enter the references to the variables into the template monitors, groups, or alerts as you add them to the template. Deleting a template variable that has already been referenced in a template object requires that the referencing object be deleted from the template to clear the broken reference.

Tip: You can see examples of variables used in templates in the **Template Examples** in the template tree. For details, see "Template Examples" on page 1251.

This section contains the following topics:

Variable Syntax

The following types of template variables are available in SiteScope:

- **User-defined variables.** They are used to enter text-based values during template deployment. User-defined variables must have the "%%" symbol either side of the variable name.
- **System variables.** A set of predefined variables you use to access both the list of remote servers known to SiteScope and system time information. System variables must have the "$$" symbol either side of the variable name.

Each type of variable has specific syntax conventions which are described in the following sections.

Syntax for User-Defined Variables

User-defined template variables can contain only alphanumeric characters and the underscore character. You can create as many variables as you need.

Examples of valid template variable syntax are:

```
description_text
DiskDrive
TARGET_URL
matchExpression
```

You should choose variable names that describe the configuration parameter that is represented. The variable name is used as a label for the variable entry box on the variable value entry window when you deploy the template.

Syntax for System Variables

SiteScope recognizes several pre-defined template variables. These are values that are known by the system, including the list of servers for SiteScope, detected servers such as NetBIOS, and user-defined server connection profiles such as remote UNIX. The syntax and description for the pre-defined system variables are:

Syntax for System Variables	Description
$$SERVER_LIST$$	Returns a list from which to select one of all the servers known by the platform. Use this to enable selection of remote servers for **Server** or **Host Name** properties only.
$$SERVER_NAME$$	Derived from the $$SERVER_LIST$$ variable. Returns the name of the current server with \\ (backslashes) before the name. Use when referencing the server in other boxes.

Syntax for System Variables	Description
$$SERVER_NAME_BARE$$	Derived from the $$SERVER_LIST$$ variable. Returns the name of the current server without \\ (backslashes) before the name. Use when referencing the server in a box requiring just the name of the server (for example, when deploying CPU monitors or when referencing the name of the server in a description: "Disk space on server Mail.")
$$DATE$$	Returns the system date on the server where SiteScope is running. Use to add the date that a monitor was created to a name or description.
$$TIME$$	Returns the system time on the server where SiteScope is running. Use to add the time that a monitor was created to a name or description. The value represents the time that the template is actually deployed.

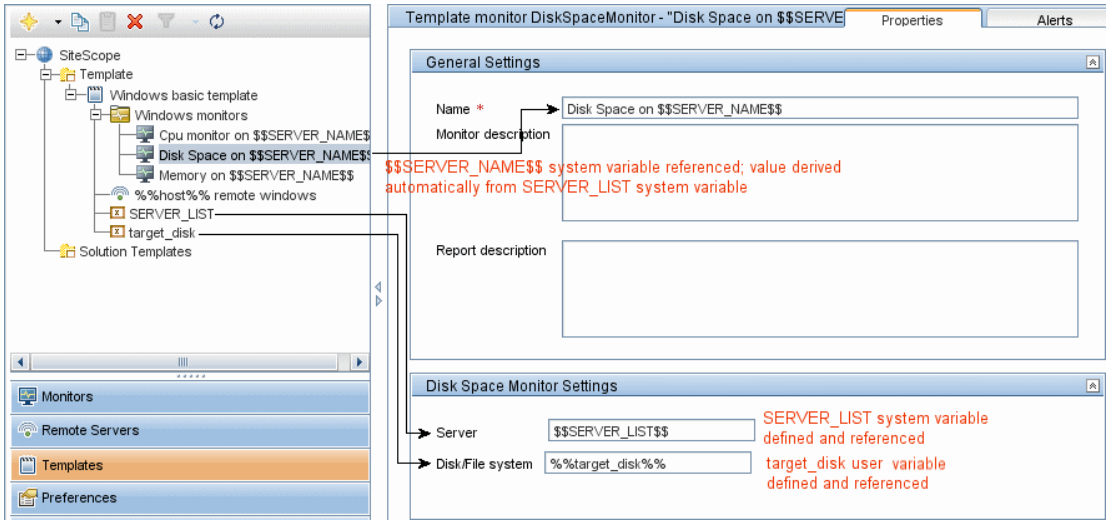
Referencing Template Variables

After you have added template variables to a template, you must create references to them in a monitor or group configuration object. The syntax you use to reference a variable depends on the type of variable.

Variable Type	Syntax	Information
User-Defined	%%variable_name%%	The reference is case sensitive and syntax sensitive. **Note:** User-defined template variables must be created before they can be referenced in monitor or group configuration templates. Using the %% symbols with a text string that has not already been added to the template as a template variable does not create a reference to a template variable even if a matching variable name is added later.
System	$$VARIABLE_NAME$$	The reference is case sensitive and syntax sensitive. The $$SERVER_LIST$$ variable must be defined explicitly as a variable in the template. After this variable is defined, the $$SERVER_NAME$$ and $$SERVER_NAME_BARE$$ variables may be used in configuration objects by referencing them using the $$VARIABLE_NAME$$ syntax directly in the monitor or group configuration object. The $$TIME$$ and $$DATE$$ variables can also be referenced directly. For information about system variables, see “Variable Syntax” on page 1255.

Example - Referencing User-Defined and System Variables

The following shows examples of how to reference user-defined variables and the $$SERVER_LIST$$ and the derived system variables for a monitor template.



Counter Selection in Monitor Templates

SiteScope includes a number of application monitor types that are designed to monitor measurements specific to the target system. These browsable counter monitor types use a **Get Counters/Measurements** browser function in the Monitor Settings panel. Configuring these monitor types manually requires the following steps after selecting the monitor type:

- Specifying connection properties to the target system and then requesting that SiteScope retrieve the measurement counters from the remote system.
- Selecting the desired counters to be monitored and adding them to the configuration. After this, the monitor can be added to SiteScope.

Deploying monitors using templates does not accommodate a separate step for counter selection. Another mechanism is used to enable the selection of counters for these monitor types using templates. SiteScope uses text matching or regular expression matching to automate the counter selection step for template deployment. You use a counter selection step when you create the template monitor.

The simplest method for counter selection in templates is to select the specific counters explicitly in the monitor template. This creates an explicit text match used to select the matching counter during deployment. For information about the steps required to add a browsable counter monitor type with explicitly selected counters, see "Add Monitors to a Template" on page 1275.

If the specific counters on the target system vary from one deployment to another, you may be able to use a regular expression to match a pattern that represents the type or category of counter you want to monitor. For more information, see below.

This section contains the following topics:

Modifying Counter Selection Strings to Use Regular Expressions

You can modify counter selection strings for template monitors to use regular expressions when you create the monitor, or you can edit the monitor later. For more information on modifying a template monitor for regular expression counter matching, see "Modify Counter Selection Strings to Use Regular Expressions" on page 1282.

Counter Selection Using Regular Expressions

Many applications have a number of measurement counters that vary according to the system on which it is running, the configuration of system options, and the components installed. In this case, selecting explicit counters in a monitor template may not be useful across multiple instances of an application or system. Some systems have measurement counters that have a similar pattern but may vary by the name of a node or object context. You can use regular expressions in monitor templates to help automate the selection of multiple measurement counters.

Note: Use of this regular expression counter matching function requires knowledge of the counters on the system to be monitored. You should manually set up a monitor of the type you want to add to the template and carefully review the counters available on the type of system you want to monitor. Creating a "greedy" regular expression that matches large numbers of counters on a remote system may adversely affect SiteScope performance.

The steps you use to create a template monitor to use regular expressions are very similar to the procedure described in the previous section. Instead of selecting all of the counters to be monitored explicitly, you select one or more counters that are representative of all the counters you want to select. The counter selections in monitor templates are stored as text strings. You edit these strings to create patterns that SiteScope uses to find matching counters that are selected when the monitor is deployed.

Examples - Using Regular Expressions

➤ **Example 1.** The following is a simple example of how a regular expression can be used for counter selection for a SNMP by MIB Monitor type in a template:

You want to monitor the following three counters from several SNMP agents in your infrastructure:

```
iso/org/dod/internet/mgmt/mib-2/system/sysDescr
iso/org/dod/internet/mgmt/mib-2/system/sysUpTime
iso/org/dod/internet/mgmt/mib-2/system/sysName
```

You could select all three counters explicitly in the template monitor. Alternately, you could select one of these and then modify the counter string to be a regular expression such as the following:

```
/iso\/org\/dod\/internet\/mgmt\/mib-2\/system\/sys[DUN][a-zT]*/
```

In this example, the counter selection string has been edited to add a pair of / slashes before and after the string. This is necessary to indicate that the string is to be interpreted as a regular expression. Because the selection string included several / slash characters initially, each of these characters must be escaped by adding a \ backslash character immediately preceding it. The [DUN][a-zT]* string includes two character class declarations commonly used in regular expression syntax. For more information on regular expression syntax, see “Using Regular Expressions” on page 217.

➤ **Example 2.** The following is an example of how a regular expression can be used for counter selection for a UNIX Resource Monitor type in a template:

You want to monitor daemon processes running on several UNIX or Linux servers in your infrastructure. The list of processing running might include the following:

```
Process\-bash\NUMBER RUNNING
Process\../java/bin/java\NUMBER RUNNING
Process\./ns-admin\NUMBER RUNNING
Process\./ns-proxy\NUMBER RUNNING
Process\./ns-sockd\NUMBER RUNNING
Process\/bin/sh\NUMBER RUNNING
Process\/etc/init\NUMBER RUNNING
Process\/usr/apache/bin/httpd\NUMBER RUNNING
Process\/usr/lib/nfs/statd\NUMBER RUNNING
Process\/usr/lib/saf/sac\NUMBER RUNNING
Process\/usr/lib/saf/ttymon\NUMBER RUNNING
Process\/usr/lib/snmp/snmpdx\NUMBERRUNNING
Process\/usr/lib/ssh/sshd\NUMBER RUNNING
...
```

You can create a regular expression counter selection string to match only those processes that end with the letter "d". The following is an example regular expression to match this pattern:

```
/Process[\W\w]{5,18}d[\W]{1,2}NUMBER RUNNING/
```

As with Example 1, the counter selection string includes / slashes before and after the string to indicate that the string is a regular expression. The example process strings on the UNIX server include combinations of \ back slash and / forward slash characters. Because these characters have special meaning in regular expressions, they would have to be escaped. This can be complicated because the process strings have many variations and combinations of these and other symbols. The example regular expression used here simplifies the expression by using character class declarations. The [\W] class is used to match punctuation marks. This matches on the \, -, :, and / characters that appear in some of the process strings without the need to escape the characters individually. For more information on regular expression syntax, see “Using Regular Expressions” on page 217.

Updating Template Deployments

Using the Publish Template Changes Wizard, you can view how the actual monitored deployments comply with the standardized deployment as defined in the template. This ensures that any changes in the monitored environment can be quickly updated in the monitoring infrastructure and that the monitoring infrastructure is still compliant with the standards set in the template.

Note: You can run the Publish Template Changes Wizard provided you have **Edit groups** permissions, and only on groups for which you have permissions in the **Allowed groups** list. Any deployed groups that are not in your allowed groups list are not displayed in the wizard.

When you deploy a template, the deployed parent group is automatically associated to the template. If you subsequently make changes to the template, you can automatically publish the changes to SiteScope objects deployed by the template using the Publish Template Changes Wizard. The wizard enables you to update related deployed groups across the enterprise whenever the template is updated without having to update each object individually. A deployed group consists of the groups, monitors, alerts, variables, and the remote server configured in the template. For details on how to deploy a template, see "Deploy the Template" on page 1271.

The Publish Template Changes Wizard enables you to update deployed groups in the following ways:

- You can publish only the changes in the template to the deployed groups. This would create added objects and update values of existing objects, but leave other objects not in the template intact.
- You can publish the changes in the template to the deployed groups and have SiteScope make the above changes and delete all other SiteScope objects from the group that are not in the template groups.

For details on how to publish template changes, see "Publish Template Updates to Related Group Deployments" on page 1278.

For details on the Publish Template Changes Wizard user interface, see "Publish Template Changes Wizard - Select Deployed Groups Page" on page 1305.

Notes and Limitations

- If you are using groups deployed by templates created in versions of SiteScope earlier than 9.50, root groups are not associated with the source template. You can update these template deployments using the following methods:
  - Manually associate the template groups with the source template using Global Search and Replace.
  - Enter the path of the source template in the **Source template** box in the General Settings for the current group.
- Templates and deployed groups are internally linked by an ID. This means that you can publish changes even if the name of the template or the root group in a deployed group have changed.
- For changes to be published, all changes in the root group hierarchy must succeed. If any changes to a group fail, all changes to that group are rolled back.
- The Publish Template Changes Wizard does not support regular expressions in threshold settings.
- The Publish Template Changes Summary report PDF is not supported in Firefox 2.x.
- Properties are displayed in the Publish Template Changes Wizard according to the locale on which SiteScope is installed. The browser locale has no effect on how the properties are displayed.
- You cannot replace an existing monitor target server using the Publish Template Changes wizard or auto deployment update (see "Publishing Template Changes Using the XML" on page 1326), although you can change property values of the target server itself, if required.

Configure a SiteScope Monitoring Solution Using a Template – Workflow

This task describes the steps for creating a SiteScope monitoring solution using a template. To view a flowchart of this task, see "Configure a SiteScope Monitoring Solution Using a Template – Flowchart" on page 43.

Tip:

- We recommend that you create template objects in the order listed. You can skip the steps for any template objects that you do not require.
- To help you get started with templates, SiteScope provides example templates for monitoring in Windows and UNIX environments. For details, see "Template Examples" on page 1251.
- Some fields that contain drop-down lists when configuring objects in normal mode, are displayed as text boxes when configuring the object in template mode.

This task includes the following steps:

➤ "Publish Changes to the Monitoring Solution" on page 1273

1 Prerequisites

Check that the post-installation administration tasks have been performed before configuring SiteScope for monitoring.

For details on these tasks, see "Setup and Administration" on page 37.

2 Create a Template Container

Create a template container to enable you to manage your monitoring solution.

For details on the New Template Container user interface, see "New Template Container Page" on page 1289.

3 Create a Template

Add a template to the template container. This is the container for your monitoring solution, in which you create groups, monitors, remote server, variables, and alerts for the monitoring solution.

For details on the New Template user interface, see "New Template Page" on page 1291.

Note: You can also copy an existing group and monitor hierarchy from a SiteScope to the template and edit the elements for use as a template. For details on how to perform this task, see "Create a Template by Copying Existing Configurations" on page 1274.

---

4 Create Template Variables

You can create template variables in the template that enable you to specify a different name for an object every time that you deploy the template. Variables should be the first objects you create in a template, because they are referred to when you create groups, monitors, servers, and alerts.

For details on the New Template Variable user interface, see "New Template Variable Page" on page 1293.

5 Create a Template Remote Server

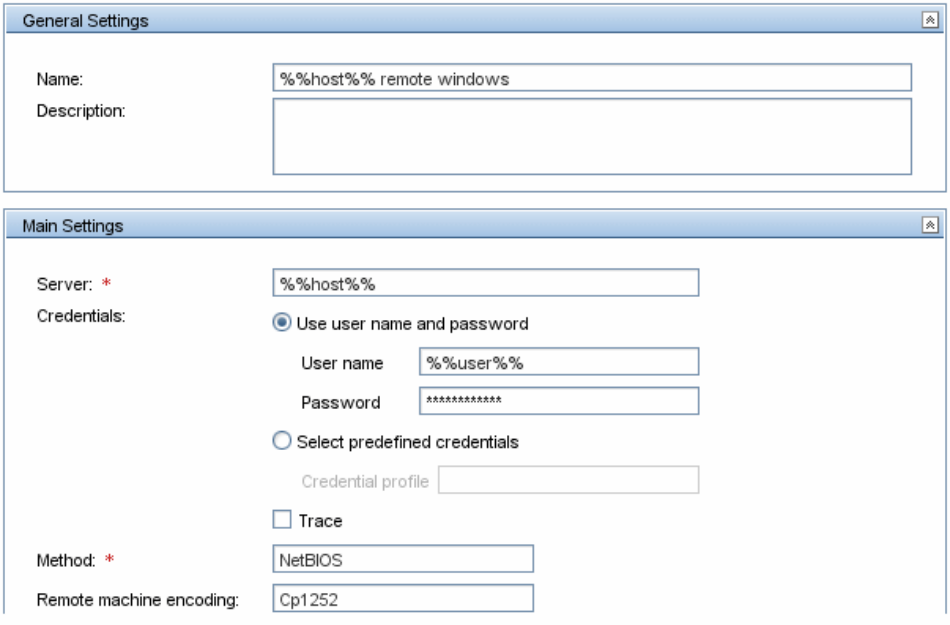
In the template, you can define a remote Windows or UNIX server where the monitored objects are located. A template monitor may run on servers that are defined by template servers at the time of template deployment or on servers defined manually in Remote Servers. Template servers are added to the remote server tree under Microsoft Windows Remote Servers or UNIX Remote Servers when the template is deployed.

For details on the New Template Remote Server user interface, see "New Template Remote Server Page" on page 1295.

Note: You can add only one remote server to a template. This does not apply to templates created in versions of SiteScope earlier than 9.50.

Example

A Windows template remote server has been created with the name %%host%% remote windows.



6 Create a Template Group

In the template, create a template group to make the deployment of monitors and associated alerts manageable and effective for your organization.

For details on the New Template Group user interface, see "New Template Group Page" on page 1297.

Note: A template can have only one template group directly under it (the parent group). This does not apply to templates created in versions of SiteScope earlier than 9.50.

---

7 Create Template Monitor Instances

a Select the monitor instances you want to add to the template group. For details on adding monitors to a template, see "Add Monitors to a Template" on page 1275.

Note:

- A template monitor can run on servers that are defined by template servers at the time of template deployment or on servers defined manually in the Remote Servers container of the remote server tree. Whichever is the case, the value in the **Server** box must match the host name of an actual server at the time that the template is deployed after values have been substituted for the template variables. If the server name does not match the host name of a real server, the monitor fails. To automatically retrieve the template remote server name (if one was created), select the **Use already configured template remote under current template** check box in the Monitor Settings field.
- You can add monitor instances directly to the template entity if you select **Allow creation of template monitors directly under template entity** in **Preferences** > **Infrastructure Settings** > **Template Settings**.

---

b You can manually set thresholds for monitors by setting logic conditions that determine the reported status of each monitor instance. For details on the Threshold Settings user interface, see "Threshold Settings" on page 309.

Note: After deploying a template, you can also set thresholds for one or multiple monitors using a baseline. For details on how to set monitor thresholds using a baseline, see "Set Monitor Thresholds Using a Baseline" on page 282.

c You can build dependencies between groups and key monitors to help control redundant alerting. For details on this topic, see "Monitoring Group Dependencies" on page 263.

8 Set Up Monitor and Group Alerts

Create alerts to send notification of an event or change of status in some element or system in your infrastructure.

For details on how to configure alerts, see "Configure an Alert" on page 1604.

9 Deploy the Template

a After creating a SiteScope monitoring template, deploy the template to a group.

- From the monitor tree, right-click the group into which you want to deploy the template, and select **Deploy Template**. In the Select Template dialog box, select the template you want to deploy. For details on the Select Template user interface, see "Select Template Dialog Box" on page 324.
- From the template tree, right-click the template you want to deploy, and select **Deploy Template**. In the Select Group dialog box, select a group into which you want to deploy the template. Alternatively, you can click the **New Group** button and create a new group to which you can deploy the template. For details on the Select Group user interface, see "Select Group Dialog Box" on page 1315.

Note:

- You can deploy a template, regardless of its content, provided you have edit permissions on the deployment target group. You do not need edit permissions on the template objects (monitors, remotes, and alerts).
- To deploy monitors to multiple servers at the same time, use a variable as the **Host** value for the template remote server. On deployment, specify multiple server names separated by commas (",") for the host variable.
- An error message is displayed if a monitor cannot be deployed. This may occur, for example, when deploying the Disk Space monitor template, if the disk drive does not exist on the deployed server.

---

b Enter the required variable values in the entry boxes displayed. The entry boxes displayed correspond to the template variables used in the template objects. For details on the user interface, see "Deployment Values Dialog Box" on page 1316.

Tip: You can also deploy and update the template using an XML file external to the SiteScope user interface. For details on this topic, see "Auto Template Deployment Overview" on page 1320.

Example

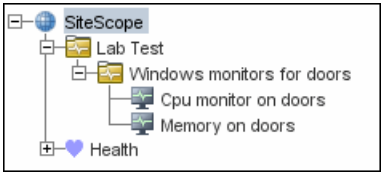
If you deploy the **Windows basic template** from the **Template Examples** folder in the template tree to a SiteScope group, the following entry boxes are displayed in the Deployment Values input window.

10 Results

SiteScope adds the monitors and alerts to the specified container in the monitor tree.

Example

The template example, **Windows basic template**, was deployed to a group container named **Lab Test**. It contains a **CPU monitor** and **Memory monitor**, and was deployed to monitor resource usage on a server named **doors**.



11 Set Up Monitor and Group Reports (in the Monitor View)

Create reports to display information about how the servers and applications you are monitoring have performed over time.

For details on how to create reports, see "Create a Report" on page 1653.

12 Publish Changes to the Monitoring Solution

You can make changes to deployed templates, for example, by adding or removing monitors or modifying monitor properties. You do this by editing the template and using the Publish Template Changes Wizard to publish the changes to all the relevant objects deployed by the template.

For details on how to perform this task, see "Publish Template Updates to Related Group Deployments" on page 1278.

Create a Template by Copying Existing Configurations

This task describes the steps involved in copying an existing group, monitor, or remote server from a SiteScope to the template and editing the elements for use as a template.

This task includes the following steps:

- "Copy an Existing Configuration to the Template" on page 1274
- "Edit Template Variables" on page 1274

1 Copy an Existing Configuration to the Template

Right-click the group, monitor, or remote server you want to copy, and select **Copy to Template**. In the Copy to Template Group dialog box, select the template group to which you want to add the copied configurations.

For details on the user interface, see "Copy to Template Dialog Box" on page 325.

2 Edit Template Variables

If you are using template variables in the new template, edit each copied object by replacing the applicable configuration field's value with the required variable syntax.

For details on this topic, see "Referencing Template Variables" on page 1258.

Add Monitors to a Template

This task describes the steps involved in creating monitor templates.

This task includes the following steps:

- "Select the Monitor Type" on page 1275
- "Enter a Monitor and Host Name" on page 1275
- "Select Counters (for Monitors with Browsable Counters)" on page 1277
- "Configure the Monitor Settings" on page 1277

1 Select the Monitor Type

Select the monitor type you want to configure for the template.

For details on the New Template Monitor user interface, see "New Template Monitor Page" on page 1300.

2 Enter a Monitor and Host Name

Enter a monitor name of your choosing in the **Name** box (General Settings panel) and the host name in the **Server** box (Monitor Settings panel). If you are using template variables, enter the variable syntax for all fields whose values are to be replaced with a variable. This includes use of the $$SERVER_LIST$$ system variable.

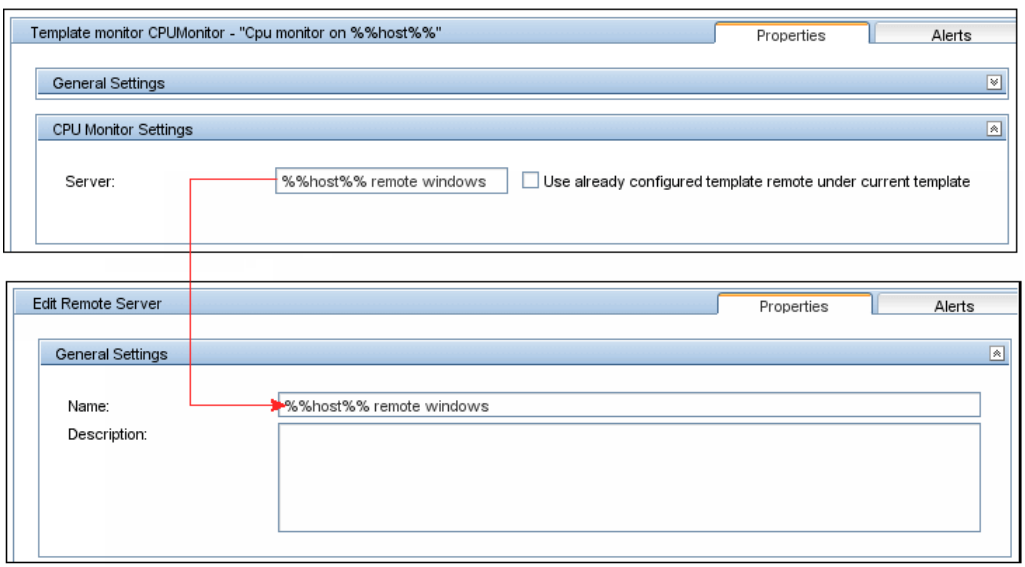
For details on this topic, see "Syntax for System Variables" on page 1256.

Note:

- If the monitor requires the remote server, enter the same value from the template remote server **Name** field in the **Server** box for the newly-created template monitor. These names must match for SiteScope to connect the newly-created remote server to the newly-created monitor. Alternatively, select the **Use already configured template remote under current template** check box to automatically retrieve the template remote name. For details on the New Template Monitor user interface, see “New Template Monitor Page” on page 1300.
- Do not use "\\" in the monitor **Server** field, and in the remote server **Name** and **Server** fields.

Example

In this example, the template monitor (a SiteScope CPU monitor) is configured to run on the template remote server, %%host%% remote windows.



3 Select Counters (for Monitors with Browsable Counters)

Select counters for monitor types designed to monitor measurements specific to the target system.

a Click the **Get Counters** button, and select a server or enter the connection information for a server that is running the service or application that you want to monitor.

b Click the **Get Counters** button again to retrieve the available counters. The counter selection dialog box is updated.

c Select the measurements or counters that you want to monitor. If the specific counters on the target system vary from one deployment to another, you can use a regular expression to match a pattern that represents the type or category of counter you want to monitor. For details on how to perform this task, see "Modify Counter Selection Strings to Use Regular Expressions" on page 1282.

4 Configure the Monitor Settings

Configure the other monitor setting values as required in the Properties tab.

For details on the common monitor settings user interface, see "Common Monitor Settings" on page 302.

Publish Template Updates to Related Group Deployments

This task describes the steps involved in publishing template changes to related group deployments using the Publish Template Changes Wizard.

This task includes the following steps:

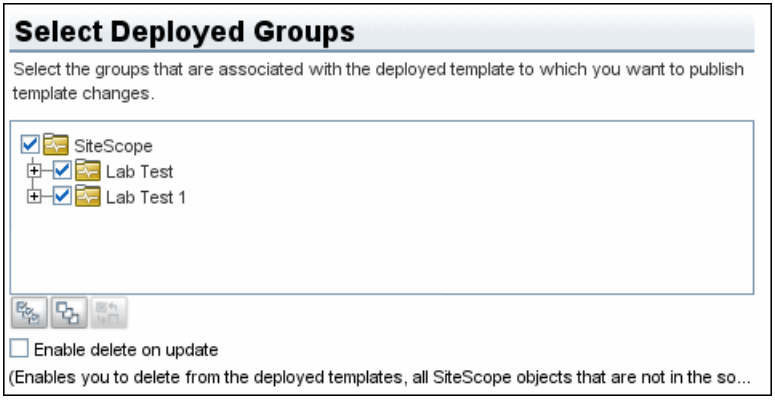
- "Run the Wizard" on page 1278
- "View the Structural and Content Differences" on page 1279
- "Add New Variable Values" on page 1280
- "Review the Publish Template Changes Results" on page 1281

1 Run the Wizard

In the template tree, right-click a template, and select **Publish Changes** to run the wizard. On the first page, select the related template groups that you want to update. You can also select the **Enable delete on update** option to delete SiteScope objects from the deployed groups that are not in the source template.

For details on the Publish Template Changes Wizard user interface, see "Publish Template Changes Wizard - Select Deployed Groups Page" on page 1305.

Example - Select Deployed Groups Page

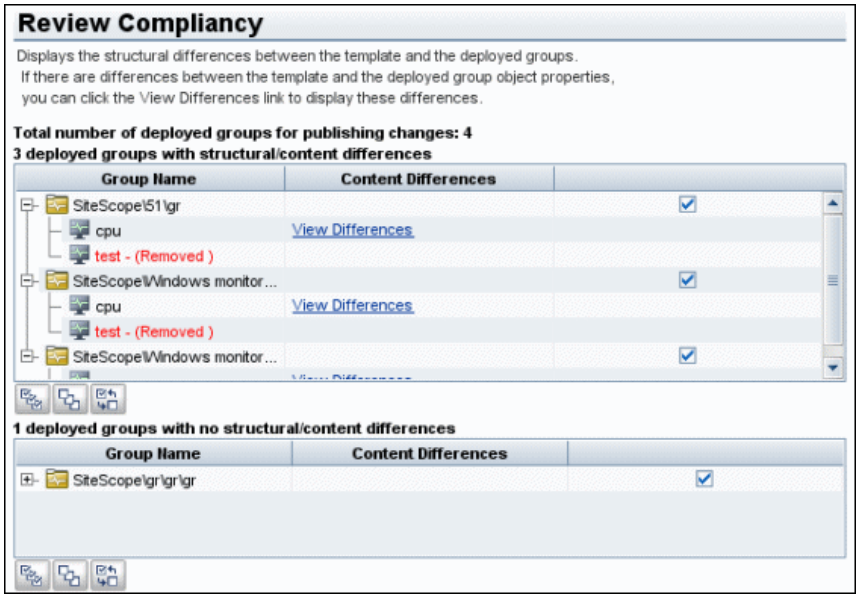


2 View the Structural and Content Differences

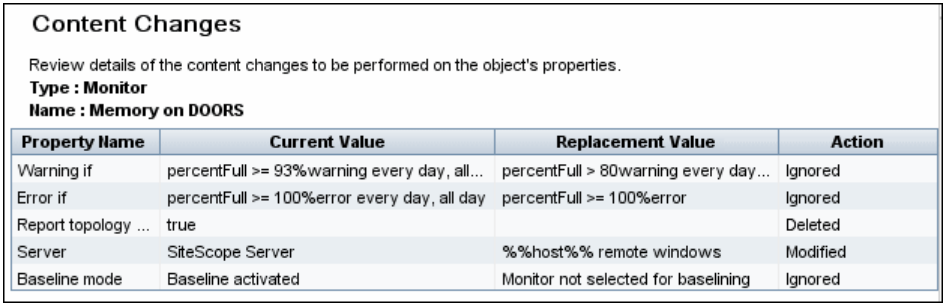
View the structural differences between the template and the deployed groups. For details on the Review Compliancy user interface, see “Review Compliancy Page” on page 1306.

To view content differences in the template objects, click the **View Differences** link to open the Content Changes dialog box. This link appears only for template objects that have content differences. For details on the Content Changes user interface, see “Content Changes Dialog Box” on page 1308.

Example - Review Compliancy Page



Example - Content Changes Page



Content Changes

Review details of the content changes to be performed on the object's properties.

Type : Monitor

Name : Memory on DOORS

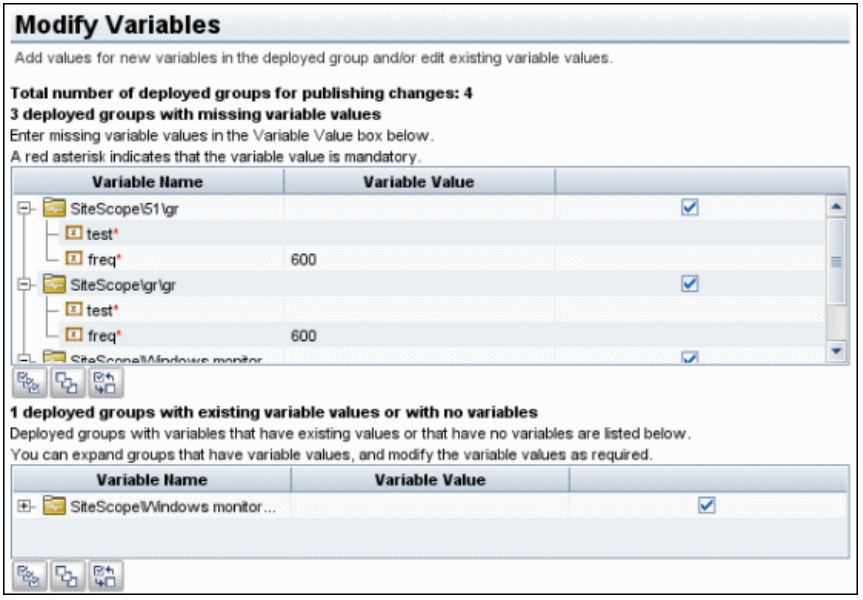
Property Name	Current Value	Replacement Value	Action
Warning if	percentFull >= 93%warning every day, all...	percentFull > 80warning every day...	Ignored
Error if	percentFull >= 100%error every day, all day	percentFull >= 100%error	Ignored
Report topology ...	true		Deleted
Server	SiteScope Server	%%host%% remote windows	Modified
Baseline mode	Baseline activated	Monitor not selected for baselining	Ignored

3 Add New Variable Values

Add values for any new variables in the template. Variable values that are mandatory are indicated by a red asterisk (*). You can also edit values of existing variables. Click **Apply** to complete the wizard and publish the template updates.

For details on the Modify Variables user interface, see "Modify Variables Page" on page 1310.

Example - Modify Variables Page



Modify Variables

Add values for new variables in the deployed group and/or edit existing variable values.

Total number of deployed groups for publishing changes: 4

3 deployed groups with missing variable values

Enter missing variable values in the Variable Value box below.

A red asterisk indicates that the variable value is mandatory.

Variable Name	Variable Value	
SiteScope\51\gr		☑
test*		
freq*	600	
SiteScope\gr\gr		☑
test*		
freq*	600	

1 deployed groups with existing variable values or with no variables

Deployed groups with variables that have existing values or that have no variables are listed below.

You can expand groups that have variable values, and modify the variable values as required.

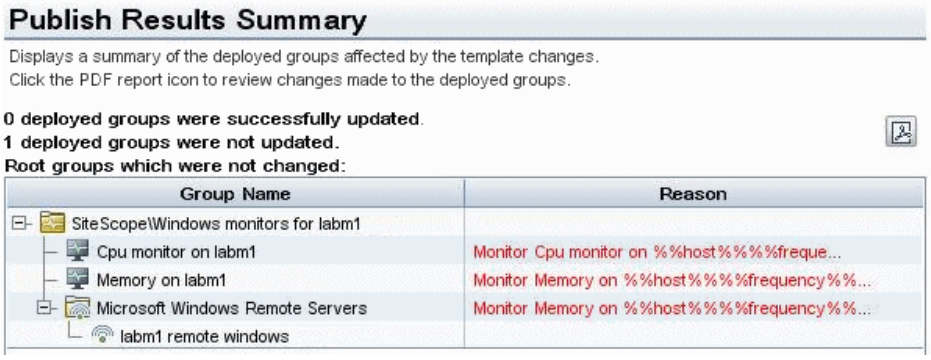
Variable Name	Variable Value	
SiteScope\Windows monitor...		☑

4 Review the Publish Template Changes Results

Review the results of the publish template changes and, if necessary, retry publishing the changes to the deployed groups that failed to update. For details on the Publish Results Summary user interface, see "Publish Results Summary Page" on page 1311.

Optionally, you can export the publish template changes results to a summary report (PDF file). For details on the summary report, see "Publish Template Changes Summary Report" on page 1312.

Example - Publish Results Summary Page



Modify Counter Selection Strings to Use Regular Expressions

This task describes the steps involved in modifying a template monitor to use a regular expression for measurement counter selection.

Note: This task applies to monitors with browsable counters only.

To modify a template monitor for regular expression counter matching:

1 In the template tree, click the monitor template you want to modify to open the template monitor Properties view.

2 Open the Monitor Settings pane, and in the **Measurements** or **Counters** section (depending on the monitor type), select a counter selection string that is representative of the pattern of counters you want to configure for the monitor, and click the **Edit** button for the counter string you want to edit. A string edit dialog opens.

3 Modify the counter selection string to be a regular expression by adding a slash ("/")character to the beginning and end of the string. Modify the string to use other pattern matching syntax as required. For more information on regular expression syntax, see “Using Regular Expressions” on page 217.

Note: If the template monitor was configured with explicit counter selections that can be matched using the regular expression that was entered, you can delete the extra counter strings by clicking the **Delete** button to the right of the counter string.

Export and Import a Template

This task describes the steps involved in exporting and importing a template.

This task includes the following steps:

1 Export a Template

Right-click the template container object in the template tree that contains the template or templates you want to export, and click **Export**. Enter the name and location to which you want to save the template file and select the templates to export. For details on the Export Template user interface, see "Export Template Dialog Box" on page 1303.

2 Import a Template

Once you have exported a template, you can copy the export file to another SiteScope server and import the template container object that contains the template or templates you want to use. Right-click the template container in the template tree into which you want to import the template or templates, and click **Import**. Enter the name and location of the file you want to import. For details on the Import Template user interface, see "Import Template Page" on page 1304.

Note: When importing templates to SiteScope that contain deprecated monitors from earlier version of SiteScope, the deprecated monitors are not displayed in the template tree.

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3 Result

Templates contained in the file are added to the template container. The imported templates can be used directly or modified as required.

Reserved Template Group Types

The following table shows template types used by the SiteScope application. The templates in these directories are reserved, and are not used by alerts. For a list of templates used in alerts, see "SiteScope Alert Templates Directory" on page 1609.

Note: You should not modify the templates in these directories without following the specific procedures provided in the product documentation or as instructed by HP Software Support.

Template Group	Description	Location
MIB	Text used with SNMP traps	<SiteScope root directory>\templates.mib
Operating System	Shell commands to be run when monitoring remote UNIX servers	<SiteScope root directory>\templates.os
Performance Monitor	Used for NT performance monitoring	<SiteScope root directory>\templates.perfmon
Sound	Audio files used for sound alerts	<SiteScope root directory>\templates.sound
View	Query and XML/XSL templates	<SiteScope root directory>\templates.view

SiteScope Templates User Interface

This section describes:

Templates Tree - Properties Tab

Description	Displays the name and description of the selected template. Use this page to edit the properties of the template. In the template tree, select a template object (template group, template monitor, template variable) to display properties for the specific object. **To access:** Open the **Templates** context. In the template tree, expand a template container and select a template. The Properties tab is displayed by default.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266
Useful Links	"Template Tree" on page 73

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Name	The template name.
Description	Enables you to add a description of the template.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

Templates Tree - Alerts Tab

Description	Displays a list of alerts associated with the solution template. Use this page to add, delete, or edit alerts associated with the template. In the template tree, select a template group or monitor to display alerts for the selected object. **To access:** Open the **Templates** context. In the template tree, navigate to the group or monitor to which you want to view, add, or edit alerts. Click the **Alerts** tab.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344 "Configure an Alert" on page 1604
Useful Links	"Template Tree" on page 73 "SiteScope Alerts Page" on page 1610

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
	Open the New Alert dialog box, enabling you to define a new alert. For more details, see "New/Edit Alert Dialog Box" on page 1612.
	Open the Edit Alert dialog box, enabling you to edit the alert. Edits the alert. For more details, see "New/Edit Alert Dialog Box" on page 1612.
	Copies the alert.
	Pastes the alert.
	Deletes the alert.
Name	The text name string assigned to the alert definition.
Status	The enabled/disabled status of the alert. ➤ **Enabled.** Overrides any disable action on the alert and enables the alert for execution based on the conditions defined. ➤ **Disabled indefinitely.** Prevents SiteScope from executing the alert action even if the alert condition is met until this radio button is cleared and the alert definition is updated. ➤ **Disable on a one time schedule from <Time1> to <Time2>.** Prevents SiteScope from executing the alert action for the time period indicated, even if the conditions are met. The alerts are disabled at the beginning of the time period and re-enabled after the time period expires.

GUI Element (A-Z)	Description
Description	A description of the alert definition that was assigned when creating or editing the alert.
Action Name	The name given to the action to be done when the alert is triggered. It is not the name of the alert.

New Template Container Page

Description	Enables you to define a new template container. You use template containers to store and manage templates. Template containers enable you to group and organize multiple templates in ways that describe their purpose or classification. Templates are displayed with the icon in the template tree. Template containers can hold templates only. **To access:** Open the **Templates** context. In the template tree, right-click the SiteScope node or an existing template container, and select **Template Container**.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266 "Create a Template by Copying Existing Configurations" on page 1274
Important Information	Template containers can be added only to the SiteScope node in the template tree.
Useful Links	"Understanding Templates" on page 1248 "Template Examples" on page 1251

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a name for the template container. **Maximum length:** 250 characters
Description	Enables you to add a description for the template container.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

New Template Page

Description	Enables you to add a template to a template container. An individual template is comprised of the object definitions of those objects that are created when the template is deployed. Templates are displayed with the  icon in the template tree. Templates can contain a group and subgroups, variables, and a remote server. They can also contain monitors, provided **Allow creation of template monitors directly under template entity** is selected in **Preferences** > **Infrastructure Settings** > **Template Settings**. **To access:** Open the **Templates** context. In the template tree, right-click a template container, and select **New** > **Template**.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266 "Create a Template by Copying Existing Configurations" on page 1274
Important Information	A template can have one template group only directly under it (the parent group). This does not apply to templates created in versions of SiteScope earlier than 9.50.
Useful Links	"Understanding Templates" on page 1248 "Template Examples" on page 1251

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a name for the template. The name you enter appears in the template tree as a child node of the template container. **Maximum length:** 250 characters.
Description	Enables you to add a description for the template.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

New Template Variable Page

Description	Enables you to add a template variable to a template. A variable is used to enable prompting for user input during template deployment. Template variables are either user-defined or predefined system variables that provide access to the list of remote server connections known to SiteScope. Template variables are displayed with the icon in the template tree. **To access:** Open the **Templates** context. In the template tree, right-click a template, and select **New** > **Variable**.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266
Important Information	When configuring variables for **Frequency** and **Error frequency** in the Monitor Run Settings, the variable values can only be in time units of seconds.
Useful Links	"Understanding Templates" on page 1248 "Working with Template Variables" on page 1254 "Template Examples" on page 1251

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a name for the template variable. The name you enter is used to identify the variable in the template in the template tree. This is the name that must be used when referring to the variable in other template objects. **Note:** The name of a variable cannot be edited once the variable has been added. To change a variable name, delete the variable and create a new one with the correct name.
Display name	Enter a display name if you want a different name to be displayed instead of the variable name on deployment. You must still use the variable name when referencing the variable in a template object.
Description	Enter a description for the variable.
Default Value	Enter a default value to be used for this variable. If you do not enter a value in this box and the box requires a value, you are prompted to enter a value when deploying the template.
Display order in template	Enter the variable display sequence number. This is the order in which SiteScope prompts you to enter values for a variable on deployment. Variables are displayed in ascending order. Variables that have no display number are displayed at the end. **Note:** The display order does not change the order of the variables within the template definition.

GUI Element	Description
Password variable	If selected, hides the default value and the value entered during deployment. **Default value:** Not selected **Note:** This option is automatically selected for any variable from previous versions of SiteScope that has a name ending with PASSWORD or password.
Mandatory variable	If selected, the variable field requires a value and prompts you to enter a value when deploying the template. To set a variable with a non-mandatory value, clear the check box. When this option is cleared, SiteScope uses an empty String("") as a value for a non-mandatory variable. **Default value:** Selected

New Template Remote Server Page

Description	Enables you to create a UNIX or Windows remote server in the template. A template remote server is used to define remote server preferences that are created when the template is deployed. A template remote server is displayed with the  icon in the template tree. **To access:** Open the **Templates** context. In the template tree, right-click a template, and select **New** > **Microsoft Windows/UNIX Remote Server**.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266

Important Information	Enter the actual values for those fields that remain constant throughout the template deployment. Enter template variables in those fields whose values are replaced with a variable value when the template is deployed. For details, see "Referencing Template Variables" on page 1258. You can add only one remote server to a template. This does not apply to templates created in versions of SiteScope earlier than 9.50. You can add a new variable from the New Template Remote Server page by clicking the **New Variable** button, and configuring the variable as described in "New Template Variable Page" on page 1293. You cannot replace an existing monitor target server using the Publish Template Changes wizard or auto deployment update (see "Publishing Template Changes Using the XML" on page 1326), although you can change property values of the target server itself, if required. Do not use "\\" in the remote server **Name** and **Server** fields, and in the monitor **Server** field.
Useful Links	"Understanding Templates" on page 1248 "Remote Servers Overview" on page 1014 "Template Examples" on page 1251

For descriptions on the elements found in the Microsoft Windows New Remote Server page, see "Microsoft Windows Remote Servers User Interface" on page 1025.

For descriptions of the elements found in the UNIX New Remote Server page, see "UNIX Remote Servers User Interface" on page 1032.

Note: Some fields that contain drop-down lists when configuring objects in normal mode, are displayed as text boxes in template mode.

New Template Group Page

Description	Enables you to add a template group to a template or to a template group to create a subgroup. You use template groups to replicate monitoring deployment to multiple locations in the infrastructure. Template groups are displayed with the icon in the template tree. A template group can contain monitors, alerts, and subgroups. **To access:** Open the **Templates** context. In the template tree, right-click a template or template group, and select **New** > **Group**.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266
Important Information	A template can have only one template group directly under it (the parent group). This does not apply to templates created in versions of SiteScope earlier than 9.50. By default, you can create template monitors, alerts, and subgroups in the parent group or in subgroups only. If you want to create template monitors directly under a template entity, select the **Allow creation of template monitors directly under template entity** check box in **Preferences** > **Infrastructure Settings** > **Template Settings**. You can add a new variable from the New Template Group page by clicking the **New Variable** button, and configuring the variable as described in "New Template Variable Page" on page 1293.
Useful Links	"Understanding Templates" on page 1248 "Template Examples" on page 1251

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Group Name	Enter a name for the template group, preferably using a template variable. A template variable enables you to specify a different name for the group every time you deploy the template. If the group name does not include a variable, multiple deployments of the template in the same directory fail because the group name is not unique. For details on using template variables, see "Referencing Template Variables" on page 1258.
Group Description	Enables you to add a description for the template group. This can include the most common HTML tags for text styling, such as , <HR>, and <B>, and hyperlinks. The description is displayed only when viewing or editing the group's properties in the Dashboard. For details on adding a hyperlink, see "Add URL Links to Group Description - Optional" on page 251. **Note:** This field does not support Javascript/iframes/frames or other advanced features. HTML code entered in this box is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line).

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

New Template Monitor Page

Description	Enables you to add a template monitor to a template group or subgroup. Template monitors are used as the basis for the creation of actual monitors at the time that the template is deployed. Template monitors are displayed with the  icon in the template tree. By default, you can create template monitors only in a template group. To create template monitors directly under a template entity, select the **Allow creation of template monitors directly under template entity** check box in **Preferences** > **Infrastructure Settings** > **Template Settings**. Template monitors can contain alerts. **To access:** Open the **Templates** context. In the template tree, right-click a template group, and select **New** > **Monitor**. Select the monitor type you want to configure for the template.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266

Important Information	Template monitors are not active monitor instances. Monitors are created and activated based on these template configurations only when you deploy the template. You can create a new variable from this page by clicking the **New Variable** button, and configuring the variable as described in "New Template Variable Page" on page 1293. When selecting the server that you want monitor, you can use the template remote server (if one was created) without having to enter its name, by selecting the **Use already configured template remote under current template** check box. Do not use "\\" in the monitor **Server** field, and in the remote server **Name** and **Server** fields. The Web Script monitor is not supported in templates. When deploying a Script monitor from a template, the case of the remote script name must match that of the script name in the scripts subdirectory. Otherwise, the selected script is shown as 'none'. The Network Bandwidth monitor's non-default thresholds are not copied properly to a template.
Useful Links	"Understanding Templates" on page 1248 "Template Examples" on page 1251

For descriptions of the elements found in the New SiteScope Monitor page, see "New Monitor Page" on page 300.

New Template Alert Page

Description	Enables you to define alerts for a template group or a template monitor. Template alerts are used to define alerts on monitors that are created when the template is deployed. If an alert has been set up for the template group or monitor, the alert symbol is displayed next to the group or monitor icon. **To access:** Open the **Templates** context. In the template tree, right-click a template group or template monitor, and select **New** > **Alert**.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266
Important Information	You cannot select the **Disable or Enable Monitors** alert action when creating an alert template. Template alerts are enabled for all the monitors belonging to the object for which they were defined. For example, if an alert is defined for a monitor, then it is activated on that monitor only. If an alert is defined for a template, then it is activated for all the monitors in the template.
Useful Links	"Understanding Templates" on page 1248 "Template Examples" on page 1251

For descriptions of the elements found in the New Template Alert page, see "SiteScope Alerts Page" on page 1610.

Export Template Dialog Box

Description	Enables you to export templates for use in other SiteScope installations. This allows you to replicate standardized monitor configurations across the enterprise. After exporting, the template still remains in the template container. **To access:** Open the **Templates** context. In the template tree, right-click the template container object that contains the template or templates you want to export, and select **Export**.
Included in Tasks	"Export and Import a Template" on page 1283
Important Information	SiteScope templates are stored as binary data. This is different from the text-based monitor sets used in earlier versions of SiteScope. Any changes to templates must be performed using the SiteScope interface.
Useful Links	"Understanding Templates" on page 1248

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
File Name	Enter a name that is descriptive of the template or templates to be exported.
Path	The location to which the template file is saved for export. Accept the default location, or enter a different location. **Default value:** <SiteScope_install_path>\SiteScope\export
Template Tree	Select the templates you want to export. **Default value:** All templates within the template container are exported.

Import Template Page

Description	Enables you to import template configurations from other SiteScope installations. This allows you to efficiently replicate standardized monitor configurations across the enterprise. **To access:** Open the **Templates** context. In the template tree, right-click the template container into which you want to import the template or templates, and select **Import**.
Included in Tasks	"Export and Import a Template" on page 1283
Useful Links	"Understanding Templates" on page 1248

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
File Name	Enter the name of the file you want to import.
Path	The location of the template file to be imported. Accept the default location, or enter a different location. The file must be on the SiteScope server or in a location that is accessible to the SiteScope server. **Default value:** <SiteScope_install_path>\export

Publish Template Changes Wizard - Select Deployed Groups Page

Description	The first page in the Publish Template Changes wizard. Use the Publish Template Changes wizard to check deployed groups for template compliancy and to update SiteScope objects deployed by templates whenever the source template is updated. **To access:** Open the **Templates** context. In the template tree, right-click a template, and select **Publish Changes**. Use the Select Deployed Groups Page to select groups associated with the source template for which you want to apply template changes.
Important Information	You can run the Publish Template Changes Wizard provided you have **Edit groups** permissions, and only on groups for which you have permissions in the **Allowed groups** list. Any deployed groups that are not in your allowed groups list are not displayed in the wizard. The wizard opens only if there are deployments associated with the selected template. For details on deploying templates, see “Deploy the Template” on page 1271.
Included in Tasks	“Publish Template Updates to Related Group Deployments” on page 1278
Wizard Map	The Publish Template Changes wizard contains: **Publish Template Changes Wizard - Select Deployed Groups Page** > Review Compliancy Page > Content Changes Dialog Box > Modify Variables Page > Publish Results Summary Page > (Publish Template Changes Summary Report)
Useful Links	“Updating Template Deployments” on page 1264

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<List of groups associated with the selected template>	Select the groups associated with the selected template that you want to update with the template changes. **Default value:** All associated groups and subgroups are selected.
Enable delete on update	Select this option to ensure template compliancy. If selected, enables you to delete all SiteScope objects that are not in the source template from the deployed groups.

Review Compliancy Page

Description	Displays the structural differences between the source template and the deployed groups, and provides links to content differences in the deployed group objects.
Included in Tasks	"Publish Template Updates to Related Group Deployments" on page 1278
Wizard Map	The Publish Template Changes wizard contains: Publish Template Changes Wizard - Select Deployed Groups Page > **Review Compliancy Page** > (Content Changes Dialog Box) > Modify Variables Page > Publish Results Summary Page > (Publish Template Changes Summary Report)
Useful Links	"Updating Template Deployments" on page 1264

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<N> deployed groups with structural/ content differences	Displays the deployed groups and group objects (subgroups, monitors, alerts, and remote servers) that have structural or content differences to the source template.

GUI Element	Description
<N> deployed groups with no structural/ content differences	Displays the deployed groups that have no structural or content differences to the source template. Groups with no deployment differences are displayed collapsed.
Group Name	Displays the name of the deployed group and all its objects—subgroups, monitors, alerts, alert actions, and remote servers. Structural differences in the objects are displayed in the group tree hierarchy with the following text and color coding: ➤ **Added.** Indicates a new object to be added to the deployed group. The object is displayed in green. ➤ **Does not exist in template** (available only when the **Enable delete on update** option is not selected in the Select Groups page)**.** Indicates an object that does not exist in the source template. The object is displayed in blue. ➤ **Removed** (available only when the **Enable delete on update** option is selected in the Select Groups page). Indicates an object to be deleted from the deployed group. The object is displayed in red. ➤ **Unused.** Indicates that the template remote server is not being used. An unused remote server is displayed in gray.
Content Differences	Click the **View Differences** link to open the Content Changes dialog box and view differences in the property level for the deployed group or object. This link is displayed only for objects that contain content differences in properties, thresholds, and any other non-structural differences. For details on the user interface, see “Content Changes Dialog Box” on page 1308. Template remote servers that have been deployed are displayed in the **Microsoft Windows Remote Servers** or **UNIX Remote Servers** section. If a remote server already exists in Microsoft Windows/UNIX Remote Servers, it is not deployed again when the template is deployed.

Content Changes Dialog Box

Description	Use the Content Changes dialog box to view a list of all properties of the selected object that will be updated, the values that will be changed, and the property action status.
Included in Tasks	"Publish Template Updates to Related Group Deployments" on page 1278
Wizard Map	The Publish Template Changes wizard contains: Publish Template Changes Wizard - Select Deployed Groups Page > Review Compliancy Page > (**Content Changes Dialog Box**) > Modify Variables Page > Publish Results Summary Page > (Publish Template Changes Summary Report)
Useful Links	"Updating Template Deployments" on page 1264

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Type	The selected object type (Group, Monitor, Alert, Alert Action, Remote).
Name	The name of the selected object.
Property Name	The name of the property affected by publishing the change.
Current Value	The existing property value in the deployed group. This value is empty if the property is going to be added to the deployed group. **Note:** Existing password properties are displayed encrypted.

GUI Element	Description
Replacement Value	The property value in the template. This value is empty if the property is going to be deleted from the deployed group. **Note:** ➤ Replacement password properties are displayed encrypted. ➤ If you make changes to the **Depends on** property in a template monitor, the full path of the template monitor to which there is a dependence is displayed (for example, SiteScope\tc\template\group\CPU).
Action	The status of the action (Modified, Added, Deleted, Ignored). Ignored status is used for baseline monitors, if there are no changes to the baseline thresholds.

Modify Variables Page

Description	Use the Modify Variables page to add values for new variables in the deployed group. You can also edit existing variable values.
Included in Tasks	"Publish Template Updates to Related Group Deployments" on page 1278
Wizard Map	The Publish Template Changes wizard contains: Publish Template Changes Wizard - Select Deployed Groups Page > Review Compliancy Page > (Content Changes Dialog Box) > **Modify Variables Page** > Publish Results Summary Page > (Publish Template Changes Summary Report)
Useful Links	"Updating Template Deployments" on page 1264

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Variable Name	The name of a new or existing variable in the deployed group. A red asterisk indicates that the variable value is mandatory. **Note:** You can expand groups with variable values already filled, and modify the variables as required. You cannot expand groups that do not contain variables.
Variable Value	Enter a value for new variables added to the deployed group. You can also edit existing variable values. **Note:** ➤ The variable value for the remote server is read only and cannot be changed. ➤ Hypertext tags in a variable string cause the string to be truncated and be incorrectly displayed in the Variable Value box (part of the string is displayed in the text label).

Publish Results Summary Page

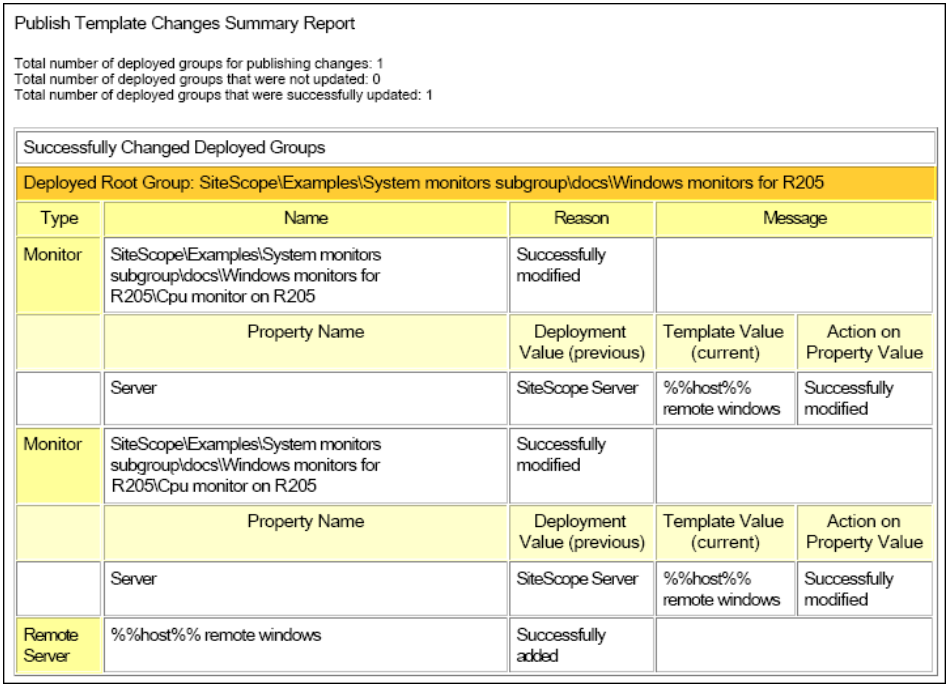
Description	Displays a summary of the published template updates.
Included in Tasks	"Publish Template Updates to Related Group Deployments" on page 1278
Wizard Map	The Publish Template Changes wizard contains: Publish Template Changes Wizard - Select Deployed Groups Page > Review Compliancy Page > (Content Changes Dialog Box) > Modify Variables Page > **Publish Results Summary Page** > (Publish Template Changes Summary Report)
Useful Links	"Updating Template Deployments" on page 1264

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click to export the results of publishing for each root group to a PDF file. For details, see "Publish Template Changes Summary Report" on page 1312.
Group Name	Displays the root group name and the group's objects (subgroups and monitors).
Reason	If SiteScope is unable to publish changes to a deployed group, the reason for failure is displayed for each monitor in the group.

Publish Template Changes Summary Report

The following is an example of the Publish Template Changes Summary Report.



Publish Template Changes Summary Report

Total number of deployed groups for publishing changes: 1
Total number of deployed groups that were not updated: 0
Total number of deployed groups that were successfully updated: 1

Successfully Changed Deployed Groups

Deployed Root Group: SiteScope\Examples\System monitors subgroup\docs\Windows monitors for R205

Type	Name	Reason	Message	
Monitor	SiteScope\Examples\System monitors subgroup\docs\Windows monitors for R205\Cpu monitor on R205	Successfully modified		
	Property Name	Deployment Value (previous)	Template Value (current)	Action on Property Value
	Server	SiteScope Server	%%host%% remote windows	Successfully modified
Monitor	SiteScope\Examples\System monitors subgroup\docs\Windows monitors for R205\Cpu monitor on R205	Successfully modified		
	Property Name	Deployment Value (previous)	Template Value (current)	Action on Property Value
	Server	SiteScope Server	%%host%% remote windows	Successfully modified
Remote Server	%%host%% remote windows	Successfully added		

Description	Displays information about the template changes published to the deployed groups. It also displays information for group objects that failed to update. Results are at the object level (Group, Monitor, Alert, Alert Action, Remote Server).
Included in Tasks	"Publish Template Updates to Related Group Deployments" on page 1278

Wizard Map	The Publish Template Changes wizard contains: Publish Template Changes Wizard - Select Deployed Groups Page > Review Compliancy Page > (Content Changes Dialog Box) > Modify Variables Page > Publish Results Summary Page > (**Publish Template Changes Summary Report**)
Important Information	The Publish Template Changes Summary Report PDF is not supported in Firefox 2.x.
Useful Links	"Updating Template Deployments" on page 1264

Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<Report summary>	The report summary shows the total number of root groups selected for publishing changes, including the number of groups that were successfully and unsuccessfully changed.
Deployed Root Group <group path>	The name of the deployed group and all group objects that were successfully or unsuccessfully updated with the template changes. The deployed groups that were not updated are displayed first. **Note:** For changes to be published, all changes in the root group hierarchy must succeed. If any changes to a group object fail, all changes to that group are rolled back.
Type	The object type (Group, Monitor, Alert, Alert Action, Remote Server).
Name	The name of the object and its path.
Reason	The publish status for the object (Successfully added, Successfully modified, Successfully deleted, Failed to add, Failed to modify, Failed to delete, Unchanged).

GUI Element	Description
Message	For deployed group objects that were not updated by the template changes, the reason for the failure to publish the changes.
<Property details>	For deployed group objects that had content changes: ➤ **Property Name.** The name of the property that was updated. ➤ **Deployment Value (previous).** The previous property value in the deployed group. This value is empty for a property that was added to the deployed group. Previous password variables are displayed encrypted. ➤ **Template Value (current).** The replacement property value in the deployed group. This is the current property value in the template. This value is empty if the property was deleted from the deployed group. Replacement password variables are displayed decrypted. ➤ **Action on Property Value.** The type of change made to the property value (Successfully modified, Successfully added, Successfully deleted).

Select Group Dialog Box

Description	Enables you to select a group in the monitor tree to which you can deploy templates. Alternatively, you can select the SiteScope node, and create a new group to which you can deploy templates. **To access:** Open the **Templates** context. In the template tree, right-click the templates you want to deploy, and select **Deploy Template**.
Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266 "Publish Template Updates to Related Group Deployments" on page 1278 "Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Updating Template Deployments" on page 1264 "SiteScope Solution Templates" on page 1341

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Represents the SiteScope root group. You can deploy the templates in the SiteScope root group, or click the **New Group** button and create a new group to which you can deploy the templates.
	Represents a SiteScope monitor group or subgroup (with enabled monitors/with no monitors or no enabled monitors). Select the group to which you want to deploy the templates, or click the **New Group** button and create a new group in which you can deploy the templates.
	Represents the collection of available health monitors that are deployed to check proper functioning of SiteScope monitors.

Deployment Values Dialog Box

Description	Enables you to enter variable values when deploying the template. **To access:** Open the **Templates** context. In the template tree, right-click the template that you want to deploy (it must contain variables), and select **Deploy Template**. In the Deploy Template dialog box, select the group in which you want to deploy the template. The Deployment Values dialog box opens. Each variable that is referenced in a template object prompts the display of a corresponding entry box when the template is deployed. The variable name is used as a label for the text entry box. Enter deployment values for the variables. Select the **Silent deployment** check box to submit the template deployment request to a queue, and have SiteScope handle the deployment in the background. This enables you to continue to use SiteScope without having to wait for the template deployment process to finish. All submitted requests and their corresponding deployment results are logged to **<SiteScope root directory>\logs\silent_deployment.log**.
Important Information	To deploy monitors to multiple servers at the same time, enter the server names or addresses separated by a comma (","). When doing this, the value in the **Host** property for the template remote server referenced by the monitors must consist of a variable value, and only one variable is allowed. You can deploy a template, regardless of its content, provided you have edit permissions on the deployment target group. You do not require edit permissions on the template objects such as monitors, remotes, and alerts. An error message is displayed if a monitor cannot be deployed. This may occur, for example, when deploying the Disk Space monitor template, if the disk drive does not exist on the deployed server.

Included in Tasks	"Configure a SiteScope Monitoring Solution Using a Template – Workflow" on page 1266 "Publish Template Updates to Related Group Deployments" on page 1278
Useful Links	"Updating Template Deployments" on page 1264

Generate Auto Deployment XML

Description	Enables you to create an XML file to use for automatically deploying the templates in the highlighted template container. After you generate the XML file, you can edit the file and use it to deploy the templates from the file directory not in the SiteScope user interface. **To access:** Open the **Templates** context. In the template tree, right-click the template container for which you want to create an auto deploy XML file, and select **Generate XML**.
Included in Tasks	"Deploy a Monitoring Structure Using an XML File" on page 1329
Useful Links	"Auto Template Deployment Overview" on page 1320

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
File Name	Enter the name of the XML file to create. This is the file you can edit and use to automatically deploy the templates in this template container.
Path	The location in which the XML file is saved. Accept the default location, or enter a different location. **Default value:** <SiteScope_install_path>\SiteScope\persistency\autodeployment\drafts **Note:** If an XML file has been generated previously using the same **File Name** and **Path**, the previously saved XML file is not overwritten. The previous file is renamed with the following addition: **_bck<number of backup>**. For example, if you enter CPUtemplate as the **File Name** and accept the default location, the existing file in the default folder becomes CPUtemplate.xml_bck1 and the current XML file being generated is saved as CPUtemplate.xml.
Template Tree	Select the templates for which to create the XML file. The XML file's contents are based on the objects in the template you select. For each template selected, the generated XML includes a separate deploy section.

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Auto Template Deployment

This chapter includes the main concepts, tasks, and reference information for SiteScope auto template deployment.

This chapter includes:

Concepts

Tasks

Reference

Auto Template Deployment Overview

SiteScope enables you to automatically deploy a SiteScope template or solution template using an XML file external to the SiteScope user interface. The XML file is used to deploy the objects defined in the template, which must include a parent group and can include subgroups, monitors, a remote server, alerts, and variable definitions. You can edit the XML file to assign variable definitions for mandatory, global, and instance variables.

For details on creating templates, see "SiteScope Templates Overview" on page 1246. For details on working with solution templates, see "Solution Templates Overview" on page 1341.

You can also use the auto template deployment to publish template changes to deployed groups. The auto template deployment uses the same functionality as the Publish Template Changes Wizard. For details on how the wizard works, see "Updating Template Deployments" on page 1264.

Auto template deployment is an alternative to using the user interface to deploy templates and publish template changes to deployed groups. It is better suited than the user interface for working with scripts and deploying onto multiple SiteScopes. This is because it uses standard XML scripting and can be deployed onto multiple SiteScopes using one file.

Creating and Working with the XML File

Use one of the following options to create the XML file:

- Generate and edit your XML in any tool that supports text. The file must be based on the XSD file supplied in the SiteScope file directory. The XSD file is a basic XML file which already includes the appropriate tags, elements, and attributes for creating your own version of the deployment XML.
- Generate the deployment XML file using the SiteScope interface from a template container or solution template. Each template container and solution template includes the option to generate this auto template deployment XML file. For details, see "Generate Auto Deployment XML" on page 1317.

  The XML you use, whether generated from the template or solution template, or generated manually, must be a valid XML and match the ATD schema (XSD). You can use the dedicated tool to validate your XML file.

  Deploying the XML file is dependent on the target SiteScope having the relevant template or solution template in its monitor tree. You deploy the template or solution template by copying the XML file into the persistency folder of the target SiteScope with the relevant template or solution template. You can group several deployments into a single XML file.

XML File Example and Variables

For a reference detailing all the XML tags, elements, and attributes included in the auto template deployment file, see "XML Tag Reference" on page 1336.

Each auto template deployment XML must begin with the following declarations:

- **<?xml version="1.0" encoding="UTF-8" ?>** This states that this is an XML with UTF-8 character encoding.
- **<sitescope:sitescopeRoot …>** This is the schema declaration. Despite the URLs mentioned, this does not try to connect to any location outside of your SiteScope at any time.

Each section of the XML file begins with one of the following tags, with the instruction to perform one of the following actions:

- **<sitescope:templateDeployment>** Deploys a template or solution template. You can have multiple instances within the same XML file.
- **<sitescope:templateDeployUpdate>** Publishes changes to an existing deployment.

Within each action, you must specify the following:

- **<deploy:fullPathtoTemplate>** The path to the template within the SiteScope tree in the user interface, not including the SiteScope root node. In the XML file example, this value is Templates/Windows.
- **<deploy:fullPathToDestinationGroup>** The path, within the SiteScope tree, of the target group upon which the action is performed. For example, in the XML file example, any template group objects are created as subgroups within the following group SiteScope/Windows_Monitors.

This section contains the following topics:

XML File Example

Here is an example of the auto template deployment XML file. This file was generated from the user interface.

```
<?xml version="1.0" encoding="UTF-8"?>
<!--SiteScope deployment descriptor-->
<sitescope:sitescopeRoot xmlns:sitescope="./sitescope" xmlns:deploy="./deploy"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="./sitescope
../schemas/sitescope.xsd ">
    <!--To deploy use "templateDeployment", to update an existing deployment use
templateDeploymentUpdate (this element can have the attribute enableDeleteOnUpdate with values of
yes/no)-->
    <sitescope:templateDeployment>
        <!--Path to source template in SiteScope tree (not including the root node)-->
        <deploy:fullPathToTemplate>Templates/Windows</deploy:fullPathToTemplate>
        <!--Path to destination group in SiteScope tree (not including the root node). New group
will be created if need be-->
        <deploy:fullPathToDestinationGroup>
SiteScope/Windows_Monitors</deploy:fullPathToDestinationGroup>
        <!--Mandatory variables names-->
        <deploy:mandatoryFields>group frequency</deploy:mandatoryFields>
        <!--Global values for variables in current template-->
        <deploy:globalVariables>
            <deploy:variables encrypted="yes" name="password" value="(sisp)d5JLOSWaVfE="/>
            <deploy:variables encrypted="no" name="user" value="admin"/>
            <deploy:variables encrypted="no" name="frequency" value="600"/>
        </deploy:globalVariables>
        <!--Add here local variables for a deploy instance (overrides global variables with same
name)-->
        <deploy:templateInstanceDeployVariable>
        <deploy:variables encrypted="no" name="group" value="Critical_monitors"/>
        <deploy:variables encrypted="no" name="frequency" value="600"/>
        </deploy:templateInstanceDeployVariable>
        <deploy:templateInstanceDeployVariable>
        <deploy:variables encrypted="no" name="group" value="Minor_monitors"/>
        <deploy:variables encrypted="no" name="frequency" value="6000"/>
        </deploy:templateInstanceDeployVariable>
</sitescope:templateDeployment>
    </sitescope:sitescopeRoot>
```

Variables

Once the template and destination have been specified, the next section of the XML file deals with the template variables and values. The XML file gives you the flexibility of defining variables and their values, declaring mandatory variables, and determining if their corresponding values should be applied globally across the deployment or per instance.

If you generated the XML file from the user interface and if a variable has a defined value, that value is assigned to the variable in the XML file.

Mandatory Variables

A declaration of any mandatory variables in the template appears in the **<deploy:mandatoryFields>** tag. If a variable is declared mandatory, a corresponding value for the variable must be defined in the in the file.

If you generated the XML from the user interface and if the **Mandatory** option was selected when creating or editing a variable, that variable appears in the **<deploy:mandatoryFields>** tag. You can also manually add a variable name to this list to declare it mandatory.

In the file example above, group and frequency have been defined as mandatory variables. Values for these variables must appear within the **<deploy:variables>** tags for either the **<deploy:globalVariables>** or the **<deploy:templateInstanceDeployVariables>**.

Global Versus Instance Variables

The optional **<deploy:globalVariables>** tag includes the default global template variables for the deployment. Defining global template variables is optional. When you define a global template variable, you can overwrite the variable's value by identifying a different variable value in the deployment instance area of the file (**<templateInstanceDeployVariables>** tag). Global variable values can be overwritten with a different value in each deployment instance.

Multiple instances of a template that are deployed into the same location onto the same SiteScope, as seen in the XML file example, must include a variable for the group name. Group name must be made a mandatory variable and given a different value in each deployment instance. The group template object must have the same variable defined as its value. The template could include other groups whose name value is not a variable and those groups would be deployed once.

In the XML file example above, there are two instances of the deployment, so a variable called group has been defined as mandatory and a different value has been given to it in each instance deployment (Critical_monitors and Minor_monitors). This results in two groups created under the group object of the template with the same monitor objects.

The following groups would result from the XML file example being deployed:

- SiteScope/Windows_Monitors/Critical_monitors in the first instance of the deployment.
  - Included in this group would be any monitors and alerts defined in the template. Any of the template monitor objects whose frequency value was defined as the variable frequency would have a value of 600 or every 10 minutes.
- SiteScope/Windows_Monitors/Minor_monitors in the second instance of the deployment.
  - Included in this group would be any monitors and alerts defined in the template. Any of the template monitor objects whose frequency value was defined as the variable frequency would have a value of 6000 or every hour.

Note: If you have any system variables defined in a template (those defined by $$ and not %%), they are treated as normal variables in the auto template deployment XML file. The same limitations that apply to using system variables in templates apply to using them in the XML file.

XML Validator

The XML validator is a utility that validates the XML file against the schemas used by the auto template deployment. It does not validate the SiteScope deployment itself. The path to the validator file is:

- **<SiteScope root directory>/tools/AutoDeployment/validate_template_xml.bat** for Windows
- **<SiteScope root directory>/tools/AutoDeployment/validate_template_xml.sh** for UNIX

This utility checks the structure of the XML against the XSD files to make sure that the contents of the file are valid XML and correspond to the XSD. It also validates that there have been values defined for all mandatory variables. The values can be defined either as global variables or deployment instance variables. If the validation fails, the reason for the failure is printed to screen.

Publishing Template Changes Using the XML

You can also use the auto template deployment XML to publish template changes to update the values or structure of a deployed group. If the group's **Source Template** field is identified as the same template that the XML is referencing, you can update the values and objects of the group using the auto template deployment XML.

The XML uses the same functionality as the Publish Template Changes Wizard but without having to access the user interface. In the XML file, you can identify values for variables to use for publishing the changes in the template. For details on the wizard and the template update feature, see "Updating Template Deployments" on page 1264.

You can use auto template deployment to publish the changes made to a template onto the template's deployed groups in the same way you use the XML to create a group deployment. Once the template has been modified, you create the XML and copy/paste the edited XML into the persistency folder of the target SiteScope machines.

This section includes the following topics:

Update Deployment XML Tag Details

The XML file for updating the values or objects of a deployed group must use the <**sitescope:templateDeploymentUpdate**> tag (and not the <**sitescope:templateDeployment**> tag used for deploying the template). For details on the elements and attributes to use in the XML file, see "XML Tag Reference" on page 1336.

Within the <**sitescope:templateDeploymentUpdate**> tag, you can select to give the **enableDeleteOnUpdate** attribute a value of **yes** to make sure that any objects within the deployed groups that do not appear in the template referenced by the auto template deployment XML are deleted when updating the deployment with the XML file. Enter a value of **no** to make sure that all objects within the group are retained, even if they do not appear in the template referenced by the XML file, after the updating the deployment. For details on this option in the Publish Template Changes Wizard, see "Enable delete on update" on page 1306.

To successfully perform the update, you must define the target SiteScope group name of the deployed group as the value of the **deploy:fullPathToDestinationGroup** tag. The **fullPathToDestination** must end with the root group of the deployment, the equivalent of the template's root group. Each deployment section updates one group so if you have multiple groups, you must define separate deployment update sections for each and define the group name for each.

Template Update Report

After performing the auto template deployment update, a report is available in XML format. The report file is named with the name of the XML file along with a time stamp and the string **_reports**. These reports are available in the following location: <**SiteScope root directory**>**persistency****autodeployment****reports**.

The report is in XML format and includes the following tags at the beginning:

- **totalNumberOfDeployments**
- **totalNumberOfFailedDeployments**
- **totalNumberOfSuccessDeployments**

The <**publishChangesSummaryPage**> section of the XML appears for each deployment instance listing the details of what has been updated. Unsuccessfully changed deployments are specified first in the file.

This file is an XML version of the PDF file created by the Publish Template Changes Wizard if using the SiteScope user interface to update deployed groups. For details on the report, see "Publish Template Changes Summary Report" on page 1312.

Deployment Results

When you copy the XML file, for both deploying and updating, into the persistency folder of the target SiteScope, the file is copied into one of two directories as follows:

- **<SiteScope root directory>\persistency\autodeployment\successHistory** directory includes those XML files that deployed or updated successfully all instances of the deployed group.
- **<SiteScope root directory>\persistency\autodeployment\failHistory** directory includes those XML files that failed to deploy or update any instance of the deployed group. If even one instance failed and all the others succeeded, the XML is published to this folder.

  The XML file name is changed to include an underscore and a timestamp added to the original name of the XML file. For example the XML file named CPUgroups.XML that succeeded in deploying all its groups and instances is saved to the **<SiteScope root directory>\persistency\autodeployment\successHistory** directory and is now named CPUgroups_1203951216931.xml.

Deploy a Monitoring Structure Using an XML File

This task describes how to perform an auto template deployment. You can follow the same steps for deploying a Solution Template.

This task includes the following steps:

- "Prerequisites" on page 1330
- "Create the XML File" on page 1330
- "Edit the XML File" on page 1331
- "Encrypt Fields Such as Passwords (Optional Step)" on page 1331
- "Validate the XML File" on page 1331
- "Copy the Validated XML to the SiteScope Server Machines" on page 1332
- "Check If Deployment Was Successful" on page 1332

1 Prerequisites

Each SiteScope into which you want to automatically deploy a template must include the template within a template container. The template must have a group object at the top level. All other objects must be created within that group. The template can contain subgroups, monitors, alerts, one remote server, and variables.

If you are working with multiple SiteScopes:

- You can create the template in one SiteScope and export it to other SiteScopes using the Export/Import options in the Template containers context menu. For details on how to do this, see "Export Template Dialog Box" on page 1303 and "Import Template Page" on page 1304.
- If you are working in HP Business Availability Center, you can copy templates from one SiteScope to another using the Sync SiteScope Wizard in System Availability Management Admin. For details on the wizard interface, see "Sync SiteScopes Wizard - Select Source and Targets Page" on page 119.

2 Create the XML File

You can create the XML file using one of these options:

- Right-click the template container and select **Generate XML File** in the context menu. When deploying solution templates, this option appears at the template level. For details on this user interface option, see "Generate Auto Deployment XML" on page 1317.
- Create the XML file using a dedicated XML application. The file must be a valid XML file and based on the XSD files located in the following directories:
  - **<SiteScope root directory>/conf/xsds/deploy.xsd**
  - **<SiteScope root directory>/conf/xsds/sitescope.xsd**

3 Edit the XML File

You must edit the XML file to enter the values necessary for deployment. For details on editing the file and a sample of the file, see "XML File Example and Variables" on page 1322.

For details on the XML file's tags, see "XML Tag Reference" on page 1336.

Note: If the XML is generated from the user interface, mandatory variable fields are generated based on the templates mandatory variables. If you create the XML file, and there are fields that are mandatory for successful deployment, you must make sure that these fields have been assigned values before deploying the XML.

---

4 Encrypt Fields Such as Passwords (Optional Step)

For deploying templates that include fields that you do not want to appear in viewable text, use the encryption tool and follow the steps in the procedure for encrypting text. For details on how to perform this task, see "Encrypt Text" on page 1333.

5 Validate the XML File

We recommend that you validate the XML file before it is deployed.

Use the validation tools located in the following directories:

- For Windows: **<SiteScope root directory>/tools/AutoDeployment/validate_template_xml.bat**
- For UNIX: **<SiteScope root directory>/tools/AutoDeployment/validate_template_xml.sh**

For details on this topic, see "XML Validator" on page 1326.

6 Copy the Validated XML to the SiteScope Server Machines

Copy the XML file into the **\persistency\autodeployment** directory on each SiteScope machine where you want to deploy the templates in the XML.

The templates are automatically deployed every two minutes by default. You can change the frequency in Infrastructure Setting Preferences in the following field: **Auto Deployment Check Frequency** (Property name: **_autoDeploymentCheckFrequency**).

Note: If the XML file does not pass validation when attempting to deploy, the deployment fails. We recommend that you validate the XML file before copying onto the persistency directories of the SiteScope server machines.

---

7 Check If Deployment Was Successful

You can check if the deployment was successful by searching in the target SiteScope's **<SiteScope root directory>\persistency\autodeployment** directory to see if the XML was copied into the **successHistory** subdirectory or the **failHistory** subdirectory.

For details on this topic, see "Deployment Results" on page 1329.

You can also check the SiteScope's Error Log.

Encrypt Text

This task describes how to encrypt text for a field that should not appear in viewable text, for example a password. This tool encrypts the field only in the XML; the templates themselves control the encryption of variables in the persistency directory.

To encrypt text for use in the deployment XML:

1 Run the following batch file:

- For Windows: **<SiteScope root directory>/tools/AutoDeployment/encrypt_password.bat**
- For UNIX: **<SiteScope root directory>/tools/AutoDeployment/encrypt_password.sh**

2 Open a command prompt window.

- In Windows, drag and drop the file into your command prompt window.
- In UNIX, you must run the .sh file from its directory.

3 Enter space and the password value (for example Mypassword). Click ENTER.

4 Use the returned string as a value for the encrypted variable in the XML file. You much change the value of the attribute **encrypted** to **yes** and the **value** of the variable attribute to the returned string.

For example, the following value was generated by the encryption tool:
<deploy:variables encrypted="yes" name="password" value="(sisp)d5JLOSWaVfE="/>

Update a Deployment

This task describes how to use the auto template deployment XML to update an existing, deployed group. You can update the structure of the deployment if the template was changed or update object properties by giving new values to the variables that are declared in the template for those properties.

The task follows the same steps as the task to deploy a template with the exceptions and additional information listed in the steps here. For details on the deployment task, see "Deploy a Monitoring Structure Using an XML File" on page 1329.

This task includes the following steps:

1 Prerequisites

The **Source Template** field of the deployed groups that you want to update must be identical to the template in the XML deployment update file. This is in addition to the updated template existing in the target SiteScope.

2 Create and Edit the XML File to Update Objects and Values

When working with the XML file, you must do the following:

- Use the **<templateDeploymentUpdate>** tag instead of the **<templateDeployment>** tag.
- Enter a **yes** or **no** value for the **enableDeleteOnUpdate** attribute of th**<templateDeploymentUpdate>** tag.
- Define the **deploy:fullPathToDestinationGroup** tag with the group name to be updated as the value for this tag.

For details on these tags and the update XML file, see "Update Deployment XML Tag Details" on page 1327.

3 Copy the Publish Template Update XML to the Target SiteScopes

Copy the publish template update XML to the target SiteScope's **persistency** directory as you would when deploying the auto template deployment XML file.

4 Encrypt Text Such as a Password (Optional Step)

For details on performing this task, see "Encrypt Text" on page 1333.

5 Validate the Publish Template Update XML

Use the validator tool to validate the edited XML file as you would when deploying the auto template deployment XML file.

6 Results Report

After deploying the update auto template deployment XML, a results report file is created in XML format. These reports are available in the following location: **<SiteScope root directory>\persistency\autodeployment\reports**.

For details on the report, see "Template Update Report" on page 1328.

XML Tag Reference

The following tables list all the elements and attributes used in the auto template deployment XML files:

- "Elements Table" on page 1336
- "Attributes Table" on page 1338

Elements Table

Elements	Description
sitescope:sitescopeRoot	This must be the first tag in the XML file giving the instruction to create the deployment, the version of XML used, and the location of the XSD file. **Note**: This is the first element in all XML files related to SiteScope.
sitescope:template Deployment	This tag enables the deployment of the template or solution template, creating new group structures in the target SiteScope. This is the default tag used in the XML file when generated from the user interface.
sitescope:template DeploymentUpdate	This tag enables publishing the changes of a template that has been updated. These changes can be applied to the monitoring structure of a group whose **Source Template** field matches the template identified in the XML. The XML file also enables you to update the values of the variables used in the template. For example, if you want to add alerts or an additional monitor to an existing group that was created by a template, you can modify the template and deploy it using this tag.
deploy:fullPathToTemplate	This tag gives the full path, within the SiteScope tree, of the template or solution template to be deployed. **Syntax:** <template container name>/<template name>

Elements	Description
deploy:fullPathTo DestinationGroup	This tag gives the full path location within the SiteScope tree of the group name where the deployed monitoring structure is to be created. If this tag has no value, the deployment is created at the SiteScope node level.
deploy:mandatoryFields	The values within this tag are those variables that were selected as mandatory fields when the template was created. If there are any values appearing within this tag, they must be given a value in the **<deploy:globalVariables>** tag for global variables or the **<deploy:variables>** tag for other variables. If there are no corresponding values for these mandatory fields, the XML fails validation.
deploy:globalVariables	This tag marks the section of the file that includes the variables that are deployed across the entire selected template. Includes attributes. For details, see "Attributes Table" on page 1338.
deploy:templateInstance DeployVariable	This tag marks the section of the file that includes the variables that are deployed per instance of the selected template. If the same variable appears in the **<deploy:globalVariables>**, the instance variable value overrides the global variable value only for the instance in which it appears. All other instances have the value entered in the **<deploy:globalVariables>** section. Includes attributes. For details, see "Attributes Table" on page 1338.
deploy:variables	This tag defines the variables and their values. Includes attributes. For details, see "Attributes Table" on page 1338.

Attributes Table

Parent Element	Attribute	Description
templateDeployment Update	enableDelete OnUpdate	Indicates whether any instances of objects appearing in a deployment of a template should be deleted when not appearing in the XML file used for updating the structure of a deployment. **Possible values**: yes, no For details on this option, see "Enable delete on update" on page 1306.
deploy:globalVariables	encrypted	Indicates whether the value of the variable's field is encrypted or not. **Possible values**: yes, no To encrypt a value, use the encryption tool to provide the value for the variable. For details, see "Encrypt Text" on page 1333.
	name	The name of the variable.
	value	The value of the variable.
deploy:variables	encrypted	Indicates whether the value of the variable's field is encrypted or not. **Possible values**: yes, no To encrypt a value, use the encryption tool to provide the value for the variable. For details, see "Encrypt Text" on page 1333.
	name	The name of the variable.
	value	The value of the variable.

Troubleshooting and Limitations

All notes, limitations, and troubleshooting issues that apply to SiteScope templates, solution templates, and the Publish Template Changes Wizard also apply to the functionality of the auto template deployment.

This section includes the following topics:

I18N Users

- Do not edit the XML file using Notepad. The file cannot be parsed because Notepad adds an extra character to the beginning of the file. This character is not visible but prevents the file from being parsed when not in English. Use Wordpad or an XML editor instead.
- If the path to the SiteScope root directory includes non-English characters, the validation tool cannot be used to validate the XML before it is copied to the SiteScope's persistency directory. This means that there is no validation that the XML follows the XSD or that mandatory fields have values.

Solution Templates

You cannot perform auto template deployment for the following Solution Templates:

- JBoss Application Server 4.x
- WebLogic Application Server
- WebSphere 5.x Application Server
- WebSphere 6.x Application Server

This is because the variables in these solution templates are dynamically created and cannot be given a value in the XML file.

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SiteScope Solution Templates

This chapter includes the main concepts, tasks, and reference information for SiteScope solution templates.

This chapter includes:

Concepts

Tasks

Reference

Solution Templates Overview

SiteScope solution templates are preconfigured monitor set templates designed to monitor popular enterprise applications and network systems. Using solution templates, you can rapidly deploy a combination of standard SiteScope monitor types and solution-specific monitors with settings that are optimized for monitoring the availability, performance, and health of the target application or system. For example, the solutions for Microsoft Exchange monitoring include performance counter, event log, and Exchange application specific monitor types.

Deploying the solution creates a new monitor group container in which the individual solution monitors are added. You can deploy a solution template for each server in your environment. For solution templates that use the system variable SERVER_LIST, you can deploy the solution on multiple remote hosts.

The following table lists solution templates available for SiteScope. For more information about each solution and the solution specific monitor types, see the chapter for the specific solution template.

Solution Name	Description
Active Directory Solution Template	Monitors the performance and efficiency of Microsoft domain controllers.
AIX Host Solution Templates	Monitors performance, availability, and health for AIX host machines.
JBoss Application Server Solution Template	Monitors performance, availability, and health for JBoss environments.
Linux Host Solution Templates	Monitors performance, availability, and health for Linux host machines.
Microsoft Exchange Solution Templates	Includes individual solution options for monitoring application health, message flow, and usage statistics for Microsoft Exchange 5.5, 2000, 2003, and 2007 servers.
Microsoft IIS Solution Template	Monitors performance, availability, and health for IIS 6.0 environments.
Microsoft SQL Server 2005 Solution Template	Monitors performance, availability, and usage statistics for Microsoft SQL Server 2005.
Microsoft Windows Host Solution Template	Monitors performance, availability, and health for Microsoft Windows 2000, Windows XP, and Windows Server 2003 host machines.
.NET Solution Templates	Monitors performance, availability, and health of .NET applications and environments on Windows 2000, Windows XP, and Windows Server 2003.
Oracle Database Solution Template	Monitors performance, availability, and usage statistics for Oracle 9i and 10g databases.

Solution Name	Description
SAP Solution Templates	Monitors performance, availability, and usage statistics for SAP system components.
Siebel Solution Templates	Monitors performance, availability, and usage statistics for Siebel Application Server installed on Windows and UNIX operating systems.
Solaris Host Solution Templates	Monitors performance, availability, and health for Solaris host machines.
WebLogic Solution Template	Monitors performance, availability, and usage statistics for BEA WebLogic application servers.
WebSphere Solution Template	Monitors performance, availability, and usage statistics for IBM WebSphere Server 5.x application servers.

Note:

- Errors detected during the creation of monitors using a solution template are independent of the status returned when the individual monitors are run. This means that the monitors may be created successfully but that the configuration settings may be incorrect or that the system being monitored is unavailable.
- Once some solution templates are deployed, the relevant monitors may be defined with a BAC reporting level of **Disable reporting to BAC**. Therefore after deploying a solution template, we recommend that you check the monitors' reporting level. If you want to change the reporting level for the deployed monitors, you can use the Global Search and Replace wizard to update the reporting level option.
- Solution templates do not configure any automated alerts or reports for the monitors created. You may create and associate one or more alert definitions or reports to the monitors or monitor groups created by solution templates.

Deploy a SiteScope Solution Template – Workflow

This task describes the steps involved in deploying a solution template. Deploy a solution template for each server in your environment.

This task includes the following steps:

1 Prerequisites

- You must have the applicable SiteScope option license to use the Solution Template. Contact your HP sales representative for more information about Solution licensing.
- The license must be entered into **Monitor licenses** in the General Settings page (**Preferences** > **General Settings** > **Main Panel**). For details on the user interface, see "General Settings Preferences User Interface" on page 1131.

2 Select a Solution Template and Deployment Group

You can deploy a solution template from the monitor tree or template tree.

- In the monitor tree, right-click the monitor group into which you want to deploy the solution template, and select **Deploy Template**. In the Select Template dialog box, select the solution template you want to deploy. For details on the Select Template user interface, see "Select Template Dialog Box" on page 324.
- In the template tree, right-click the solution template you want to deploy, and select **Deploy Template**. In the Select Group dialog box, select a monitor group into which you want to deploy the solution template. For details on the Select Group user interface, see "Select Group Dialog Box" on page 1315.

3 Enter Variable Values for the Template Deployment

Complete the items on the Deployment Values page for the selected solution template. For details on the user interface, see the Deployment Values page for the specific solution template.

4 Configure Alerts and Reports

Configure alerts and reports for the newly created solution monitors.

For details on configuring alerts, see "Configure an Alert" on page 1604.

For details on configuring reports, see "Create a Report" on page 1653.

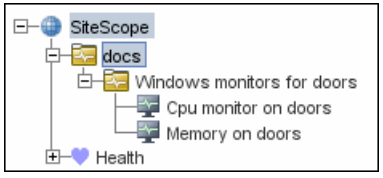
5 Results

The solution template creates a new monitor group container in which the individual solution monitors are added. The monitor group container is assigned a name in the format <Solution Template name> on <server_name> where server_name is the server selected from the **Server** box.

Note: If some of the monitors fail to deploy, a message is shown listing the names of the monitors together with a message describing the error.

You can view, edit, and delete these monitors in the same way as any other monitors in SiteScope.

Example



Solution Template User Interface

This section describes:

Solution Templates Tree - Properties Tab

Description	Displays the name and description of the selected solution template. **To access:** Open the **Templates** context. In the template tree, expand the Solution Templates container and select the required template.
Important Information	Only licensed solution templates that are displayed with the icon are configurable solution templates. The Search/Filter Tags panel is not available for filtering Solution Template objects.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Template Tree" on page 73

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Name	The solution template name (read-only).
Description	A description of the solution template (read-only).

Troubleshooting and Limitations

There are times when, if SiteScope is not running properly, it is advisable to delete the contents of SiteScope's persistency directory located in **<SiteScope root directory>\persistency**. The installed solution sets are located in this directory and if its contents are deleted, the solution sets no longer appear in the monitor tree and cannot be used. To reactivate the solution sets, you must copy the install files back into the persistency directory.

To reactivate the solution template files:

1. Locate the solution template files in the following directory: **<SiteScope root directory>\export**.
2. Copy the contents of **<SiteScope root directory>\export** into **<SiteScope root directory>\persistency\import**.
3. Check that the solution templates have been reinstalled by locating them in the monitor tree.

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Active Directory Solution Template

This chapter includes the main concepts, tasks, and reference information for the Active Directory Solution Template.

This chapter includes:

Concepts

Tasks

Reference

Active Directory Solution Overview

You can use the Active Directory Solution Template to provide monitoring of domain controller performance—services on which Active Directory depends—and distributed Active Directory performance.

The Active Directory Solution Template deploys a set of monitors against a particular Domain Controller. These monitors encompass best practices monitoring for Active Directory. This template includes NT Event Log, Service, LDAP, performance counter and Active Directory Replication monitors.

The Active Directory Solution Templates provide comprehensive monitoring without requiring the SiteScope user or the IT organization to be experts on the application. They also reduce the time to configure and deploy monitors, help identify both real-time performance bottlenecks and longer term trends, and add only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the Active Directory solution templates. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the Active Directory Solution is available in the SiteScope Active Directory Best Practices document. This document is part of the SiteScope installation, and can be found at **<SiteScope root directory>\sisdocs\pdfs\SiteScope_Active_Directory_Best_Practices.pdf**. This is a password protected document. The password is provided along with the Active Directory Solution license key from HP.

Solution Template Monitors

The Active Directory Solution Template deploys monitors that target the following aspects of Active Directory performance:

- **Domain controller performance.** This category refers to the low level health of each domain controller in the environment. The Active Directory Solution Template automatically configures monitors for domain controller health.
- **Dependent services.** Active Directory depends on several key services. Without these services, Active Directory can become unresponsive or fail altogether. The Active Directory Solution Template automatically configures monitors for a list of important services on which Active Directory performance is dependent.

➤ **Distributed Active Directory performance.** Perhaps the most important aspect and key indicator of Active Directory performance is how fast Active Directory is replicating changes out to all domain controllers. The Active Directory Solution Template automatically configures monitors for monitoring and testing replication of changes and updates.

Note: Some of the monitor types deployed by the solution templates can only be added to SiteScope by using the Active Directory Solution sets. For more information, see the section for the particular monitor types.

Deploy the Active Directory Solution Template

This task describes the steps involved in entering variables for the Active Directory Solution Template.

This task includes the following steps:

➤ "Deploy the Solution Template" on page 1351

➤ "Enter Deployment Values for the Solution Template" on page 1351

1 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

2 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the Active Directory Solution Template. For details on the user interface, see "Active Directory Solution Template User Interface" on page 1352.

Active Directory Solution Template User Interface

Description	Enables you to deploy the SiteScope Active Directory solution template. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select the required Active Directory solution template.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Active Directory Solution Template" on page 1349

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
ReplicatingDomain Controllers	Enter in a comma separated list of domain controllers that replicate data from the domain controller selected above.
LDAPSecurity Principal	The LDAP Security Principal of a Domain Admin account. For Active Directory this is in the format of cn=Domain Admin User,cn=users,dc=yoursite,dc=com.
LogicalDrive	Enter in the logical drive that this Domain Controller is using for its database and log files.
PASSWORD	The password for the user selected above.
HostName	Enter in the host part of the domain controller's host name (do not include the fully qualified domain name).

GUI Element	Description
Global Catalog (AD with Global Catalog ONLY)	If the Domain Controller is a Global Catalog server then check this box.
SERVER_LIST	Choose the Domain Controller that you want to monitor. If the server you want to monitor is not in the list, you must define a connection profile to the server.

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AIX Host Solution Templates

This chapter includes the main concepts, tasks, and reference information for the AIX Host Solution Template.

This chapter includes:

Concepts

Tasks

Reference

AIX Host Solution Overview

The AIX Host Solution Template is a template that you can use to deploy a collection of monitors configured with default metrics that test the health, availability, and performance of the AIX host. The template supports the versions of AIX that are supported by SiteScope. For details, see "System Requirements" in the *HP SiteScope Deployment Guide* PDF.

For UNIX Resource Monitors, you can create a Server-Centric Report which displays data from three different metrics about the server being monitored. We recommend that you use Solution Templates when creating the UNIX Resource Monitor, because the required monitors and metrics are already configured. For more information on generating a Server-Centric Report, see "Generating a Server-Centric Report" on page 1490.

The AIX Host Solution Template provides comprehensive AIX operating system monitoring without requiring the SiteScope user or the IT organization to be experts on the application. It also reduces the time to configure and deploy various performance monitors, helps identify both real-time performance bottlenecks and longer term trends, and adds only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the AIX Host Solution Template. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the AIX Host Solutions settings is available in the SiteScope Operating System Host Best Practices document. This document can be found at **<SiteScope root directory>\sisdocs\pdfs \SiteScope_OS_Best_Practices.pdf**. This is a password protected document. The password is provided along with the Operating System Host Solution license key from HP.

Solution Template Monitors

The AIX Host Solution Template deploys monitors that target the following aspects of AIX performance and health:

- CPU status and utilization details
- Memory status and utilization details
- File system status and utilization details

Deploy the AIX Host Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the AIX Host Solution Template.

Note: The AIX Host Solution Template deploys a UNIX Resource Monitor for each target host. This is a supplemental monitor that is required for Server-Centric Report support.

This task includes the following steps:

- "Configure the AIX Server Environment" on page 1357
- "Deploy the Solution Template" on page 1357
- "Enter Deployment Values for the Solution Template" on page 1357

1 Configure the AIX Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see "AIX Host Solution Configuration Requirements" on page 1358.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the AIX Solution Template. For details on the user interface, see "AIX Host Solution Template User Interface" on page 1358.

AIX Host Solution Configuration Requirements

Before you can use the AIX Host Solution Template, there are a number of configuration requirements involving the server environment:

- SiteScope server must be able to connect to the target AIX host.
- The target server must be added to SiteScope as a UNIX remote machine and should pass the UNIX remote test (**Remote Servers** > **UNIX Remote Servers**). For details, see "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021.
- The SiteScope server itself can also be monitoring if it runs a supported AIX operating system.
- The template supports the AIX versions supported by SiteScope. For details, see "System Requirements" in the *HP SiteScope Deployment Guide* PDF.

AIX Host Solution Template User Interface

Description	Enables you to deploy the SiteScope AIX solution template. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select **AIX Host**.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"AIX Host Solution Templates" on page 1355

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SERVER_LIST	Choose the server you want to monitor. If the server you want to monitor is not in the list, you must define a connection profile to the server. For the steps you use to create a UNIX connection profile, see "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021.

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JBoss Application Server Solution Template

This chapter includes the main concepts, tasks, and reference information for the JBoss Application Server Solution Template.

This chapter includes:

Concepts

Tasks

Reference

JBoss Application Server Solution Overview

The JBoss Application Server Solution Template is a template that you can use to deploy a collection of monitors configured with default metrics that test the health, availability, and performance of JBoss application servers. The template supports JBoss Application Server versions 4.0.x and 4.2.x.

The JBoss Application Server Solution Template provides comprehensive JBoss monitoring without requiring the SiteScope user or the IT organization to be experts on the application. It also reduces the time to configure and deploy various performance monitors, helps identify both real-time performance bottlenecks and longer term trends, and adds only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the JBoss Application Server solution template. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the JBoss solution is available in the SiteScope JBoss Application Server Best Practices document. This document can be found at **<SiteScope root directory>\sisdocs\pdfs\ SiteScope_JBoss_Best_Practices.pdf**. This is a password protected document. The password is provided along with the JBoss Application Server solution license key from HP.

Solution Template Monitors

The JBoss Application Server solution template creates a dynamic set of monitors that target the JBoss application server performance and health. The exact monitor set depends on the entities you select during the solution template deployment. For details on the monitors, see the SiteScope JBoss Application Server Best Practices document.

Deploy the JBoss Application Server Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the JBoss Application Server Solution Template.

This task includes the following steps:

- "Configure the JBoss Server Environment" on page 1363
- "Deploy the Solution Template" on page 1363
- "Enter Deployment Values for the Solution Template" on page 1363

1 Configure the JBoss Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see "JBoss Solution Configuration Requirements" on page 1364.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the JBoss Application Server Solution Template. For details on the user interface, see "JBoss Solution Template User Interface" on page 1365.

JBoss Solution Configuration Requirements

Before you can use the JBoss Application Server solution, there are a number of configuration requirements involving the server environment:

- You must know the URL for gathering JMX statistics (including the host name and port of the JMX instance), and the JMX user name and password.
- SiteScope and the target server can run on the same host.
- The JBoss solution template supports JBoss application servers 4.0.x and 4.2.x only.
- You must start JBoss in a particular way, so that SiteScope is able to monitor it. For details, see "Starting JBoss" below.

Starting JBoss

To enable SiteScope to monitor JBoss, you should specify the following options for the JBoss JVM:

```
-Dcom.sun.management.jmxremote.port=12345 (any other port can be used of course;
then it must be specified during ST deployment)
-Dcom.sun.management.jmxremote.authenticate=false
-Dcom.sun.management.jmxremote.ssl=false
-Djavax.management.builder.initial=org.jboss.system.server.jmx.MBeanServer
BuilderImpl
-Djboss.platform.mbeanserver
-Dcom.sun.management.jmxremote
```

You can perform this using the following batch file:

```
@echo off
set JAVA_OPTS=%JAVA_OPTS% -Dcom.sun.management.jmxremote.port=12345
set JAVA_OPTS=%JAVA_OPTS% -
Dcom.sun.management.jmxremote.authenticate=false
set JAVA_OPTS=%JAVA_OPTS% -Dcom.sun.management.jmxremote.ssl=false
set JAVA_OPTS=%JAVA_OPTS% -
Djavax.management.builder.initial=org.jboss.system.server.jmx.MBeanServer
BuilderImpl
set JAVA_OPTS=%JAVA_OPTS% -Djboss.platform.mbeanserver
set JAVA_OPTS=%JAVA_OPTS% -Dcom.sun.management.jmxremote
call run.bat -b my-jboss-host
```

Note:

- **run.bat** is the default script used to start JBoss.
- **-b** option binds JBoss 4.2.2 to the correct network interface (it binds only to localhost by default making it inaccessible from other hosts).
- You can build a similar script for UNIX.

JBoss Solution Template User Interface

Description	Enables you to deploy the JBoss Application Server solution template. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select **JBoss AS 4.x**.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"JBoss Application Server Solution Template" on page 1361

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
JMX_URL	The URL to gather JMX statistics. Typically the URL is in the format: service:jmx:rmi:///jndi/rmi://{hostname}:{port}/jmxrmi. Enter the host name and port of the JMX instance you want to monitor.
USERNAME	User name for connection to the JMX application (optional).
Password	Password for connection to the JMX application (optional).

JMX Settings

GUI Element	Description
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the entities you want to monitor. For each instance, a specific set of monitors and thresholds is created. For details, see the SiteScope JBoss Application Server Best Practices Guide which can be found at **<SiteScope root directory>\sisdocs\pdfs\ SiteScope_JBoss_Best_Practices.pdf**.

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Linux Host Solution Templates

This chapter includes the main concepts, tasks, and reference information for the Linux Host Solution Template.

This chapter includes:

Concepts

Tasks

Reference

Linux Host Solution Overview

The Linux Host Solution Template is a template that you can use to deploy a collection of monitors configured with default metrics that test the health, availability, and performance of the target Linux host. The template supports the versions of Linux that are supported by SiteScope. For details, see "System Requirements" in the *HP SiteScope Deployment Guide* PDF.

For UNIX Resource Monitors, you can create a Server-Centric Report which displays data from three different metrics about the server being monitored. We recommend that you use Solution Templates when creating the UNIX Resource Monitor, because the required monitors and metrics are already configured. For more information on generating a Server-Centric Report, see "Generating a Server-Centric Report" on page 1490.

The Linux Host Solution Template provides comprehensive Linux operating system monitoring without requiring the SiteScope user or the IT organization to be experts on the application. It also reduces the time to configure and deploy various performance monitors, helps identify both real-time performance bottlenecks and longer term trends, and adds only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the Linux Host Solution Template. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the Linux Host Solutions settings is available in the SiteScope Operating System Host Best Practices document. This document can be found at **<SiteScope root directory>\sisdocs\pdfs\SiteScope_OS_Best_Practices.pdf**. This is a password protected document. The password is provided along with the Operating System Host Solution license key from HP.

Solution Template Monitors

The Linux Host Solution Template deploys monitors that target the following aspects of Linux performance and health:

- CPU status and utilization details
- Memory status and utilization details
- File system status and utilization details

Deploy the Linux Host Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the Linux Host Solution Template.

Note: The Linux Host Solution Template deploys a UNIX Resource Monitor for each target host. This is a supplemental monitor that is required for Server-Centric Report support.

This task includes the following steps:

- "Configure the Linux Server Environment" on page 1369
- "Deploy the Solution Template" on page 1369
- "Enter Deployment Values for the Solution Template" on page 1369

1 Configure the Linux Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see "Linux Host Solution Configuration Requirements" on page 1370.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the Linux Host Solution Template. For details on the user interface, see "Linux Host Solution Template User Interface" on page 1370.

Linux Host Solution Configuration Requirements

Before you can use the Linux Host Solution Template, there are a number of configuration requirements involving the server environment:

- SiteScope server must be able to connect to the target Linux host.
- The target server must be added to SiteScope as a UNIX remote machine and should pass the UNIX remote test (**Remote Servers** > **UNIX Remote Servers**). For details, see "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021.
- The SiteScope server itself can also be monitoring if it runs a supported Linux operating system.
- The template supports the Linux versions supported by SiteScope. For details, see "System Requirements" in the *HP SiteScope Deployment Guide* PDF.

Linux Host Solution Template User Interface

Description	Enables you to deploy the Linux Host solution template. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select **Linux Host**.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Linux Host Solution Templates" on page 1367

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SERVER_LIST	Choose the server you want to monitor. If the server you want to monitor is not in the list, you must define a connection profile to the server. For the steps you use to create a UNIX connection profile, see "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021.

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Microsoft Exchange Solution Templates

This chapter includes the main concepts, tasks, and reference information for the Microsoft Exchange Solution Templates.

This chapter includes:

Concepts

Tasks

Reference

Microsoft Exchange Solution Overview

The Microsoft Exchange Solution Templates provide monitoring of performance, availability, and usage statistics for:

- Microsoft Exchange 5.5 Server
- Microsoft Exchange 2000 Server
- Microsoft Exchange 2003 Server
- Microsoft Exchange 2007 Server (version 8.0)

Depending on the set chosen, this set includes monitors checking NT Event log entries, MAPI operations, system performance counters, and message system usage statistics.

The Microsoft Exchange Solution Templates provide comprehensive Microsoft Exchange system monitoring without requiring the SiteScope user or the IT organization to be experts on the application. They also reduce the time to configure and deploy monitors, help identify both real-time performance bottlenecks and longer term trends, and add only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the Microsoft Exchange Solution templates. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the Microsoft Exchange Solution is available in the SiteScope Microsoft Exchange Best Practices document. This document is part of the SiteScope installation, and can be found at **<SiteScope root directory>\sisdocs\pdfs\SiteScope_Exchange_Best_Practices.pdf**. This is a password protected document. The password is provided along with the Microsoft Exchange Solution license key from HP.

Solution Template Monitors

The Microsoft Exchange solution templates deploy monitors that target the following aspects of Microsoft Exchange performance and health:

- **Basic server/OS performance.** This category refers to the system-level health of a server. The Microsoft Exchange Solution Templates automatically configure monitors for server health.
- **Application performance.** Application performance is a measure of how well specific Exchange components are functioning. The Microsoft Exchange Solution Templates automatically configure monitors for a list of important Exchange application components.
- **Mail protocol response time.** Perhaps the most important aspect and key indicator of Microsoft Exchange performance is mail protocol response time. While Microsoft Exchange can utilize many protocols, the MAPI protocol is commonly used in Microsoft networks.
- **Usage statistics.** The last category related to Microsoft Exchange performance is usage. While usage in and of itself is not necessarily a key indicator of performance, changes in usage can affect overall Microsoft Exchange performance. In addition, Microsoft Exchange usage statistics help IT organizations spot trends and plan for the future. The Microsoft Exchange Solution Templates automatically configure monitors for a list of important Microsoft Exchange usage parameters.

Note: Some of the monitor types deployed by the solution templates can only be added to SiteScope by using the Microsoft Exchange Solution templates. See the section for the particular monitor types for more information.

Deploy Microsoft Exchange Solution Templates

This task describes the steps involved in configuring the server environment and entering variables for the Microsoft Exchange Solution Template.

This task includes the following steps:

- "Configure the Microsoft Exchange Server Environment" on page 1376
- "Deploy the Solution Template" on page 1376
- "Enter Deployment Values for the Solution Template" on page 1376

1 Configure the Microsoft Exchange Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see "Microsoft Exchange Solution Configuration Requirements" on page 1377.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the Microsoft Exchange Solution Template. For details on the user interface, see "Microsoft Exchange Solution Template User Interface" on page 1377.

Microsoft Exchange Solution Configuration Requirements

Before deploying a Microsoft Exchange Solution Template, you must perform various steps depending on the solution template you want to deploy.

- Microsoft Exchange 5.5, 2000, 2003 solutions. These solution templates make use of the SiteScope MAPI Monitor. Successful deployment of this monitor type requires specific setup configuration relating to the mailbox owners and the SiteScope service. For the MAPI Monitor system requirements, see "MAPI Monitor Overview" on page 641.
- Microsoft Exchange 2007 solution. The Microsoft Exchange 2007 solution template makes use of the Microsoft Exchange 2007 Monitor. Successful deployment of this monitor type requires specific setup configuration as described in "Microsoft Exchange 2007 Monitor Overview" on page 365.

Microsoft Exchange Solution Template User Interface

Description	Enables you to deploy the Microsoft Exchange solution templates for monitoring: ➤ Microsoft Exchange 5.5 Servers ➤ Microsoft Exchange 2000 Servers ➤ Microsoft Exchange 2003 Servers ➤ Microsoft Exchange 2007 Servers (version 8.0) Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select the required Microsoft Exchange solution template.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Microsoft Exchange Solution Templates" on page 1373

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
MailBox	The name (alias) of the mailbox to be used for testing e-mail round trip times using MAPI. This is often the e-mail account name but it may be a different name. We recommend that you copy the mailbox name as it appears in the E-Mail Account properties for the e-mail account you will be using for this solution.
MailUser	The Windows account login name for the user for which e-mail round trip times will be tested using MAPI.
MailDomain (on Microsoft Exchange 5.5, 2000, and 2003) **Domain (on Exchange 2007)**	The domain to which both the owner of the mailbox being used and the Microsoft Exchange server belong. **Note:** The owner of the mailbox to be used by this solution must also have administrative account privileges on the machine where SiteScope is running. SiteScope also needs user account access to the domain where the Microsoft Exchange server is running.
MAILPASSWORD	The Windows account login password for the user name entered above.
SERVER_LIST	Choose the server you want to monitor. If the server you want to monitor is not in the list, you must define a connection profile to the server. For the steps you use to create a Windows connection profile, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
AuthenticationUser (Microsoft Exchange 2003 only)	The user name to use when querying the server for mailbox and public folder statistics. The statistics are gathered by using WMI (Windows Management Instrumentation), so the user name entered here must have permissions to read WMI statistics on the server from WMI namespace root\MicrosoftExchangeV2. If this box is left blank, the user that SiteScope is running as will be used.

GUI Element	Description
AUTHENTICATION PASSWORD (Microsoft Exchange 2003 only)	The password for the user entered above for gathering WMI statistics, or leave this blank if the user box is left blank.
PSConsoleFile (Microsoft Exchange 2007 only)	The path to the Microsoft Exchange Management Shell PowerShell console file.

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Microsoft IIS Solution Template

This chapter includes the main concepts, tasks, and reference information for the Microsoft IIS Solution Template.

This chapter includes:

Concepts

Tasks

Reference

Microsoft IIS Solution Overview

The Microsoft IIS Solution Template is a template that you can use to deploy a collection of monitors configured with default metrics that test the health, availability, and performance of Microsoft IIS servers. The template supports Microsoft IIS 6.0 server.

The Microsoft IIS Solution Template provides comprehensive IIS monitoring without requiring the SiteScope user or the IT organization to be experts on the application. It also reduces the time to configure and deploy various performance monitors, helps identify both real-time performance bottlenecks and longer term trends, and adds only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the Microsoft IIS solution template. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the IIS solution is available in the SiteScope Microsoft IIS Best Practices document. This document can be found at **<SiteScope root directory>\sisdocs\pdfs\ SiteScope_IIS_Best_Practices.pdf**. This is a password protected document. The password is provided along with the IIS solution license key from HP.

Solution Template Monitors

The Microsoft IIS solution template deploys monitors that target the following services and aspects of IIS server performance and health:

- Active Server Pages (ASP errors, requests, templates, sessions, transactions)
- FTP service, Web service, SMTP server, NNTP server, HTTP/HTTPS services, MSMQ Queue service, IIS Server, Global IIS status, Indexing services
- IIS statistics as a Windows process

Deploy the Microsoft IIS Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the Microsoft IIS Solution Template.

This task includes the following steps:

- "Configure the Microsoft IIS Server Environment" on page 1383
- "Deploy the Solution Template" on page 1383
- "Enter Deployment Values for the Solution Template" on page 1383

1 Configure the Microsoft IIS Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see "Microsoft IIS Solution Configuration Requirements" on page 1384.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the Microsoft IIS Solution Template. For details on the user interface, see "Microsoft IIS Solution Template User Interface" on page 1384.

Microsoft IIS Solution Configuration Requirements

Before you can use the Microsoft IIS solution, there are a number of configuration requirements involving the server environment:

- SiteScope server must be able to connect to the target Microsoft IIS host. Use the Microsoft Windows Resources Monitor to monitor the server performance statistics from remote Windows servers. The Microsoft Windows Resource monitor may require special configuration. For details, see "Microsoft Windows Resources Monitor Overview" on page 706.
- The target server must be added to SiteScope as a Windows remote machine and should pass the Windows remote test (**Remote Servers > Microsoft Windows Remote Servers**). For details, see "Microsoft Windows Remote Servers User Interface" on page 1025. Alternatively, you can set domain privileges to permit SiteScope to access remote servers. For details, See "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
- SiteScope and the target Microsoft IIS server can run on the same host.

Microsoft IIS Solution Template User Interface

Description	Enables you to deploy the Microsoft IIS 6 solution template. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select **Microsoft IIS 6**.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Microsoft IIS Solution Template" on page 1381

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SERVER_LIST	Choose the server you want to monitor. If the server you want to monitor is not in the list, you must define a connection profile to the server. For the steps you use to create a Windows connection profile, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

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Microsoft SQL Server 2005 Solution Template

This chapter includes the main concepts, tasks, and reference information for the Microsoft SQL Server Solution Template.

This chapter includes:

Concepts

Tasks

Reference

Microsoft SQL Server 2005 Solution Overview

The Microsoft SQL Server Solution Template is a template that you can use to deploy a collection of monitors configured with default metrics that test the health, availability, and performance of Microsoft SQL servers. The template supports Microsoft SQL Server 2005.

The Microsoft SQL Server Solution Template provides comprehensive Microsoft SQL server monitoring without requiring the SiteScope user or the IT organization to be experts on the application. It also reduces the time to configure and deploy various performance monitors, helps identify both real-time performance bottlenecks and longer term trends, and adds only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the Microsoft SQL Server solution template. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the Microsoft SQL Server solution is available in the SiteScope Microsoft SQL Server Best Practices document. This document can be found at **<SiteScope root directory>\sisdocs\pdfs\ SiteScope_MSSQL_Best_Practices.pdf**. This is a password protected document. The password is provided along with the Microsoft SQL Server solution license key from HP.

Solution Template Monitors

The Microsoft SQL Server solution template deploys monitors that target the following aspects of Microsoft SQL server performance and health:

- CPU status and utilization details
- Memory status and utilization details
- Disk utilization information
- SQL Server objects (Buffer Manager, Databases, Locks, Transactions)
- SQL Server resources (space available, percentage of currently connected users)

The Microsoft SQL Server solution makes use of the SiteScope Database Counter monitor, Microsoft SQL Server monitor, and Microsoft Windows Resources monitor. For detailed information about these monitors, see "Database Counter Monitor Overview" on page 524, "Microsoft SQL Server Monitor Overview" on page 538, and "Microsoft Windows Resources Monitor Overview" on page 706.

Deploy the Microsoft SQL Server 2005 Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the Microsoft SQL Server 2005 Solution Template.

This task includes the following steps:

- "Configure the Microsoft SQL Server Environment" on page 1389
- "Deploy the Solution Template" on page 1389
- "Enter Deployment Values for the Solution Template" on page 1389

1 Configure the Microsoft SQL Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see "Microsoft SQL Server 2005 Solution Configuration Requirements" on page 1390.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the Microsoft SQL Server 2005 Solution Template. For details on the user interface, see "Microsoft SQL Server 2005 Solution Template User Interface" on page 1391.

Microsoft SQL Server 2005 Solution Configuration Requirements

Before you can use the Microsoft SQL Server solution, there are a number of configuration requirements involving the server environment:

- SiteScope server must be able to connect to the target Microsoft SQL host. Use the Microsoft Windows Resources Monitor to monitor the server performance statistics from remote Windows servers. The Microsoft Windows Resource monitor may require special configuration. For details, see "Microsoft Windows Resources Monitor Overview" on page 706.
- The target server must be added to SiteScope as a Windows remote machine and should pass the Windows remote test (**Remote Servers** > **Microsoft Windows Remote Servers**). For details, see "Microsoft Windows Remote Servers User Interface" on page 1025. Alternatively, you can set domain privileges to permit SiteScope to access remote servers. For details, See "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
- The SQL Server user must have **VIEW SERVER STATE** permissions on the monitored SQL Server 2005 instance to retrieve data from SQL Server System Views. For more information about granting permissions on Microsoft SQL Server 2005, see http://msdn2.microsoft.com/en-us/library/ms186717.aspx.
- SiteScope and the target Microsoft SQL Server can run on the same host.

Microsoft SQL Server 2005 Solution Template User Interface

Description	Enables you to deploy the Microsoft SQL Server 2005 solution template for monitoring key components on Microsoft SQL Server 2005. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select **Microsoft SQL Server 2005**.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Microsoft SQL Server 2005 Solution Template" on page 1387

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Login to Microsoft SQL Server 2005	The login name for the user on the monitored Microsoft SQL Server 2005 instance.
Microsoft SQL Server 2005 password	The password for the user on the monitored Microsoft SQL Server 2005 instance.
Microsoft SQL Server 2005 URL	The URL for the monitored Microsoft SQL Server 2005 instance. ➤ Replace ${host} with the host name on which the Microsoft SQL Server 2005 is running. This must be the same as the host name defined for the Windows remote machine. For details, see "Microsoft Windows Remote Servers User Interface" on page 1025. ➤ Replace ${port} with the port number on which the Microsoft SQL Server 2005 accepts connections. By default, the port is 1433. **Example:** jdbc:mercury:sqlserver://doors:1433
SERVER_LIST	Choose the server you want to monitor. If the server you want to monitor is not in the list, you must define a connection profile to the server. For the steps you use to create a Windows connection profile, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

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Microsoft Windows Host Solution Template

This chapter includes the main concepts, tasks, and reference information for the Microsoft Windows Host Solution Template.

This chapter includes:

Concepts

Tasks

Reference

Microsoft Windows Host Solution Overview

The Microsoft Windows Host Solution Template is a template that you can use to deploy a collection of monitors configured with default metrics that test the health, availability, and performance of the Windows host. The template supports Microsoft Windows 2000, Windows XP, and Windows Server 2003.

For Microsoft Windows Resource Monitors, you can create a Server-Centric Report which displays data from three different metrics about the server being monitored. We recommend that you use Solution Templates when creating the Microsoft Windows Resource Monitor, because the required monitors and metrics are already configured. For more information on generating a Server-Centric Report, see "Generating a Server-Centric Report" on page 1490.

The Microsoft Windows Host Solution Template provides comprehensive Windows operating system monitoring without requiring the SiteScope user or the IT organization to be experts on the application. It also reduces the time to configure and deploy various performance monitors, helps identify both real-time performance bottlenecks and longer term trends, and adds only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the Microsoft Windows Host Solution template. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the Microsoft Windows Host Solution settings is available in the SiteScope Operating System Host Best Practices document. This document can be found at **<SiteScope root directory>\sisdocs\pdfs\ SiteScope_OS_Best_Practices.pdf**. This is a password protected document. The password is provided along with the Operating System Host Solution license key from HP.

Solution Template Monitors

The Microsoft Windows Host solution template deploys monitors that target the following aspects of Microsoft Windows performance and health:

- High-level CPU status and utilization details
- High-level Memory status and utilization details
- Disk utilization information

Deploy the Microsoft Windows Host Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the Microsoft Windows Host Solution Template.

Note: The Microsoft Windows Host Solution deploys a Microsoft Windows Resource Monitor for each target host. This monitor is an additional monitor that is required for Server-Centric Report support.

This task includes the following steps:

- "Configure the Microsoft Windows Server Environment" on page 1395
- "Deploy the Solution Template" on page 1395
- "Enter Deployment Values for the Solution Template" on page 1395

1 Configure the Microsoft Windows Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see "Microsoft Windows Host Solution Configuration Requirements" on page 1396.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the Microsoft Windows Host Solution Template. For details on the user interface, see "Microsoft Windows Host Solution Template User Interface" on page 1397.

Microsoft Windows Host Solution Configuration Requirements

Before you can use the Microsoft Windows Host Solution, there are a number of configuration requirements involving the server environment:

- SiteScope server must be able to connect to the target Windows host. Use the Microsoft Windows Resources Monitor to monitor the server performance statistics from remote Windows servers. The Microsoft Windows Resource monitor may require special configuration. For details, see "Microsoft Windows Resources Monitor Overview" on page 706.
- The target server must be added to SiteScope as a Windows remote machine and should pass the Windows remote test (**Remote Servers** > **Microsoft Windows Remote Servers**). For details, see "Microsoft Windows Remote Servers User Interface" on page 1025. Alternatively, you can set domain privileges to permit SiteScope to access remote servers. For details, See "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
- You can monitor Windows operating system usage statistics on the SiteScope server provided SiteScope is installed on a supported Windows operating system. For details, see "System Requirements" in the *HP SiteScope Deployment Guide* PDF.
- SiteScope and the target server can run on the same host if SiteScope is installed on a Windows operating system supported by the template. The template supports Microsoft Windows 2000, Windows XP, and Windows Server 2003.

Microsoft Windows Host Solution Template User Interface

Description	Enables you to deploy the Microsoft Windows Host solution template for monitoring a Microsoft Windows 2000, Windows XP, and Windows Server 2003 operating system. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select **Microsoft Windows Host**.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Microsoft Windows Host Solution Template" on page 1393

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SERVER_LIST	Choose the server you want to monitor. If the server you want to monitor is not in the list, you must define a connection profile to the server. For the steps you use to create a Windows connection profile, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.

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.NET Solution Templates

This chapter includes the main concepts, tasks, and reference information for the .NET Solution Templates.

This chapter includes:

Concepts

Tasks

Reference

.NET Solution Overview

The .NET Solution Templates enable you to monitor .NET applications of servers that run a Windows operating system. This solution template deploys a set of monitors that test the health, availability, and performance of a .NET application and .NET environment on the Windows host. The template supports Windows 2000, Windows XP, and Windows Server 2003.

The .NET Solution Templates provide comprehensive .NET monitoring without requiring the SiteScope user or the IT organization to be experts on the application. They also reduce the time to configure and deploy monitors, help identify both real-time performance bottlenecks and longer term trends, and add only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the .NET Solution templates. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the .NET Solution is available in the SiteScope .NET Best Practices document. This document can be found at **<SiteScope root directory>\sisdocs\pdfs\ SiteScope_NET_Best_Practices.pdf**. This is a password protected document. The password is provided along with the .NET Solution license key from HP.

Solution Template Monitors

The .NET solution templates deploy monitors that target the following aspects of .NET performance and health:

- **.NET CLR Data.** This category refers to the common language runtime data (environment of .NET applications). It is designed to check several resource statistics for the .NET CLR for selected application. The .NET Solution Template automatically configures monitors for server health.
- **ASP.NET.** This category is designed to check several resource statistics for the ASP.NET. It gathers common information about application restarts and whole ASP.NET system stability. The .NET Solution Template automatically configures monitors for server health.
- **ASP.NET Applications.** This category is designed to check several resource statistics for the selected ASP.NET application. It gathers common information about application cache, errors, and other critical information. The .NET Solution Template automatically configures monitors for server health.

Deploy the .NET Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the .NET Solution Template.

This task includes the following steps:

- "Configure the .NET Server Environment" on page 1401
- "Deploy the Solution Template" on page 1401
- "Enter Deployment Values for the Solution Template" on page 1401

1 Configure the .NET Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see ".NET Solution Configuration Requirements" on page 1402.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the .NET Solution Template. For details on the user interface, see ".NET Solution Template User Interface" on page 1402.

.NET Solution Configuration Requirements

Before you can use the .NET Solution, there are a number of configuration requirements involving the server environment:

- SiteScope server must be able to connect to the target Windows host. Use the Microsoft Windows Resources Monitor to monitor the server performance statistics from remote Windows servers. The Microsoft Windows Resource monitor may require special configuration. For details, see "Microsoft Windows Resources Monitor Overview" on page 706.
- The target server must be added to SiteScope as a Windows remote machine and should pass the Windows remote test (**Remote Servers > Microsoft Windows Remote Servers**). For details, see "Microsoft Windows Remote Servers User Interface" on page 1025. Alternatively, you can set domain privileges to permit SiteScope to access remote servers. For details, See "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015.
- SiteScope and the target .NET application can run on the same host if SiteScope is installed on a Windows operating system supported by the template. The template supports Windows 2000, Windows XP, and Windows Server 2003.

.NET Solution Template User Interface

Description	Enables you to deploy the .Net solution template for monitoring .NET application and .NET environments. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select the required .NET solution template.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	".NET Solution Templates" on page 1399

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	Choose the server you want to monitor. If the server you want to monitor is not in the list, you must define a connection profile to the server. See "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015 for the steps you use to create a Windows connection profile.
ASP.NET Application **(ASP.NET Application only)**	The name of the ASP.NET application you want to monitor. The name must be as it appears in the Task Manager.
Instance **(.NET CLR Data only)**	The name of the application you want to monitor. The name must be the same as it appears in the Task Manager, or can be whole system statistics (by default).

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Oracle Database Solution Template

This chapter includes the main concepts, tasks, and reference information for the Oracle Database Solution Templates.

This chapter includes:

Concepts

Tasks

Reference

Oracle Database Solution Overview

You can use the Oracle Database Solution Templates to deploy a set of monitors that test the health, availability, and performance of an Oracle database. The deployed monitors check general system statistics, such as cache hit ratios and disk I/O, and include tools that provide diagnostic information about important aspects of the database. This solution can be used with Oracle 9i and 10g databases.

This solution uses the Database Counter Monitor to collect performance metrics from JDBC-accessible databases. In addition, you can use the Oracle Database Solution Template to deploy a collection of monitors configured with default metrics.

Important system metrics are computed with data retrieved from system tables in the Oracle database. A wide range of Oracle system tables such as V$SYSSTAT, V$LATCH, V$ROLL_STAT, and V$BUFFER_POOL_STATISTICS are consulted to produce these metrics. In this way, the Oracle Database Solution implements the equivalent of many of the system monitoring scripts that come bundled with the Oracle installation.

The Oracle Database Solution Templates provide comprehensive Oracle database monitoring without requiring the SiteScope user or the IT organization to be an expert on the application. They also reduce the time to configure and deploy monitors, help identify both real-time performance bottlenecks and longer term trends, and add only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the Oracle Database Solution Template. Contact your HP Sales representative for more information about Solution licensing.
- An in-depth description of the Oracle Database Solution is available in the SiteScope Oracle Database Best Practices document. This document is part of the SiteScope installation, and can be found at **<SiteScope root directory>\sisdocs\pdfs\ SiteScope_Oracle_Database_Best_Practices.pdf**. This is a password protected document. The password is provided along with the Oracle Database Solution license key from HP.

Solution Template Monitors

The Oracle Database Solution Template deploys monitors that target the following aspects of Oracle performance and health:

- **General System Statistics.** The most important V$SYSSTAT statistics are monitored by default in the monitors deployed by the Oracle Database Solution. Where applicable, these metrics are combined to calculate deltas and rates on a per-second or per-transaction basis. When monitoring the important metrics from the V$ tables in the database, the Oracle Database Solution is a replacement for manually generated SQL scripts.
- **Oracle Logs.** Important Oracle log files are monitored for ORA- errors. Users may customize these monitors to look for specific text in a log file, depending on their database configuration.
- **Diagnosing Database Problems.** In addition to the deployed monitors, Oracle Solution offers several tools that can be used to gain diagnostic information about a database. Resource-intensive SQL statements, shared server process contention, and the number of sessions waiting for specific events are all examples of the diagnostic data that these tools can provide.

Deploy Oracle Database Solution Templates

This task describes the steps involved in configuring the server environment and entering variables for the Oracle Database Solution Template.

This task includes the following steps:

1 Prerequisites

You must have CREATE SESSION system privileges to successfully deploy the Oracle Database 9i and 10g Solution Template.

2 Configure the Oracle Database Server Environment

Follow the usage guidelines and perform the configuration requirements involving the server environment. For details on this topic, see "Oracle Database Solution Template Usage Guidelines" on page 1409.

3 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

4 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the Oracle Database Solution Template. For details on the user interface, see "Oracle Solution Template User Interface" on page 1412.

Oracle Database Solution Template Usage Guidelines

Before configuring the Oracle Database Solution for deployment, consult the documentation for the Database Counter Monitor (see "Database Counter Monitor Overview" on page 524) and the Log File Monitor (see "Log File Monitor Settings" on page 606) for information about some of the prerequisites and parameters required by the solution template. For example, you find more information on installing the Oracle JDBC driver needed to communicate with the database and the format of the log file path parameter.

Oracle Database Solution Template Tools

The Oracle Solution Template deploys several tools that you can use to gather diagnostic information about an Oracle database. These tools are deployed to the same group as the monitors that are deployed by the solution template. They are displayed in much the same way as monitors but they are set as disabled. These tools are identified by the bold text **Solution Tool** in the **Status** field of the group content table. Although the Solution tools are listed in the monitor table, they are not monitor instances. They do not run automatically, do not display a status based on action results, nor do they trigger alerts. They are preconfigured actions that make use of a SiteScope Diagnostic Tool to check certain statistics from the Oracle database that may indicate a performance problem.

When the user clicks on one of these Solution Tools, SiteScope makes a custom SQL query to the database by using the Database Connection Test tool. The results of the query are found in a table at the bottom of the page. From this page, the tool may be run as many times as necessary by clicking the Connect and Execute Query button. Bear in mind that some tools may incur substantial overhead on the database, so executing them in quick succession is not recommended.

List of Oracle Database Solution Tools

The following describes tools deployed as part of the Oracle Database Solution:

Oracle Solution Tool Name	Description and Usage Guidelines
Top Ten SQL Statements in Logical IOs Per Row	This tool performs a query which is designed to locate the most resource-intensive SQL statements being run in the database. The V$SQL table is queried for the ten SQL statements which are performing the most logical IOs per row are displayed in a table. The statement IDs of these ten statements are displayed in a table, along with some additional resource-usage data for each statement. This additional data includes: ➤ **Physical IO Blocks.** The number of disk reads performed on behalf of the statement. ➤ **Logical IOs.** The number of buffer gets performed on behalf of the statement. ➤ **Rows Processed.** The number of rows processed when executing the statement. ➤ **Logical IOs Per Row.** The number of buffer gets performed per row that was processed when executing the statement. ➤ **Runs.** The number of executions of the statement. ➤ **Logical IOs Per Run.** The number of buffer gets per statement execution. **Note:** The action performed can have a significant affect on database resources and should not be run frequently.
Number of Sessions Waiting Per Event	This tool can be used in troubleshooting stuck sessions. When several sessions become unresponsive, this tool can determine whether the stuck sessions are all waiting on the same event. The tool action displays a table containing the number of sessions waiting on specific events.

Oracle Solution Tool Name	Description and Usage Guidelines
Shared Server Process Contention (Common Queue Average Wait Time)	This tool calculates the average wait time of the shared server message queue (the Common Queue as recorded in V$QUEUE). A high average wait time may indicate contention between shared server processes.

Use the following steps to run the Oracle Database Solution tools.

To run an Oracle Database Solution tool:

1. Click the group name for the group where the Oracle Solution monitors are deployed. The Group Detail page opens.
2. Find the Solution Tool for the action that you want to run. See the **Name** column for the Solution Tool for a description of the action performed by that tool.
3. Click the **Tools** link to the right of the tool **Name** to run the action. The Database Connection Test page opens. From this page, the tool may be run as many times as necessary by clicking the **Connect and Execute Query** button.

Note: Some Solution Tools may create significant overhead on the database depending on the query. Therefore, we do not recommend that you run the tools in quick succession.

The upper portion of the Database Connection Test page displays the database connection parameters used for the test. The results of the tool query are found in a table near the bottom of the page. Review the results based on the Description and Usage Guidelines for that tool.

Oracle Solution Template User Interface

Description	Enables you to deploy the Oracle solution template. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select **Oracle Database 9i and 10g**.
Important Information	You must have CREATE SESSION system privileges to successfully deploy the Oracle Database 9i and 10g Solution Template.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Oracle Database Solution Template" on page 1405

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
DatabaseConnection URL	The connection URL to the database you want to connect to. The syntax is jdbc:oracle:thin:@<server name or ip address>:<database server port>:<sid>. **Example:** To connect to the ORCL database on a machine using port 1521 you would use: jdbc:oracle:thin:@206.168.191.19:1521:ORCL. **Note:** The colon and @ symbols must be included as shown.
DatabaseDriver	The name of the JDBC driver to be used by this monitor. Each driver supports a specific connection URL pattern, so it must match the URL entered in **Database Connection URL**.

GUI Element	Description
OracleAlertLogPath	The full path to the Oracle alert log. For Windows machines, this should be the full UNC path. Enter the full path to the Oracle alert log. Consult your database administrator or the Oracle documentation for information about how to access this file.
OracleListenerLog Path	The full path to the Oracle listener log. For Windows machines, this should be the full UNC path. Consult your database administrator or the Oracle documentation for information about how to access this file.
DatabaseUserName	The user name that SiteScope should use to connect to the database.
DATABASEPASSWORD	The password for the user name that SiteScope should use to connect to the database.
Log File Encoding	If the file content to be monitored uses an encoding that is different than the encoding used on server where SiteScope is running, enter the code page or encoding to use. This may be necessary if the code page which SiteScope is using does not support the character sets used in the target file. This will enable SiteScope to match and display the encoded file content correctly. **Examples:** Cp1252, Cp1251, Cp1256, Shift_JIS, or EUC_JP.
SERVER_LIST	Choose the server you want to monitor. If the server you want to monitor is not in the list, you must define a connection profile to the server. For the steps you use to create a connection profile, see "Configure SiteScope to Monitor a Remote Microsoft Windows Server" on page 1015 and "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021.

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SAP Solution Templates

This chapter includes the main concepts, tasks, and reference information for the SAP Solution Templates.

This chapter includes:

Concepts

Tasks

Reference

SAP Solution Overview

The SAP solution includes solution templates for the monitoring the following key SAP components:

- SAP CCMS
- SAP Java Web Application Server

The SAP Solution uses two solution templates which you use to deploy a collection of monitors configured with metrics to report on availability and performance. These monitoring configurations have been researched using best practice data and expertise from various sources.

The SAP Solution Templates provide comprehensive SAP monitoring without requiring the SiteScope user or the IT organization to be experts on the application. They also reduce the time to configure and deploy monitors, help identify both real-time performance bottlenecks and longer term trends, and add only minimal overhead to production systems.

Note: You must have the applicable SiteScope option license to use the SAP R/3 Application Server and SAP NetWeaver Application Server solution templates. Contact your HP sales representative for more information about licensing for solution templates.

You use the SAP R/3 Application Server solution template to deploy monitoring for SAP R/3 systems. You use the SAP NetWeaver Application Server template to monitor the SAP Java Web Application server if this component is deployed in the IT environment.

Deploy the SAP Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the SAP Solution Template.

This task includes the following steps:

- "Configure the SAP Server Environment" on page 1417
- "Deploy the Solution Template" on page 1417
- "Enter Deployment Values for the Solution Template" on page 1417

1 Configure the SAP Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see "SAP Solution Template Configuration Requirements" on page 1418.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the SAP Solution Template. For details on the user interface, see "SAP Solution Template User Interface" on page 1419.

SAP Solution Template Configuration Requirements

SAP R/3 Application Server Solution Template

The SiteScope SAP R/3 Application Server solution template provides the tools you use to monitor the availability, usage statistics, and server performance statistics for SAP R/3 systems. This solution template deploys a set of monitors that test the health, availability, and performance of SAP R/3 servers.

Before you can use the SAP R/3 Application Server solution template, there are a number of configuration requirements involving the server environment. The following lists an overview of these requirements:

- SAP Java Connector libraries should be copied to the required SiteScope folders.
- You must know the user name and password that SiteScope must use to log into the SAP R/3 server.

For more information on system and configuration requirements, see "SAP CCMS Monitor Overview" on page 377. This monitor is deployed as part of the SAP R/3 solution template.

SAP NetWeaver Application Server Solution Template

The SiteScope SAP NetWeaver Application Server solution enables you to monitor the availability and server statistics for SAP Java Web application server clusters.

This solution template deploys a monitor that tests the health, availability, and performance of SAP Java Web application servers. You can use this solution template to deploy monitors for server-wide resources and metrics.

Before you can use the SAP NetWeaver Application Server solution template, there are a number of configuration requirements involving the server environment. The following lists an overview of these requirements:

- SAP Java Web application server libraries must be copied to the required SiteScope folders.
- You must know the user name and password that SiteScope must use to log into the SAP Java Web application server.

For more information on system and configuration requirements, see "SAP Java Web Application Server Monitor Overview" on page 386. This monitor is deployed as part of the SAP NetWeaver Application Server solution template.

SAP Solution Template User Interface

Description	Enables you to deploy the SAP solution templates for monitoring key components on SAP CCMS and SAP Java Web Application Servers. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select the required SAP solution template.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"SAP Solution Templates" on page 1415

SAP R/3 Application Server

The Main Settings include the following elements:

GUI Element	Description
CLIENT_NUMBER	The Client to use for connecting to SAP.
Password	The password required to connect to the SAP server.
USER_NAME	The user name required to connect to the SAP server.
SYSTEM_NUMBER	The System number for the SAP server.
APPLICATION_SERVER	The address of the SAP server you want to monitor.

SAP NetWeaver Application Server

The Main Settings include the following elements:

GUI Element	Description
TARGET_SERVER_NAME	The address of the SAP Java Web Application Server you want to monitor.
USER_NAME	The user name required to connect to the SAP Java Web Application Server.
PORT	The port for the SAP Java Web Application Server.
Password	The password required to connect to the SAP Java Web Application Server.

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Siebel Solution Templates

This chapter includes the main concepts, tasks, and reference information for the Siebel Solution Templates.

This chapter includes:

Concepts

Tasks

Reference

Siebel Solution Overview

The SiteScope Siebel Solution Templates provide efficient and thorough monitoring of performance, availability, and usage statistics for Siebel Application, Gateway, and Web servers installed on Microsoft Windows and UNIX operating systems.

The primary solution template for Siebel is the Siebel Application Server template. This solution template is applicable to all Siebel deployments on Windows and UNIX platforms. You use this template to deploy monitoring for the core of the Siebel application. You use the Siebel Gateway Server and Siebel Web Server templates if these optional components are deployed in the IT environment.

The Siebel Solution Templates provide comprehensive Siebel monitoring without requiring the SiteScope user or the IT organization to be experts on the application. They also reduce the time to configure and deploy various performance monitors, help identify both real-time performance bottlenecks and longer term trends, and add only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the Siebel Solution templates. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the Siebel Solution is available in the SiteScope Siebel Best Practices document. This document is part of the SiteScope installation, and can be found at **<SiteScope root directory>\sisdocs\pdfs\SiteScope_Siebel_Best_Practices.pdf**. This is a password protected document. The password is provided along with the Siebel Solution license key from HP.

Solution Template Monitors

The Siebel Solution includes solution templates for monitoring the following key Siebel components:

- **Siebel Application Server.** The SiteScope Siebel Application Server Solution allows you to monitor the availability, usage statistics, and server performance statistics for Siebel Application servers installed on Windows and UNIX platforms. This solution template deploys a set of monitors that test the health, availability, and performance of Siebel 6.x, 7.x, and 8.x application servers.
- **Siebel Gateway Server.** The SiteScope Siebel Gateway Server Solution allows you to monitor the availability and server statistics for Siebel Gateway servers installed on Windows and UNIX platforms. This solution template deploys a set of monitors that test the health, availability, and performance of Siebel Gateway Servers. You can use this solution template to deploy monitors for server-wide resources and metrics.
- **Siebel Web Server.** The SiteScope Siebel Web Server Solution allows you to monitor the availability and server statistics for Siebel Web servers installed on Windows and UNIX platforms. This solution template deploys a set of monitors that test the health, availability, and performance of Siebel Web Servers.

Deploy the Siebel Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the Siebel Solution Template.

This task includes the following steps:

- "Configure the Siebel Server Environment" on page 1424
- "Deploy the Solution Template" on page 1424
- "Enter Deployment Values for the Solution Template" on page 1424

1 Configure the Siebel Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see "Siebel Solution Configuration Requirements" on page 1425.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the Siebel Solution Template. For details on the user interface, see "Siebel Solution Template User Interface" on page 1426.

Siebel Solution Configuration Requirements

Before you can use the Siebel Application or Web Server Solution, there are a number of configuration requirements involving the server environment.

This section includes the following topics:

Siebel Application Server Solution Template

- The Siebel Server Manager client must be installed only on a Windows machine where SiteScope is running or that is accessible to the SiteScope machine (even if the Siebel application server is installed on UNIX). There are several options for how you can do this. See the documentation for the Siebel Server Manager Monitor for more information.
- You must know the install path for the Server Manager client to be able to setup Siebel Server Manager monitors in SiteScope. If the client is installed on the machine where SiteScope is running, this is the path on that machine. If the client is installed on a remote machine, you must know the fully qualified path to the client executable relative to that machine.
- You must know the name of the Siebel applications that are available in your network. For example, call center, sales, and so on.
- You must know the Siebel database machine name, user name, password, connection URL, and Database Driver.
- You must know the user and password that SiteScope uses for logging into the Siebel server. This user must be granted Siebel Administrator responsibility on the Siebel server.
- You must make sure that the following Siebel server component groups are enabled:
  - Siebel Call Center (CallCenter)
  - Siebel Remote (Remote)
  - System Management (System)
  - Auxiliary System Management (SystemAux) - Siebel 8.x only

- You need to know a significant list of Siebel system component names and their corresponding aliases. For a listing of component names and aliases, see "Siebel Solution Template User Interface" on page 1426.

  For more information on system and configuration requirements, see the sections on the "Siebel Web Server Monitor Overview" on page 402 and "Database Query Monitor Overview" on page 527. These monitor types that are deployed as part of the Siebel Application Server Solution Template.

Siebel Web Server Solution Template

- SiteScope server must be able to connect to the machine where the Siebel Web Server is running.
- Siebel Web Server Solution is designed for use with Siebel running on Microsoft Windows platforms.
- Template assumes that the Siebel Web Server is running on Microsoft Internet Information Server (IIS).

Siebel Solution Template User Interface

Description	Enables you to deploy the Siebel solution templates for monitoring the Siebel 6.x, 7.x, and 8.x Application Server, Siebel Gateway Server, and Siebel Web Server on Windows and UNIX platforms. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select the required Siebel solution template.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"Siebel Solution Templates" on page 1421

Siebel Application Server

The Main Settings include the following elements for monitoring Siebel Application Server 6.x, 7.x, and 8.x on Windows and UNIX environments:

GUI Element (A-Z)	Description
Application	The Siebel Application Server machine name.
CG_Auxilary_System_ Management_Alias (Siebel 8.x only)	The Siebel Auxilary System Management component group alias.
CG_Auxilary_System_ Management_Name (Siebel 8.x only)	The Siebel Auxilary System Management component group name.
CG_Callcenter_Alias	The Siebel CallCenter component group alias.
CG_Callcenter_Name	The Siebel CallCenter component group name.
CG_System_ Management_Alias	The Siebel System Management component group alias.
CG_System_ Management_Name	The Siebel System Management component group name.
CP_Callcenter_Alias	The Siebel CallCenter component alias.
CP_Callcenter_Name	The Siebel CallCenter component name.
CP_Client_ Administration_Alias (Siebel 6.x-7.x only)	The Siebel Client Administration component alias.
CP_Client_ Administration_Name (Siebel 6.x-7.x only)	The Siebel Client Administration component name.
CP_eService_Alias	The Siebel eService component alias.
CP_eService_Name	The Siebel eService component name.
CP_File_System_ Manager_Alias	The Siebel File System Manager component alias.

GUI Element (A-Z)	Description
CP_File_System_ Manager_Name	The Siebel File System Manager component name.
CP_Server_Manager_ Alias	The Siebel Server Manager component alias.
CP_Server_Manager_ Name	The Siebel Server Manager component name.
CP_Server_Request_ Broker_Alias	The Siebel Server Request Broker component alias.
CP_Server_Request_ Broker_Name	The Siebel Server Request Broker component name.
CP_Server_Request_ Processor_Alias	The Siebel Server Request Broker component alias.
CP_Server_Request_ Processor_Name	The Siebel Server Request Processor component name.
Database_Connection _URL	The URL to the database connection. **Example:** If the ODBC connection is called test, the URL would be jdbc:odbc:test. Enter the connection URL to the database you want to connect to. The syntax is jdbc:oracle:thin:@<server name or ip address>:<database server port>:<sid>. **Example:** To connect to the ORCL database on a machine using port 1521 you would use: jdbc:oracle:thin:@206.168.191.19:1521:ORCL. **Note:** The colon and @ symbols must be included as shown.
Database_Driver	The driver used to connect to the database.
Database_PASSWORD	The password for the user name used to access the Siebel database.
Database_Username	The user name SiteScope should use to access the Siebel database.
Enterprise	The Siebel Enterprise server name.

GUI Element (A-Z)	Description
Gateway	The name of the Siebel Gateway server machine.
PASSWORD	The password for the Siebel Client.
SERVER_LIST	Select the server where the Siebel Application Server is running.
Server_Logical_ Instance_Name	The Siebel server logical name.
Server_Manager_Path	The local path to the Siebel server manager client. **Example:** D:\sea703\client\bin.
Siebel_Database_ Machine_Name	The Siebel database machine name.
Siebel_Disk	The disk drive name where Siebel is installed.
Siebel_Root_Dir	The path of the shared Siebel root directory. **Example:** The shared root directory for a Siebel 7.5.2 server would be: sea752.
Username	The Siebel Client user name.

Siebel Gateway Server

The Main Settings include the following elements:

GUI Element	Description
Siebel_Root_Dir	The path to the Siebel root directory. This directory should contain at least an Admin Console installation.
Siebel_Disk	The disk drive where the Siebel gateway server is running.
Siebel_Logical_ Instance_Name	The Siebel server logical name value (for UNIX only).
SERVER_LIST	The name of the server where the Siebel Gateway Server is running. Do not type backslashes (\\) that indicate a UNC path as part of the name of the server.

Siebel Web Server

The Main Settings include the following elements:

GUI Element	Description
Application	The Siebel application to monitor. For example: callcenter_enu. Consult with your Siebel administrator for information about names of the installed Siebel applications.
Siebel_Disk	The disk drive name or drive letter where the Siebel Web server is installed.
Siebel_Root_Dir	The name of the shared Siebel root directory. **Example:** Siebel root directory on Windows: sea752.
Siebel_Logical_ Instance_Name	The Siebel server logical name value (for UNIX only).
Username	The Siebel Client user name needed to log into the Siebel Web server.
Password	The Siebel Client password needed to log into the Siebel Web server.
SERVER_LIST	Select the Siebel Web server machine name. Use the choose server to view the server selection page. Use the Server drop-down menu to select the server where the Siebel Web server is running.

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Solaris Host Solution Templates

This chapter includes the main concepts, tasks, and reference information for the Solaris Host Solution Template.

This chapter includes:

Concepts

Tasks

Reference

Solaris Host Solution Overview

The Solaris Host Solution Template is a template that you can use to deploy a collection of monitors configured with default metrics that test the health, availability, and performance of the Solaris host. The template supports the versions of Solaris that are supported by SiteScope. For details, see "System Requirements" in the *HP SiteScope Deployment Guide* PDF.

For UNIX Resource Monitors, you can create a Server-Centric Report which displays data from three different metrics about the server being monitored. We recommend that you use Solution Templates when creating the UNIX Resource Monitor, because the required monitors and metrics are already configured. For more information on generating a Server-Centric Report, see "Generating a Server-Centric Report" on page 1490.

The Solaris Host Solution Template provides comprehensive Solaris operating system monitoring without requiring the SiteScope user or the IT organization to be experts on the application. It also reduces the time to configure and deploy various performance monitors, helps identify both real-time performance bottlenecks and longer term trends, and adds only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the Solaris Host Solution Template. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the Solaris Host Solution settings is available in the SiteScope Operating System Host Best Practices document. This document can be found at **<SiteScope root directory>\sisdocs\pdfs\SiteScope_OS_Best_Practices.pdf**. This is a password protected document. The password is provided along with the Operating System Host Solution license key from HP.

Solution Template Monitors

The Solaris Host solution Template deploys monitors that target the following aspects of Solaris performance and health:

- CPU status and utilization details
- Memory status and utilization details
- File system status and utilization details

Deploy the Solaris Host Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the Solaris Host Solution Template.

Note: The Solaris Host Solution Template deploys a UNIX Resource Monitor for each target host. This is a supplemental monitor that is required for Server-Centric Report support.

This task includes the following steps:

- "Configure the Solaris Server Environment" on page 1433
- "Deploy the Solution Template" on page 1433
- "Enter Deployment Values for the Solution Template" on page 1433

1 Configure the Solaris Server Environment

Perform the configuration requirements involving the server environment. For details on this topic, see "Solaris Host Solution Configuration Requirements" on page 1434.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the Solaris Host Solution Template. For details on the user interface, see "Solaris Host Solution Template User Interface" on page 1434.

Solaris Host Solution Configuration Requirements

Before you can use the Solaris Host Solution Template, there are a number of configuration requirements involving the server environment:

- SiteScope server must be able to connect to the target Solaris host.
- The target server must be added to SiteScope as a UNIX remote machine and should pass the UNIX remote test (**Remote Servers** > **UNIX Remote Servers**). For details, see "UNIX Remote Servers User Interface" on page 1032.
- The SiteScope server itself can also be monitoring if it runs a supported Solaris operating system.
- The template supports the Solaris versions supported by SiteScope. For details, see "System Requirements" in the *HP SiteScope Deployment Guide* PDF.

Solaris Host Solution Template User Interface

Description	Enables you to deploy the Solaris solution template. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select **Solaris Host**.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	Solaris Host Solution Templates

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SERVER_LIST	Choose the server you want to monitor. If the server you want to monitor is not in the list, you must define a connection profile to the server. For the steps you use to create a UNIX connection profile, see "Configure SiteScope to Monitor a Remote UNIX Server" on page 1021.

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WebLogic Solution Template

This chapter includes the main concepts, tasks, and reference information for the WebLogic Solution Templates.

This chapter includes:

Concepts

Tasks

Reference

WebLogic Solution Overview

The WebLogic Solution Template is a template that you can use to deploy a collection of WebLogic Monitors configured with default metrics. The monitors test the health, availability, and performance of a WebLogic Application Server and its deployed applications and components. The deployed monitors check server-wide statistics such as memory usage, as well as metrics specific to individual J2EE components, such as the number of activates and passivates of a particular EJB.

Use the WebLogic Solution to monitor statistics from WebLogic 6.x, 7.x, 8.x, 9.x, and 10.x servers. This solution automatically creates several groups by default which monitor important application server metrics, but it also provides a user interface that allows you to select all or some of the individual components that are available for monitoring.

The WebLogic Solution monitor deployment process is highly customizable in that it allows the user to select the specific J2EE components on an application server which SiteScope should actively monitor.

The WebLogic Solution Templates provide comprehensive WebLogic monitoring without requiring the SiteScope user or the IT organization to be experts on the application. They also reduce the time to configure and deploy monitors, help identify both real-time performance bottlenecks and longer term trends, and add only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the WebLogic Solution Template. Contact your HP sales representative for more information about Solution licensing.
- An in-depth description of the WebLogic Solution is available in the SiteScope WebLogic Best Practices document. This document is part of the SiteScope installation, and can be found at **<SiteScope root directory>\sisdocs\pdfs\SiteScope_WebLogic_Best_Practices.pdf**. This is a password protected document. The password is provided along with the WebLogic Solution license key from HP.

Solution Template Monitors

The WebLogic Solution Template deploys monitors that target the following aspects of WebLogic performance and health:

- **Server Performance Statistics.** This category refers to a collection of server-wide resources that are exposed through the management interface of a WebLogic Application Server.
- **Application Performance Statistics.** Metrics for all of your deployed applications, EJBs, web applications, and servlets are available for monitoring through the WebLogic Solution. The user is responsible for selecting which of these J2EE components he would like to have monitors automatically deployed for. A set of metrics based on WebLogic best practices are monitored for each selected J2EE component.
- **WebLogic Solution Metrics.** For the list of components that can be monitored, see the SiteScope WebLogic Best Practices document.

Deploy the WebLogic Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the WebLogic Solution Template.

This task includes the following steps:

- "Configure the WebLogic Server Environment" on page 1440
- "Deploy the Solution Template" on page 1440
- "Enter Deployment Values for the Solution Template" on page 1440

1 Configure the WebLogic Server Environment

Follow the usage guidelines and perform the configuration requirements involving the server environment. For details on this topic, see "WebLogic Solution Usage Guidelines" on page 1441.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the WebLogic Solution Template. For details on the user interface, see "WebLogic Solution Template User Interface" on page 1443.

WebLogic Solution Usage Guidelines

The WebLogic Solution Template deploys a WebLogic Application Server Monitor for each module that is selected from the user interface. This monitor uses the Java JMX interface to access Runtime MBeans on the WebLogic server. An MBean is a container that holds the performance metrics. You may need to set certain permissions on the WebLogic server for SiteScope to be able to monitor MBeans. For an overview on configuring access to WebLogic servers for SiteScope monitors, see "WebLogic Application Server Monitor Overview" on page 410.

Selecting WebLogic Modules for Monitoring

The WebLogic Solution presents a hierarchical list from which the user can select the modules to deploy WebLogic Monitors against. This list is broken down into two main sections:

- per-server resources
- J2EE components organized by application

Some of the modules in these categories are automatically selected by default because they represent critical components in the system (for example, the JVM statistics for the application server). The remainder of the modules are not automatically selected. This allows the user to customize the deployment of this solution to focus on one application, a particular type of EJB, a set of servlets and web applications, or some other aspect of the application server.

For the most part, the organization of this list of modules is intuitive. The hierarchy of applications, EJBs, web applications, and servlets is very similar to the organization of these entities in the WebLogic Administration Console. In almost every case, selecting a module causes a monitor with all relevant metrics to be deployed against that part of the WebLogic server. However, when selecting EJBs to monitor, you notice that they are broken down according to three types of metrics: Pool, Transaction, and Cache. The reason for this is twofold: (1) it is more useful to be able to monitor one aspect of a particular EJB instead per WebLogic Monitor for purposes of alerting and organization, and (2) not all three of these types of metrics are available for all EJBs.

Below is a brief description of the metrics that are monitored for each type of EJB monitoring:

- **Per-EJB Transaction Statistics.** This category of EJB monitor contains metrics related to transactions made for the EJB. These metrics include the number of transactions rolled back, the number of transactions that timed out, and the number of transactions that were successfully committed.
- **Per-EJB Pool Statistics.** This category of EJB monitor contains metrics related to the pool for the EJB. When the user selects an EJB under this heading, many useful metrics are monitored, including the number of times an attempt to get a bean instance from the pool failed, the number of current available instances in the pool, the number of threads currently waiting for an instance, and the number of times a bean instance was destroyed due to a non-application exception.
- **Per-EJB Cache Statistics.** The cache statistics include any metrics relating to the caching of the particular EJB. Metrics like the number of cache hits and misses, and the number of activates and passivates of the EJB are monitored when an EJB under this heading is selected for monitoring.

  When you have finished making your module selections in the popup window, scroll to the bottom of the Module Selection window and click the **Select Modules** button. This updates the main browser window with a list of the modules you selected. You can then review your selections and remove any modules that you don't want a monitor to be created for.

  When you are satisfied with the list of selected modules in the main browser window, click the **Submit** button.

WebLogic Solution Template User Interface

Description	Enables you to deploy the WebLogic solution template for monitoring BEA WebLogic 6.x, 7.x, 8.x, 9.x, and 10.x application servers. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select the required WebLogic solution template.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"WebLogic Solution Template" on page 1437

WebLogic 9.x-10.x

The Main Settings include the following elements:

GUI Element	Description
WEBLOGIC_URL	The URL for the WebLogic 9.x or 10.x application server. The default is: service:jmx:rmi:///jndi/iiop://<local host>:7001/weblogic.management.mbeanservers.runtime where <local host> is the name of the machine running WebLogic Application Server 9.x or 10.x.

The JMX Settings include the following elements:

GUI Element	Description
Counters	The server performance counters you want to check with this monitor. Use the **Get Counters** button to select counters.
Get Counters	Click to open the Get Counters dialog box, and select the counters you want to monitor.

WebLogic 6.x, 7.x, 8.x

The Main Settings include the following elements:

GUI Element	Description
WEBLOGIC_PORT	The port number that the WebLogic server is responding on. **Default value:** 7001
WEBLOGIC_ PASSWORD	The password required to log into the WebLogic server.
WEBLOGIC_ USERNAME	The user name required to log into the WebLogic server.
WEBLOGIC_ SERVER	The name or address of the server where WebLogic is running.
WEBLOGIC_ TIMEOUT	The number of seconds to wait for a data request to arrive at the WebLogic server. **Default value:** 180
WEBLOGIC_JAR_FILE	The absolute path to the weblogic.jar file on the SiteScope machine. This file must be installed on the SiteScope server and can be downloaded from the WebLogic server. **Example:** c:\bea\weblogic7\ebcc\lib\ext\weblogic.jar.

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WebSphere Solution Template

This chapter includes the main concepts, tasks, and reference information for the WebSphere Solution Templates.

This chapter includes:

Concepts

Tasks

Reference

WebSphere Solution Overview

The WebSphere Solution Template is a template that you can use to deploy a collection of WebSphere Monitors configured with default metrics. The monitors test the availability, server statistics, and deployed J2EE components for IBM WebSphere Application Server 5.x and 6.x. You can use this solution template to deploy monitors for server-wide resources and metrics (for example, thread pool and JVM metrics). You can also create monitors for the deployed EJBs, Web Applications, and Servlets using this solution template.

The WebSphere Solution monitor deployment process is highly customizable in that it allows the user to select the specific J2EE components on an application server which SiteScope should actively monitor.

The WebSphere Solution Templates provide comprehensive WebSphere monitoring without requiring the SiteScope user or the IT organization to be experts on the application. They also reduce the time to configure and deploy monitors, help identify both real-time performance bottlenecks and longer term trends, and add only minimal overhead to production systems.

Note:

- You must have the applicable SiteScope option license to use the WebSphere Solution templates. Contact your HP Sales representative for more information about Solution licensing.
- An in-depth description of the WebSphere Solution is available in the SiteScope WebSphere Best Practices document. This document is part of the SiteScope installation, and can be found at **<SiteScope root directory>\sisdocs\pdfs\ SiteScope_WebSphere_Best_Practices.pdf**. This is a password protected document. The password is provided along with the WebSphere Solution license key from HP.

Solution Template Monitors

The WebSphere Solution Template deploys monitors that target the following aspects of WebSphere performance and health:

- **Server Performance Statistics.** This category refers to a collection of server-wide resources that are exposed through the management interface of a WebSphere Application Server.
- **Application Performance Statistics.** Metrics for all of your deployed applications, EJBs, web applications, and servlets are available for monitoring through the WebSphere Solution. The user is responsible for selecting which of these J2EE components he would like to have monitors automatically deployed for. A set of metrics based on WebSphere best practices are monitored for each selected J2EE component.
- **WebSphere Application Server Solution Metrics.** For the list of components that can be monitored, see the SiteScope WebSphere Best Practices document.

Deploy the WebSphere Solution Template

This task describes the steps involved in configuring the server environment and entering variables for the WebSphere Solution Template.

This task includes the following steps:

- "Configure the WebSphere Server Environment" on page 1447
- "Deploy the Solution Template" on page 1447
- "Enter Deployment Values for the Solution Template" on page 1447

1 Configure the WebSphere Server Environment

Perform the configuration requirements involving the server environment. For an overview of these requirements, see "WebSphere Application Server Monitor Overview" on page 414.

2 Deploy the Solution Template

For a detailed overview of the steps involved in deploying a solution template, see "Deploy a SiteScope Solution Template – Workflow" on page 1344.

3 Enter Deployment Values for the Solution Template

Complete the items on the Deployment Values page for the WebSphere Solution Template. For details on the user interface, see "WebSphere Solution Template User Interface" on page 1448.

WebSphere Solution Template User Interface

Description	Enables you to deploy the WebSphere solution template for monitoring IBM WebSphere Application Servers 5.x and 6.x. Use this page to add the server monitor or edit the monitor's properties. **To access:** Open the **Templates** context. In the template tree, expand **Solution Templates**, and select the required WebSphere solution template.
Included in Tasks	"Deploy a SiteScope Solution Template – Workflow" on page 1344
Useful Links	"WebSphere Solution Template" on page 1445

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
WEBSPHERE_USER_NAME	The user name that SiteScope should use to login to WebSphere Application server. In WebSphere 6.x, Global Security is not supported in the solution template. This means that you can type in any text however, the text box cannot be left empty. If you need to work with Global Security, complete this template. Edit the WebSphere monitor and, in the Monitor Settings panel, update the Global Security boxes (**Trust store**, **Trust store password**, **Key store**, **Key store password**).
WEBSPHERE_CLIENT_PROPERTIES_FILE	The client properties file. **Default value:** /properties/soap.client.props

GUI Element	Description
WEBSPHERE_ DIRECTORY	The path to the WebSphere directory that contains the /java and /lib subdirectories from the WebSphere Application Server. In WebSphere 6.x, this directory must also contain /profiles subdirectory. This subdirectory has all Key Store and Trust Store files needed for Global Security. The server profile in /profiles subdirectory must be called **default**. If the server profile has a different name, rename it to **default**.
WEBSPHERE_ SERVER	The name of the server where the WebSphere Application is running. Do not type backslashes (\ \) that indicate a UNC path as part of the name of the server.
WEBSPHERE_ PORT	The port number of the WebSphere server. This should be the SOAP port for WebSphere 5.x. **Default value:** 8880
WEBSPHERE_ PASSWORD	The password that SiteScope should use to login to WebSphere server. In WebSphere 6.x, Global Security is not supported in the solution template. This means that you can type in any text however, the text box cannot be left empty. If you need to work with Global Security, complete this template. Edit the WebSphere monitor and, in the Monitor Settings panel, update the Global Security boxes (**Trust store**, **Trust store password**, **Key store**, **Key store password**).

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Monitor Deployment Wizard

This chapter includes the main concepts, tasks and reference information for the Monitor Deployment Wizard.

Note: The Monitor Deployment Wizard is available only to those users accessing SiteScope from System Availability Management Administration in HP Business Availability Center.

This chapter includes:

Concepts

Tasks

Reference

Monitor Deployment Wizard Overview

The Monitor Deployment Wizard provides a monitoring solution for existing Business Availability Center configuration item (CI) data using SiteScope templates. The wizard uses SiteScope templates to deploy monitors, groups, and remote servers with the existing and discovered CI data from the CMDB. For details on understanding CIs, see "Configuration Management Database (CMDB)" in *Reference Information*.

SiteScope templates enable you to deploy group and monitor configurations across multiple infrastructure elements with a minimal number of configuration steps. For details, see "SiteScope Templates" on page 1245.

The Monitor Deployment Wizard uses SiteScope's template functionality to create a monitoring solution for the CIs in your CMDB. When you select CIs to monitor using the Monitor Deployment Wizard, the wizard automatically matches templates to the selected CIs based on the CI type selected. You can also select additional templates to apply to the selected CIs for your specific monitoring requirements. For details on which templates are deployed onto which CI types, see "Template Reference" on page 1467.

The CMDB may already include CI data that can be used for monitor deployment. These properties may have been entered while adding the CI to the IT Universe model or may have been discovered by the Discovery Manager. For details, see "Create CIs and Relationships in the CMDB" in *Model Management*. The wizard is also able to retrieve the data from the CMDB for the selected CIs and use that data when deploying the SiteScope templates.

HP Business Availability Center enables you to use that data to create SiteScope monitors, groups, and remote servers for existing CIs in the CMDB.

The Monitor Deployment Wizard:

- enables you to select CIs onto which to deploy the SiteScope templates and recognizes which templates to deploy onto which CIs
- enables you to refine the selection of templates to deploy onto CIs

- checks the CI for existing monitors and measurements that match the monitoring solution to be deployed by the template and enables you to handle duplicate monitoring
- imports the configuration item's properties that have been defined in Universal CMDB Administration into the monitor's properties and creates remote servers on SiteScope
- uses template variables to enable you to enter data for monitor properties that are not imported from the configuration item's definition
- creates in the CMDB a **monitored by** relationship between the monitored CI and the created monitor

Example of Monitor Deployment

For example, an Oracle database has been added as a CI to the IT Universe model in CMDB. You can use the Monitor Deployment Wizard to deploy the Oracle Database monitor onto the CI. The wizard imports the following properties that are defined for the server in the CMDB:

- database server IP address or server name
- database user name
- database password
- database port
- database SID

If a partial discovery was run during the Discovery and Dependency Mapping process, the wizard prompts you to enter values for some of the variables that are necessary for the deployment of the monitors.

Prerequisites for Running the Monitor Deployment Wizard

Before running the Monitor Deployment Wizard, you must run the relevant discovery jobs to discover CIs and populate views. For details on the Discovery and Dependency Mapping (DDM) process, see "Discovery and Dependency Mapping – Overview" in *Discovery and Dependency Mapping Guide*.

After you have discovered the relevant CIs in your business environment, you can select one of the pre-defined views populated by the DDM jobs. Alternatively, you can create a view manually for the purpose of running the Monitor Deployment Wizard. We recommend creating a **Host Credentials** view which contains hosts with credentials. This can help to streamline the process of selecting the relevant hosts to be monitored in the Select CIs to Monitor step of the wizard.

Note: Do not create a view in which the same CI appears more than once. If you select a view in which the same CI appears more than once, the selection of the whole view in the wizard fails.

To create a Host Credentials view:

1. Select **Admin** > **Universal CMDB** > **Modeling** > **View Manager**.
2. From the Views pane, right-click the Root folder in the tree.
3. Select **New** from the context menu. The Create New View dialog box opens.
4. Type Host Credentials in the View Name window.
5. From the CI Types pane, expand the System branch of the tree. Click and drag the Host CI type into the Editing pane.
6. From the CI Types pane, expand the Software Element branch of the tree. Click and drag the Shell CI type into the Editing pane.

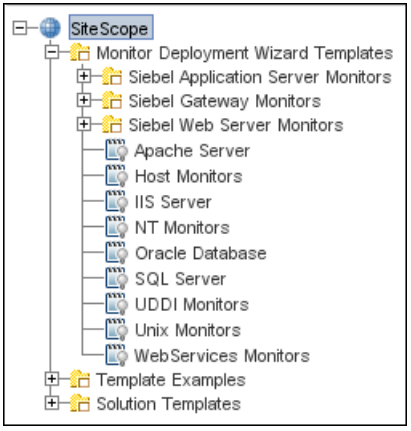
7. Holding down the CTRL key, select both the Host and Shell nodes in the Editing pane. Right-click one of them and select **Add Relationship**. The Add Relationship dialog box opens.
8. In the Add Relationship dialog box, click **Advanced**. Select **Container Link** from the tree in the relationship window. Click **OK**.
9. Right-click the shell node in the Editing pane and select **Node Condition** from the context menu. The Node Condition dialog box opens.
10. In the Node Condition dialog box, clear the **Visible** check box and click **OK**.
11. Click the **Save** button from the toolbar to save the view.

    For details on creating views, see "New View/View Properties/Save As View Wizard" in *Model Management*.

Note: In the Select CIs to Monitor step of the wizard, you can select CIs to monitor from many different views, but a specific CI may be selected only once, even if it appears in more than one view.

Monitor Deployment Wizard Templates and Variables

The Monitor Deployment templates appear by default in the template tree in a container called **Monitor Deployment Wizard Templates**. This container and the templates and variables within it should not be edited or deleted.



Only advanced users with a thorough knowledge of working with templates should attempt to edit any of the variables or to add variables to the templates. For details, see "SiteScope Templates" on page 1245.

This section includes the following topics:

Monitor Template Variables

The templates associated with the selected CIs have variables which must be filled in before the wizard can deploy them. The system fills in most of the variables automatically by checking the CI information or the results of the Discovery and Dependency Mapping (DDM) process. Other variables are not filled in by the system because the data was missing from the CI information, the DDM process did not run completely, or because the data is dependent on the user. You must fill in the missing information for any selected monitor templates. You also have the option of not deploying the template by clearing the template selection if you do not know the variable values.

Selecting Templates

Once a CI is selected, all the relevant templates are matched to the CI.

In the step for entering variable values, a check box appears next to each monitor template associated with that CI. By default, if there is any missing data for the variables in a template, that template is not selected for deployment. This enables the wizard to streamline the deployment process.

You can select or clear templates for deployment. If you select a template for deployment but fail to enter the missing data for its variables, an error message appears and the wizard cannot proceed until you enter the data. If you leave any templates unselected, a warning message appears to alert you that there are unselected templates but you can choose to proceed with the wizard anyway. This applies to all unselected templates, whether data was entered for them or not.

Manual Template Matches

The wizard enables you to select other templates for deployment that were not automatically mapped by the wizard. For example, you may want to use an existing template that includes log file monitoring that is set to search for a specific string that would be relevant for host CIs in your environment. You can choose to deploy that template onto the host CIs you selected in the Select CIs to Monitor page.

You may also want to select a CI type that does not have a template associated with it and deploy an existing template onto that CI.

If you have matched additional monitor templates to be deployed onto CI types that are not in those predefined in the wizard, you can save these matches for future use when the same Business Availability Center user runs the wizard.

Also, if you removed templates that were matched by the wizard for specific CIs and chose to save matching, those templates are not matched to the selected CIs the next time the same Business Availability Center user runs the wizard.

For details, see "Save Matching" on page 1479.

Full and Partial Monitor Coverage

For each selected CI, the Monitor Deployment Wizard checks whether the CI already has a monitored by relationship with any monitor CIs that are equivalent to the monitor instances that would result from the wizard deploying the templates mapped for that CI. It further checks the actual measurements within the monitor CIs and determines if the monitoring solution deployed by the wizard duplicates the monitors that exist for the selected CI.

If the CI onto which you want to deploy the monitoring solution already contains all of the same monitor and measurement instances, the CI is considered **fully covered**. If the CI has only part of the monitors and measurements already deployed, the CI is considered **partially covered**.

You can choose to clear fully or partially covered CIs and disable them for the deployment. Or, you have the option of continuing with the deployment and handling the duplicate monitors in the final step of the wizard. If, in the final step of the wizard, duplicate monitors on CIs were detected and the wizard successfully deployed templates onto these CIs, a **Handle Duplicates** button is displayed and enables you to delete these monitors, disable them or leave them in tact as duplicated monitors.

Wizard Options

This section includes the following Monitor Deployment Wizard topics:

CI Group Hierarchy Option

When you deploy templates using the Monitor Deployment Wizard, you can choose to create a CI group hierarchy which mirrors the CI hierarchy in the selected view in HP Business Availability Center. This means that SiteScope groups are created to correspond to the parent and grandparent CIs of the CI being monitored. These groups are arranged in a tree structure identical to the one that contains the actual CIs in the selected view in HP Business Availability Center.

SiteScope Remote Servers

The SiteScope templates used in the Monitor Deployment Wizard are configured with template remotes which create remote server preferences in SiteScope for use by other SiteScope monitors. The remote servers created can be found in SiteScope under **Remote Servers** > **Microsoft Windows Remote Servers** (for Windows monitors) and **Remote Servers** > **UNIX Remote Servers** (for UNIX monitors). For details on remote servers, see "Microsoft Windows Remote Servers User Interface" on page 1025 and "UNIX Remote Servers User Interface" on page 1032.

When the wizard deploys a template with remote server definitions for a physical monitor (for example, a CPU monitor), a remote preference is created with the name of the host (the host DNS name) plus the user name. When deploying a template with a remote server that already exists in SiteScope's remote servers, SiteScope uses the existing remote and does not create another remote preference. For details on creating remote servers with templates, see "SiteScope Templates" on page 1245.

Reporting

The final step of the Monitor Deployment Wizard consists of the Deployment Results page which displays information about the successful and unsuccessful monitor deployments. The report contains the names of the selected CIs and the monitors selected for deployment. The deployment status is indicated for each monitor.

The report can be exported to a PDF file. These reports include detailed information displaying all the created groups, monitors, and alerts, including the exact location where they can be found in SiteScope. These reports are useful for large deployments. For example, when hundred of CIs are selected in the wizard, the resulting deployment can include thousands of new objects added to the SiteScope. For details, see "Deployment Results Page" on page 1482.

Note: After running the Monitor Deployment Wizard, the deployed monitors are not run immediately, but rather within the defined frequency scheduled for the monitor.

Monitor Deployment Wizard for Siebel

You can use the Monitor Deployment Wizard to monitor your Siebel environment. The view to use for the wizard is the **Siebel Enterprise** view. The wizard can identify the Siebel configuration items in the CMDB and deploy a set of pre-configured monitors onto those items. The monitors include those that are specifically designed to monitor Siebel, as well as generic monitors that can monitor the performance of your Siebel network.

For details on the available templates used for the Siebel environment, see "Siebel Solution Templates" on page 1421.

For reference information on the Siebel monitor template and configuration items, see "Template Reference for Siebel" on page 1470.

Deploy Monitors Using the Monitor Deployment Wizard

This task describes the steps involved in deploying monitors using the Monitor Deployment wizard.

This task includes the following steps:

1 Run Discovery and Dependency Mapping

Prior to deploying monitors with the Monitor Deployment Wizard, you must discover the CIs in your system and populate views.

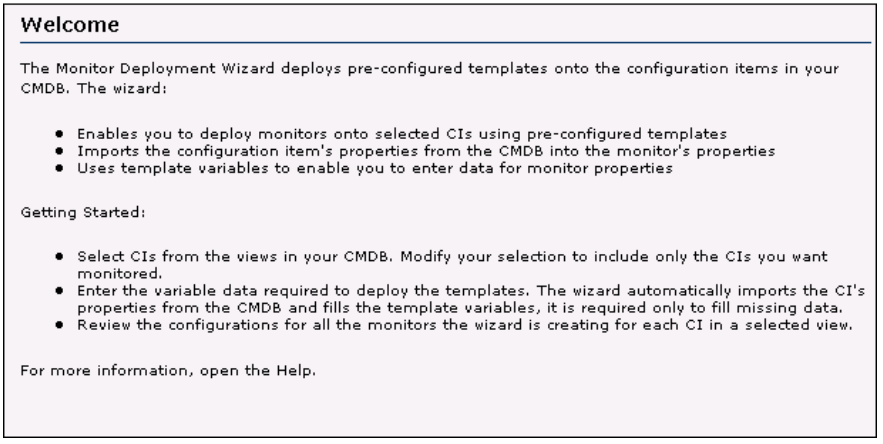
We recommend that you create a Host Credentials view for the purpose of running the Monitor Deployment Wizard so that the necessary credentials exist to access the servers. For details on this topic, see "Prerequisites for Running the Monitor Deployment Wizard" on page 1454.

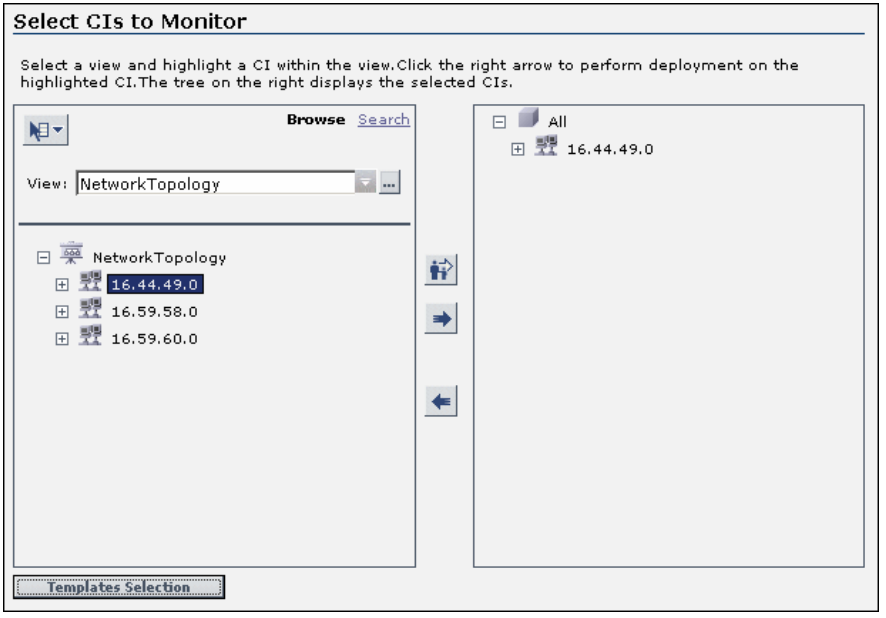
2 Begin Running the Wizard

Begin running the wizard. For details on the user interface, see "Monitor Deployment Wizard" on page 1475. The first step is to select CIs to monitor using the View Explorer. For details on the user interface, see "Select CIs to Monitor Page" on page 1477.

After selecting CIs to monitor, you can select monitor templates to apply to them using the Templates Selection dialog box. For details on the user interface, see "Templates Selection Dialog Box" on page 1478.

Example:

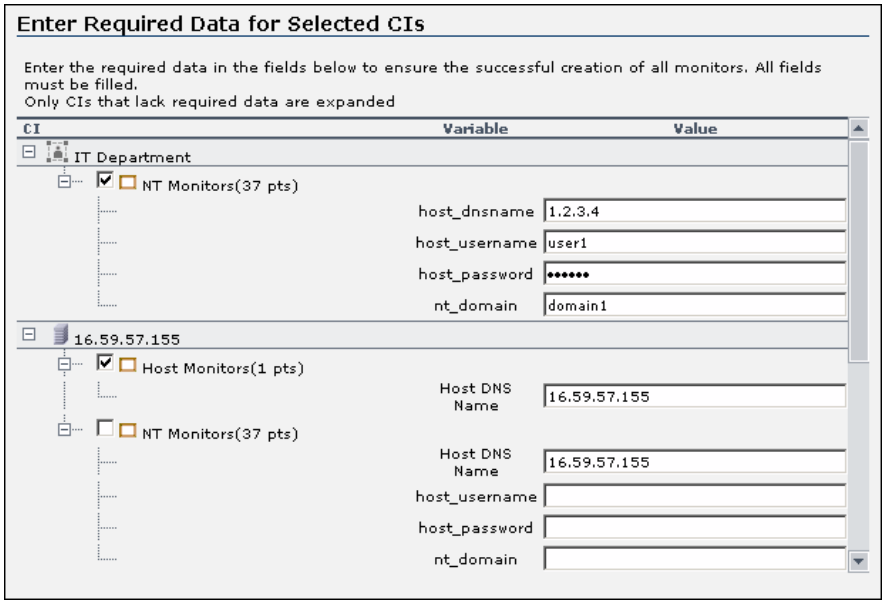

Welcome
The Monitor Deployment Wizard deploys pre-configured templates onto the configuration items in your CMDB. The wizard:
Enables you to deploy monitors onto selected CIs using pre-configured templates
Imports the configuration item's properties from the CMDB into the monitor's properties
Uses template variables to enable you to enter data for monitor properties
Getting Started:
Select CIs from the views in your CMDB. Modify your selection to include only the CIs you want monitored.
Enter the variable data required to deploy the templates. The wizard automatically imports the CI's properties from the CMDB and fills the template variables, it is required only to fill missing data.
Review the configurations for all the monitors the wizard is creating for each CI in a selected view.
For more information, open the Help.


Select CIs to Monitor
Select a view and highlight a CI within the view.Click the right arrow to perform deployment on the highlighted CI.The tree on the right displays the selected CIs.
Browse
Search
View:
NetworkTopology
NetworkTopology
16.44.49.0
16.59.58.0
16.59.60.0
All
16.44.49.0
Templates Selection

3 Enter Missing Data for Selected CIs

On the third page of the wizard, select the monitor templates to deploy and enter any missing data for them. For details on the user interface, see "Enter Required Data for CIs Page" on page 1480.

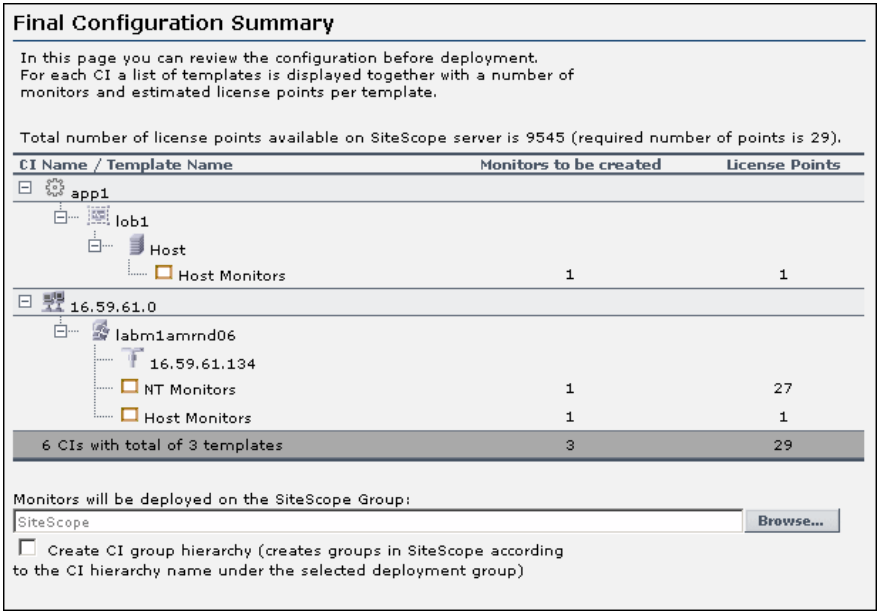
Example:



4 Check the Configuration Summary and Deploy Monitors

On the fourth page of the wizard, review the final configuration summary and select a SiteScope group on which to deploy the templates. Click **Finish** to complete the wizard and deploy the monitors. For details on the user interface, see "Final Configuration Summary Page" on page 1481.

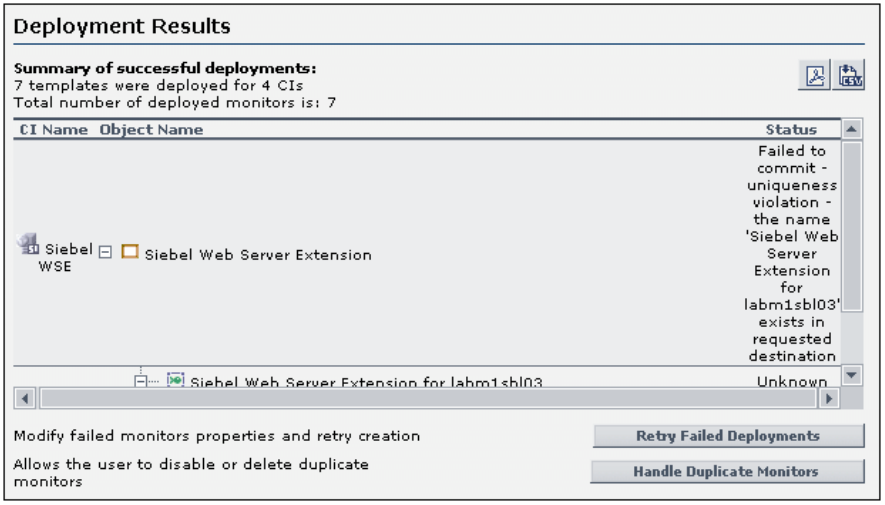
Example:

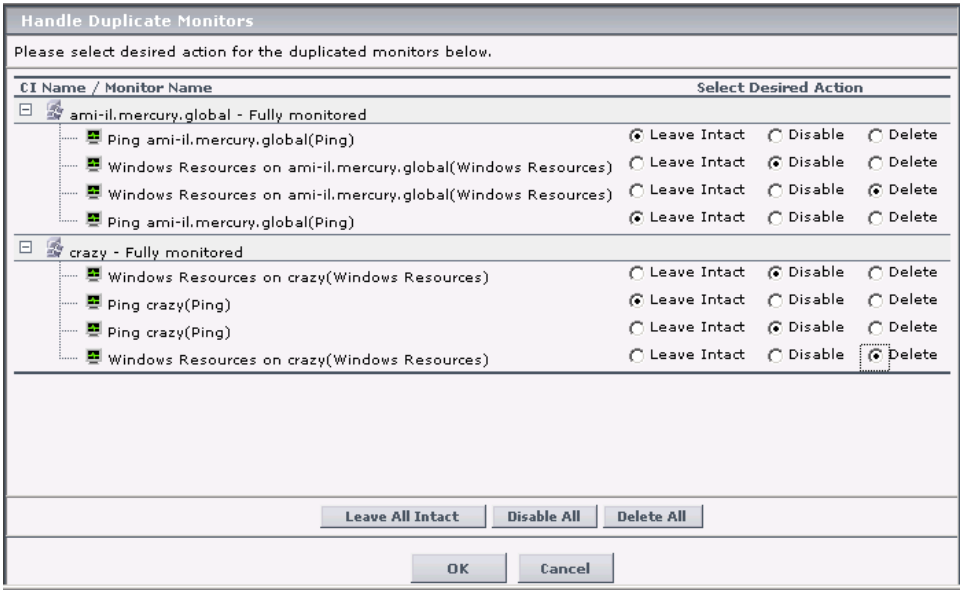


5 Review the Deployment Results and Export the Report

On the last page of the wizard, review the results of the deployment and, if necessary, retry deploying those template that failed to deploy. In this page, you can also handle duplicate monitors that were deployed. Optionally, you can export the deployment results to a .pdf file. For details on the user interface, see "Deployment Results Page" on page 1482.

Example:




Handle Duplicate Monitors
Please select desired action for the duplicated monitors below.
CI Name / Monitor Name
Select Desired Action
ami-il.mercury.global - Fully monitored
Ping ami-il.mercury.global(Ping)
Leave Intact Disable Delete
Windows Resources on ami-il.mercury.global(Windows Resources)
Leave Intact Disable Delete
Windows Resources on ami-il.mercury.global(Windows Resources)
Leave Intact Disable Delete
Ping ami-il.mercury.global(Ping)
Leave Intact Disable Delete
crazy - Fully monitored
Windows Resources on crazy(Windows Resources)
Leave Intact Disable Delete
Ping crazy(Ping)
Leave Intact Disable Delete
Ping crazy(Ping)
Leave Intact Disable Delete
Windows Resources on crazy(Windows Resources)
Leave Intact Disable Delete
Leave All Intact
Disable All
Delete All
OK
Cancel

Template Reference

The Monitor Deployment Wizard is enabled by a series of templates preconfigured in the SiteScope monitor tree.

This section includes the following tables:

- "Template Reference Table" on page 1467
- "Template Reference for Siebel" on page 1470

Template Reference Table

Following is a table listing all the configuration items onto which the Monitor Deployment Wizard can deploy templates. The table lists the templates and CI types, the monitors which are deployed, the monitor properties imported from the CMDB, and the variable definitions that are either imported from the CMDB or defined within the wizard.

Template	CI Type	Applicable Monitor	Discovered Properties	Variables
Apache server	Apache	Apache Server monitor	server name or IP address	application_IP
			application port (default value is 8080)	application_port
Host	Host	Ping monitor	dns name	host_dnsname
	Windows			
	UNIX			
	Network			
	Switch			
	Router			
	switch-router			

Template	CI Type	Applicable Monitor	Discovered Properties	Variables
Windows server	Windows	Microsoft Windows Resources monitor	dns name	host_dnsname
				host_password
				host_username
				nt_domain
UNIX	UNIX	CPU and Memory monitor, UNIX Remote server		connection_ method
			dns name	host_dnsname
				host_os
				host_password
				host_username
Microsoft IIS server	IIS	Microsoft IIS Server monitor	server name or IP address	application_IP
			host password	host_password
			user name	host_username
			NT domain	nt_domain
Microsoft SQL server	sqlserver	Microsoft SQL Server monitor	server name or IP address	application_IP
				nt_domain
				SqlServerHost Password
				SqlServerHost UserName

Template	CI Type	Applicable Monitor	Discovered Properties	Variables
Oracle database	Oracle	Oracle Database monitor	server name or IP address	application_IP
			application password (default value is manager)	application_ password
			application user name (default value is system)	application_user name
			database port (default value is 1521)	database_dbport
			database SID	database_dbsid
UDDI	UDDI Registry	UDDI Server	data_name	data_name
			business_name	business_name
Web Services	Web Service	WSDL	method_name	method_name
				method_ns
			ParamUrl	ParamUrl
				port
			purl	purl
				service_name
			soap_action	soap_action
			WsdlUrl	WsdlUrl

Template Reference for Siebel

Following are tables listing all the Siebel configuration items onto which the Monitor Deployment Wizard can deploy monitors. The Siebel templates are divided according to groups. The table lists the CI Templates and CI types, the monitors which are deployed, the monitor properties imported from the CMDB, and the variable definitions that are either imported from the CMDB or defined within the wizard.

Siebel Application Server Monitor

Template	CI Type	Applicable Monitor	Discovered Properties	Variables
Siebel Application Server	Application Server	Siebel Application Server log	Server_Name	Server_Name
			Siebel_Root_Dir	Siebel_Root_Dir
			Siebel_Logical_ Instance_Name	Siebel_Logical_ Instance_Name
		Siebel Application Server	Application	Application
			Gateway	Gateway
			Enterprise	Enterprise
			Username	Username
			Server_Manager _Path	Server_Manager_ Path
			PASSWORD	PASSWORD
	Database	Siebel Enterprise Integration Manager process (growth rate)	Database_ Connection_ URL	Database_ Connection_ URL
			Database_Driver	Database_Driver
			Database_ UserName	Database_ UserName
			Database_Server _Name	Database_Server_ Name
			PASSWORD	PASSWORD

Template	CI Type	Applicable Monitor	Discovered Properties	Variables
Siebel Application Server *cont'd*	Database *cont'd*	Siebel Transaction Logging process (is enabled)	Database_ UserName	Database_ UserName
			Database_Driver	Database_Driver
			Database_ Connection_ URL	Database_ Connection_ URL
			Database_Server _Name	Database_Server_ Name
			Database_PASS WORD	Database_ PASSWORD
		Siebel Transaction Router process (growth rate)	Database_UserN ame	Database_ UserName
			Database_Driver	Database_Driver
			Database_Conn ection_URL	Database_ Connection_URL
			Database_Server _Name	Database_Server_ Name
			Database_PASS WORD	Database_ PASSWORD
		Siebel Workflow Rules process (growth rate)	Database_UserN ame	Database_ UserName
			Database_Driver	Database_Driver
			Database_Conn ection_URL	Database_ Connection_URL
			Database_Server _Name	Database_Server_ Name
			Database_PASS WORD	Database_ PASSWORD

Template	CI Type	Applicable Monitor	Discovered Properties	Variables
Siebel Application Server Host	Host	Disk Space	Server_Name	Server_Name
		Ping	Server_Name	Server_Name
		Memory	Server_Name	Server_Name
		CPU Utilization	Server_Name	Server_Name
		Directory log	Server_Name	Server_Name
			Siebel_Root_Dir	Siebel_Root_Dir
		Service Siebel Server	Server_Name	Server_Name
			Enterprise	Enterprise
			Server_Logical_ Instance_Name	Server_Logical_ Instance_Name
		Directory	Server_Name	Server_Name
			Siebel_Root_Dir	Siebel_Root_Dir
Siebel Component	Siebel Component	Siebel Component log	alias	alias
			Server_Name	Server_Name
			Application	Application
			Siebel_Root_ Dir	Siebel_Root_ Dir
			Siebel_Logical_ Instance_Name	Siebel_Logical_ Instance_Name
		Siebel Component	alias	alias
			Username	Username
			Enterprise	Enterprise
			Application	Application
			Gateway	Gateway
			Server_Manager _Path	Server_Manager_ Path
			Server_Logical_ Instance_Name	Server_Logical_ Instance_Name
			PASSWORD	PASSWORD
			Group_Name	Group_Name
			data_name	data_name

Template	CI Type	Applicable Monitor	Discovered Properties	Variables
Siebel Component Group	Siebel Component Group	Siebel Component Group on	alias	alias
			Server_Logical_ Instance_Name	Server_Logical_ Instance_Name
			Enterprise	Enterprise
			Application	Application
			Gateway	Gateway
			data_name	data_name
			Server_Manager _Path	Server_Manager_ Path
			Server_Name	Server_Name
			PASSWORD	PASSWORD

Siebel Gateway Monitors

Template	CI Type	Applicable Monitor	Discovered Properties	Variables
Siebel Gateway Server Host	Host	CPU Utilization	Server_Name	Server_Name
		Directory	Server_Name	Server_Name
			Siebel_Root_Dir	Siebel_Root_Dir
		Disk Space	Server_Name	Server_Name
		Memory	Server_Name	Server_Name
		Ping	Server_Name	Server_Name
		Service	Server_Name	Server_Name

Siebel Web Server Monitors

Template	CI Type	Applicable Monitor	Discovered Properties	Variables
Siebel Web Server Extension	Siebel Web Server Extension	Service	Server_Name	Server_Name
		Siebel Web Server	Server_Name	Server_Name
			Application	Application
			Username	Username
			PASSWORD	PASSWORD
		URL	Server_Name	Server_Name
			Application	Application
			Username	Username
			PASSWORD	PASSWORD
Siebel Web Server Host	Host	CPU Utilization	host_dnsname	host_dnsname
		Directory	host_dnsname	host_dnsname
			Siebel_Root_Dir	Siebel_Root_Dir
		Disk Space	host_dnsname	host_dnsname
		Memory	host_dnsname	host_dnsname
		Ping	host_dnsname	host_dnsname
		Service	host_dnsname	host_dnsname
Web Server	Web Server	Microsoft IIS Server	host_dnsname	host_dnsname
		Port 80	host_dnsname	host_dnsname

Monitor Deployment Wizard User Interface

This section describes:

➤ Monitor Deployment Wizard on page 1475

Note: The Monitor Deployment Wizard is available only to those users accessing SiteScope from System Availability Management Administration in HP Business Availability Center.

Monitor Deployment Wizard

Description	Enables you to deploy SiteScope monitors using the configuration item data from the CMDB using pre-defined templates. **To access:** Select **Admin** > **System Availability Management.** Right-click the required SiteScope server or group and select **Monitor Deployment Wizard** or click the **Monitor Deployment Wizard** icon in the Summary page next to the required SiteScope server.
Important Information	The wizard is accessible only if you have a running SiteScope hosted in System Availability Management Administration. After running the Monitor Deployment Wizard, the deployed monitors do not begin to run immediately, but rather within the defined monitor running frequency time. You must give the system time to implement all the updates.
Included in Tasks	"Deploy Monitors Using the Monitor Deployment Wizard" on page 1461

Useful Links	"Monitor Deployment Wizard" on page 1451
Wizard Map	The Monitor Deployment Wizard contains: Welcome Page > Select CIs to Monitor Page > (Templates Selection Dialog Box) > Enter Required Data for CIs Page > Final Configuration Summary Page > Deployment Results Page

Welcome Page

Description	Describes the wizard.
Important Information	An error message appears when you attempt to proceed to the next page if: ➤ the SiteScope you selected is not available or ➤ the CMDB is not available For general information about the Monitor Deployment Wizard, see "Monitor Deployment Wizard" on page 1475.
Useful Links	"Work with the SiteScope Source Adapter – Workflow" in *Model Management*.
Wizard Map	The Monitor Deployment Wizard contains: **Welcome Page** > Select CIs to Monitor Page > (Templates Selection Dialog Box) > Enter Required Data for CIs Page > Final Configuration Summary Page > Deployment Results Page

Select CIs to Monitor Page

Description	Enables you to select CIs onto which to deploy the SiteScope monitors.
Important Information	If a CI appears under more than one view in the left pane, you cannot select it more than once in the selection that appears in the right pane, even if you attempt to select it from different views. The wizard checks for full and partial monitor coverage of the selected CIs. You have the option of deploying the template onto these CIs and handling duplicate monitors.
Useful Links	"Monitor Deployment Wizard Templates and Variables" on page 1456 "Full and Partial Monitor Coverage" on page 1458
Wizard Map	The Monitor Deployment Wizard contains: Welcome Page > **Select CIs to Monitor Page** > (Templates Selection Dialog Box) > Enter Required Data for CIs Page > Final Configuration Summary Page > Deployment Results Page

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<View Explorer>	The Select CIs to Monitor page uses the standard View Explorer functionality to select CIs in the left pane and move them to the right pane. For details, see "View Explorer User Interface" in *Model Management*. **Note:** The wizard cannot create monitors for the following CIs: ➤ CIs that do not have a matching template for deploying a monitor type ➤ CIs that are monitor CIs, generally those appearing in the monitor view If you selected any CIs of these types, a warning message appears when you attempt to proceed to the next step of the wizard.

Templates Selection Dialog Box

Description	Enables you to apply templates to CI Types which were not automatically matched by the wizard. **To access:** Click the **Templates Selection** button from the Select CI to Monitor step of the Monitor Deployment Wizard.
Important Information	The Monitor Deployment Wizard automatically matches templates to the CI Types of the selected CIs. You can add additional templates manually in this dialog box. To select multiple templates to add, use the CTRL key. The selected templates are added to all of the selected CI Types.

Useful Links	"Monitor Deployment Wizard Templates and Variables" on page 1456
Wizard Map	The Monitor Deployment Wizard contains: Welcome Page > Select CIs to Monitor Page > (**Templates Selection Dialog Box**) > Enter Required Data for CIs Page > Final Configuration Summary Page > Deployment Results Page

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click to add the selected templates in the left pane to the CI selection in the right pane.
	Click to remove selected templates from the CI selection.
<Template list>	The left pane lists all the available templates in the wizard. The child objects are the monitors that are deployed by the template.
<CI Type Selection>	The right pane lists the CI Types of all the CIs selected in the Select CI to Monitor step of the Monitor Deployment Wizard. If the wizard was able to match templates to the selected CI Types, the CI Type is listed with the applicable template as a child object.
Save Matching	Select the check box to save your template selection as a preference. This includes those templates that are selected manual for CI types and those that are cleared from the automatic selection of the wizard. The manually adjusted templates selection is matched to the selected CIs automatically the next time the same Business Availability Center user runs the wizard.
Restore Defaults	Click to reset the list and remove all the added templates from the CI Types (the ones added automatically by the wizard remain).

Enter Required Data for CIs Page

Description	Enables you to fine tune your template selection for specific CIs and fill in the missing information for those templates.
Important Information	If data is missing for any selected templates, an error appears and you are unable to proceed to the next step. If any templates are unselected, a warning appears before you proceed to the next step that informs you that there are unselected templates. This applies whether data is filled in for the unselected templates or not.
Wizard Map	The Monitor Deployment Wizard contains: Welcome Page > Select CIs to Monitor Page > (Templates Selection Dialog Box) > **Enter Required Data for CIs Page** > Final Configuration Summary Page > Deployment Results Page

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<Expanded CI list>	The CIs that are missing required data are expanded. (If no CIs are missing data, this section does not appear.)
<Unexpanded CI list>	CIs that are not missing data are not expanded. You can optionally expand the CIs to modify the data. (If all CIs are missing data, this section does not appear.)
CI column	Each template for each CI is displayed separately with the relevant number of license points for that template. Select the check box for the CI and template combinations for which you want to deploy monitors.
Variable column	The variables for templates with missing data are listed in the Variable column.
Value column	The missing data in the Value column for all the selected templates. You can tab between the fields and enter the required data in the available fields. (You do not need to enter missing data for templates that are not selected.)

Final Configuration Summary Page

Description	Displays a list of the monitors about to be deployed and enables you to select the SiteScope group onto which they are deployed.
Important Information	Above the table, a note displays the total number of license points available on the SiteScope server (after the current action is complete). If the number of license points required for the current action exceeds your available points, a warning appears to tell you to remove some of the selected templates.
Wizard Map	The Monitor Deployment Wizard contains: Welcome Page > Select CIs to Monitor Page > (Templates Selection Dialog Box) > Enter Required Data for CIs Page > **Final Configuration Summary Page** > Deployment Results Page

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
CI Name/Template Name column	Lists each selected CI with its templates.
Monitors to be Created column	Indicates the number of monitors being created for each template.
License Points column	Indicates the number of SiteScope license points required for each monitor.

GUI Element	Description
SiteScope Group selection window	To select the SiteScope group under which the monitors are deployed, click **Browse** and select a group from the tree in the Choose Target SiteScope Group dialog box. **Note:** If you attempt to deploy the same monitor on the same CI in the same group twice, the deployment fails with a unique name error. However, you may select a different group under which to deploy that monitor onto that CI.
Create CI group hierarchy	Select the check box to create a CI group hierarchy. This creates SiteScope groups under the target group with the identical hierarchy of the CIs. For details, see "CI Group Hierarchy Option" on page 1459.

Deployment Results Page

Description	Displays a summary of the successful and unsuccessful template deployments.
Important Information	The deployment of monitors occurs at the template level. This means that if the deployment fails for any of the template elements (monitor, group, remote, or alert), no other monitors in the template are deployed. When you deploy a physical monitor (for example, a CPU monitor), a remote server with the same name is also created if such a remote server does not already exist under Remote Servers (Microsoft Windows or UNIX).
Wizard Map	The Monitor Deployment Wizard contains: Welcome Page > Select CIs to Monitor Page > (Templates Selection Dialog Box) > Enter Required Data for CIs Page > Final Configuration Summary Page > **Deployment Results Page**

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click to export the Monitor Deployment Wizard Summary page to a PDF. This report includes all created entities in SiteScope displaying the deployment directory and status. It also displays the status of duplicate monitors.
CI Name column	Lists the names of the selected CIs.
Object Name column	Lists the monitors selected for deployment onto a given CI.
Status column	Indicates whether the deployment succeeded or not.
Retry Failed Deployments	Click **Retry Failed Deployments** to re-attempt to deploy those monitors whose deployment failed by modifying the data entered in the Type Required Data for CIs page. **Note:** This button appears only if there were failed deployments.
Handle Duplicate Monitors	If duplicate monitors were deployed, click **Handle Duplicate Monitors** to open the Handle Duplicate Monitors dialog box. For each duplicate monitor listed, you can select to leave it intact, disable it, or delete it. If all the monitors are to be handled in the same way, you can use the **Leave All Intact**, **Disable All** or **Delete All** buttons at the bottom of the page. For details on understanding duplicate monitors, see “Full and Partial Monitor Coverage” on page 1458.

Part VIII

SiteScope Dashboard

54

Working with SiteScope Dashboard

This chapter includes the main concepts, tasks, and reference information for SiteScope Dashboard.

This chapter includes:

Concepts

Tasks

Reference

SiteScope Dashboard Overview

SiteScope monitoring provides a real-time picture of system availability and performance. You configure SiteScope monitors to collect metrics from a range of infrastructure components, including Web, application, database, and firewall servers. The status and metrics are then aggregated for presentation in SiteScope Dashboard.

Dashboard is linked to the SiteScope monitor tree hierarchy. The data displayed in Dashboard represents the selected context in the monitor tree. The highest level is the SiteScope node and any applicable monitor groups. The lowest-level element for display in a Dashboard view is an individual SiteScope monitor and its measurements.

Dashboard includes functions that you can use to customize the display of monitor information. This includes defining named filter settings to limit the display of data to those matching a defined criteria. You can also select various data display options.

Dashboard also includes hyperlinks and menus that you can use to navigate through the hierarchy of monitor elements, manually run a monitor, disable monitors, and access alert definitions.

Dashboard Filter Overview

You can filter monitors or groups by the following criteria:

- monitor or group names containing a specific text string
- monitors or groups monitoring a specific host or server
- monitors or groups reporting an error
- measurement results containing a specific text string

Filters are applied primarily to monitors. The filter criteria are not applied to groups, alerts, or reports. You can use view settings to filter on other elements. For more information, see "Searching and Filtering SiteScope Objects Overview" on page 85.

Filters are applied to all Dashboard views. This means that some monitors may not be displayed depending on the filter criteria and the selected node. Generally, it is best to use filters together with the **Show All Descendent Monitors** view option. Filters remain active until you change or reset the filter criteria in the Dashboard Filter window.

Dashboard filters are separate from SiteScope tree filters. You can use either Dashboard filters or SiteScope tree filters to filter the display of nodes to specific monitor types. However, Dashboard filters are applied to the results of any currently selected tree filter setting. If a tree filter setting is active, this may prevent the Dashboard filter from finding monitors that match the filter criteria, even if such monitors do exist in the SiteScope environment.

You can save a filter setting by defining the filter settings and then saving the view as a Dashboard Favorite. For more information, see "Defining and Managing Filter Settings" on page 86.

For details on configuring a Dashboard filter, see "Dashboard Filter Page" on page 1518.

Generating a Server-Centric Report

For Microsoft Windows Resources Monitors and UNIX Resources Monitors, you can create a Server-Centric Report which displays data from three different metrics about the server being monitored. We recommend that you use Solution Templates when creating the Microsoft Windows Resources Monitor or UNIX Resources Monitor. For details on the Solution Templates, see:

- "AIX Host Solution Templates" on page 1355
- "Linux Host Solution Templates" on page 1367
- "Solaris Host Solution Templates" on page 1431
- "Microsoft Windows Host Solution Template" on page 1393

You can define the monitor manually by selecting **Enable Server-Centric Report** in the required monitor settings page, as described in "Microsoft Windows Resources Monitor Settings" on page 738 and "UNIX Resources Monitor Settings" on page 747. When defining the monitor manually, you must select the required metrics for the monitors, according to the table in "Server-Centric Report Measurements" on page 1503.

The report displays the following metrics on the same graph:

- **CPU Utilization.** For UNIX Resource Monitors, this metric is calculated as an average of three counters: system processing utilization, user processing utilization, and input/output processing utilization. For Microsoft Windows Resources Monitors, the metric is calculated as processing capacity used out of total processing capacity.
- **Memory Utilization.** Calculated as memory used out of total available memory.
- **Network Utilization.** Calculated by system-specific counters. Calculating network utilization is supported only for Windows servers.

Each metric is displayed by a separate line of a unique color on the graph. The report enables you to easily make a visible correlation between the different metrics.

The report includes tables listing the top five processes by CPU utilization and memory consumption. You can navigate the graph and change the time of the data displayed in the tables. This enables you to focus in on a problematic period in the graph to locate the processes running at that time. For details on the Server-Centric Report interface, see "Server-Centric Report" on page 1524.

The report also includes the Annotation Tool that enables you to annotate a snapshot of the report you are viewing, to highlight important areas. You can save, print, or e-mail an annotation report. For details on the user interface, see "Annotation Tool" on page 1697.

For details on how to generate a Server-Centric Report, see "Monitor Your Microsoft Windows/UNIX Server's Resources" on page 1497.

Acknowledging Monitor Status

The acknowledgement function can be used to track resolution of problems that SiteScope detects in your system and network infrastructure. With this function, SiteScope keeps a record of when the problem was acknowledged, what actions have been taken, and by which user.

It also enables you to temporarily disable alerting on the monitors. This is useful to avoid redundant alerts while a problem is being actively addressed. You can also use the acknowledgement function as a simple trouble ticket system when more than one person uses SiteScope to manage system availability.

Note: The acknowledgement function is available only in Dashboard views. The acknowledgement icon is displayed only in Dashboard Detailed views.

You can add an acknowledgement to individual monitors or monitor groups. An acknowledgement added to a monitor applies only to that monitor. Any alert disable condition selected in the acknowledgement applies only to that monitor instance. Acknowledging a group applies the acknowledgement description and alert disable conditions to all monitors within the group. Acknowledgements applied to a group can be edited or deleted individually for monitors in the group.

Only one acknowledgement can be in force for a monitor or group at any given time. Acknowledgement comments and acknowledgement indicators continue to be displayed in the interface until they are deleted, even after any applicable alert disable schedule has expired.

Acknowledgement data and comments are written to a log file on the SiteScope machine. A new log entry is made each time you add, edit, or delete an acknowledgement. After a problem monitor is acknowledged, or the acknowledged status is cleared, you can view the history in the Acknowledge Log. The Acknowledge Log for an item can be viewed even if there is no acknowledgment currently in force.

For details on the Add Acknowledgment user interface, see “Add Acknowledge Dialog Box” on page 1514.

Accessing SiteScope Tools

SiteScope contains a number of tools that can be used to test the monitoring environment. You can use these tools to query the systems you are monitoring and view detailed results of the action. This may include simply testing network connectivity or verifying login authentication for accessing an external database or service. You can run these tools directly from the Dashboard toolbar by clicking the **Tools** button for the monitor (if diagnostic tools are available for the specific monitor).

For details on the different tools that are available, see "SiteScope Tools Overview" on page 171.

Note: SiteScope Tools option is only available for individual monitors.

Analyze Data in SiteScope Dashboard

This task describes the steps to follow to analyze data in SiteScope Dashboard.

This task includes the following steps:

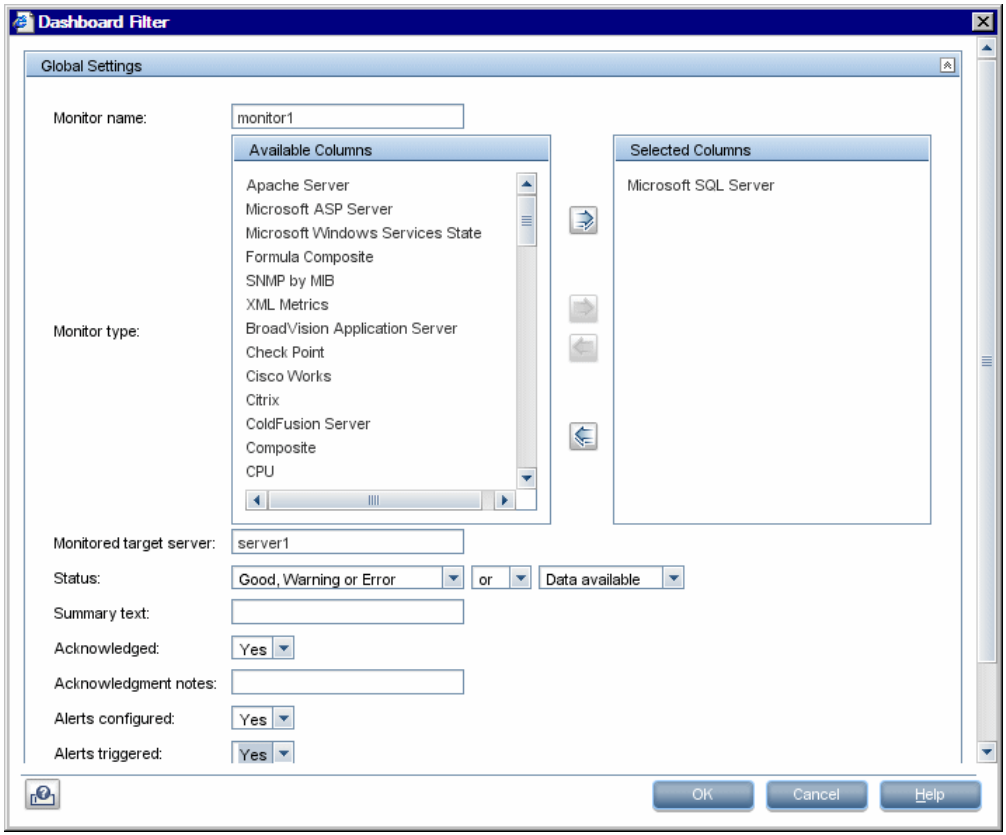
- "Select and Set a Dashboard Filter - Optional" on page 1494
- "Drill Down to View Monitor and Measurement Status and Availability" on page 1495
- "View Configured and Triggered Alerts" on page 1495
- "Acknowledge Monitors" on page 1496
- "View Monitor History" on page 1496

1 Select and Set a Dashboard Filter - Optional

Configure and set a Dashboard filter by selecting from the options available on the Dashboard Filter page.

For details on the user interface, see “Dashboard Filter Page” on page 1518.

Example

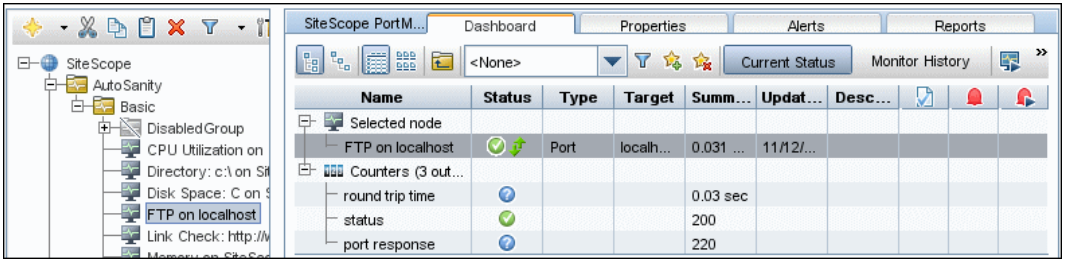


2 Drill Down to View Monitor and Measurement Status and Availability

When viewing SiteScope data in the Current Status view of Dashboard, you can drill down in the monitor tree to view monitor and measurement status and availability.

For details on navigating in the Dashboard, see "SiteScope Dashboard - Current Status View" on page 1505.

Example

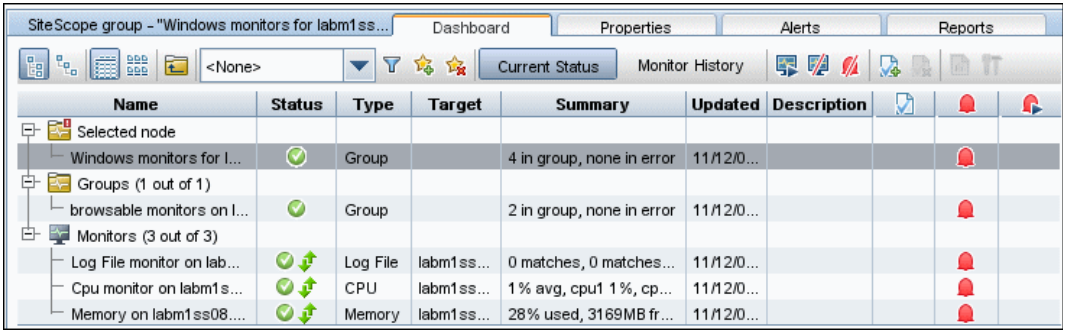


3 View Configured and Triggered Alerts

You can view data about alerts in the configured alerts and triggered alerts columns. If alerts are configured for a monitor, you can double-click the **Configured Alert** icon to see the list of configured alerts, and select an alert to view or edit the alert properties.

For details on the user interface, see "SiteScope Dashboard - Current Status View" on page 1505.

Example

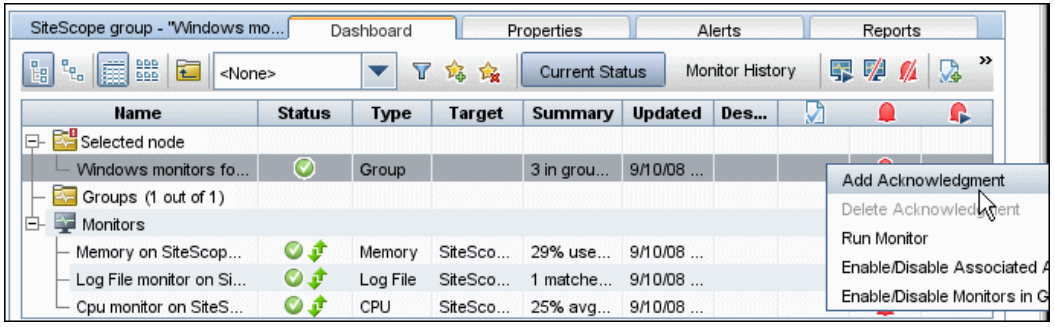


4 Acknowledge Monitors

To acknowledge monitor status, click the **Add Acknowledgment** icon or select **Add Acknowledgment** from the context menu, and enter the details in the Acknowledge dialog box.

For details on the user interface, see "Add Acknowledge Dialog Box" on page 1514.

Example

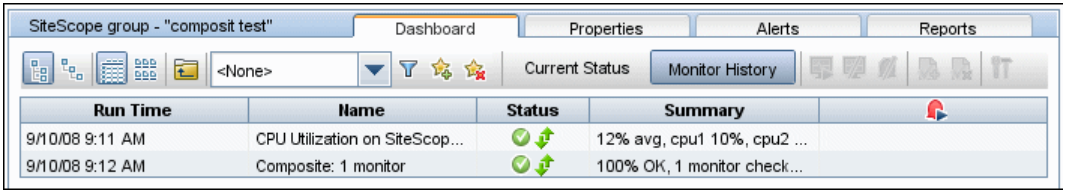


5 View Monitor History

You enable and configure monitor history in the General Settings Preferences. For details on the user interface, see "Dashboard Monitor History View Options" on page 1137.

To view monitor history, click the **Monitor History** button in SiteScope Dashboard. For details on the user interface, see "SiteScope Dashboard - Monitor History View" on page 1513.

Example



Monitor Your Microsoft Windows/UNIX Server's Resources

This task describes the steps involved in creating a Microsoft Windows or UNIX Resources Monitor to monitor your Windows or UNIX Server, and generating a Server-Centric report.

For a scenario of this task, see "Create a Server-Centric Report – Scenario" on page 1499.

This task includes the following steps:

- "Create a Windows/UNIX Resources Monitor" on page 1497
- "Generate the Server-Centric Report" on page 1498
- "Analyze Data in the Report" on page 1498

1 Create a Windows/UNIX Resources Monitor

To monitor your Windows or UNIX Server, you must create a Microsoft Windows Resources Monitor or UNIX Resources Monitor. You can create the monitor manually or by using solution templates. We recommend that you create a monitor using solution templates, as they contain all the required measurement counters.

For details on the Solution Templates, see:

- "Microsoft Windows Host Solution Template" on page 1393
- "AIX Host Solution Templates" on page 1355
- "Linux Host Solution Templates" on page 1367
- "Solaris Host Solution Templates" on page 1431

For details on creating a Microsoft Windows Resources monitor or UNIX Resources monitor manually, see:

- "Microsoft Windows Resources Monitor Settings" on page 738.
- "UNIX Resources Monitor Settings" on page 747.

Make sure to select **Enable Server-Centric Report** and select the required measurements. For details on the measurements, see "Server-Centric Report Measurements" on page 1503.

2 Generate the Server-Centric Report

To monitor your server, navigate to Dashboard, display the data for the applicable Microsoft Windows Resources or UNIX Resources monitor, and click the server name in the **Target** column in the row corresponding to your Windows or UNIX Resources monitor. The Server-Centric Report opens.

3 Analyze Data in the Report

The report enables you to view three different metrics of your server in the same graph – CPU utilization, memory utilization, and network utilization. It also lists the top five processes by CPU utilization and memory consumption. You can drill down to specific times by clicking a data point on the graph.

For details on the Server-Centric Report user interface, see "Server-Centric Report" on page 1524.

Create a Server-Centric Report – Scenario

This scenario describes how to create a Server-Centric report.

For a task of this scenario, see "Monitor Your Microsoft Windows/UNIX Server's Resources" on page 1497.

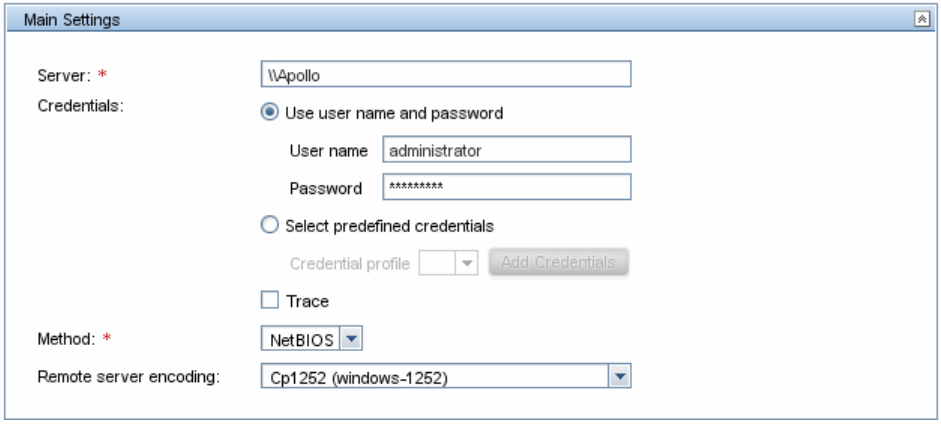
This task includes the following steps:

- "Configuring a Remote Server" on page 1499
- "Deploying a Microsoft Windows Host Solution Template" on page 1500
- "Creating a Server-Centric Report" on page 1501

1 Configuring a Remote Server

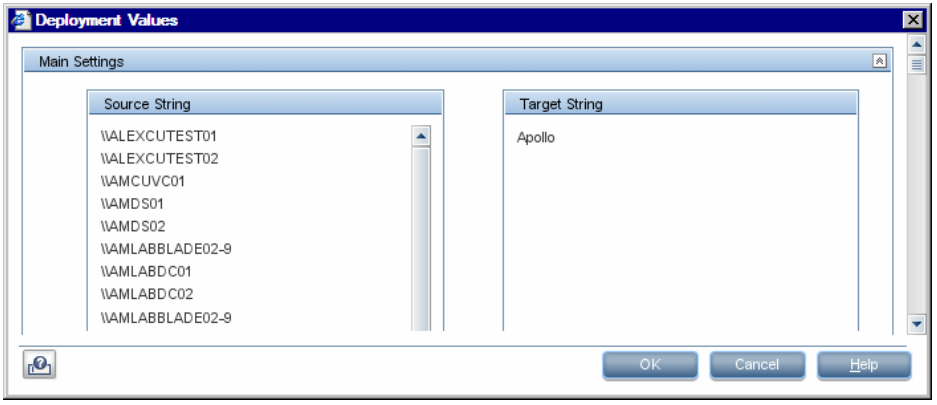
David Foster, a SiteScope user at NewSoft Company, wants to create a report that provides data on CPU utilization, memory utilization, and network utilization for a monitored server, Apollo.

Before he creates the report, David configures SiteScope to monitor the remote Windows server, Apollo, and configures the server in Microsoft Windows Remote Servers.

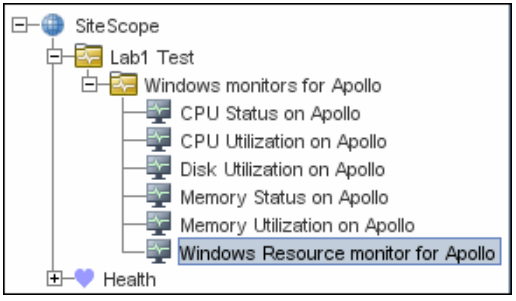


2 Deploying a Microsoft Windows Host Solution Template

After enabling SiteScope to monitor data on Apollo, David deploys the Microsoft Windows Host solution template into the selected group container, and selects Apollo as the server to monitor. David uses the solution templates when creating the Microsoft Windows Resource Monitor, because the required monitors and metrics for generating a Server-Centric Report are already configured.

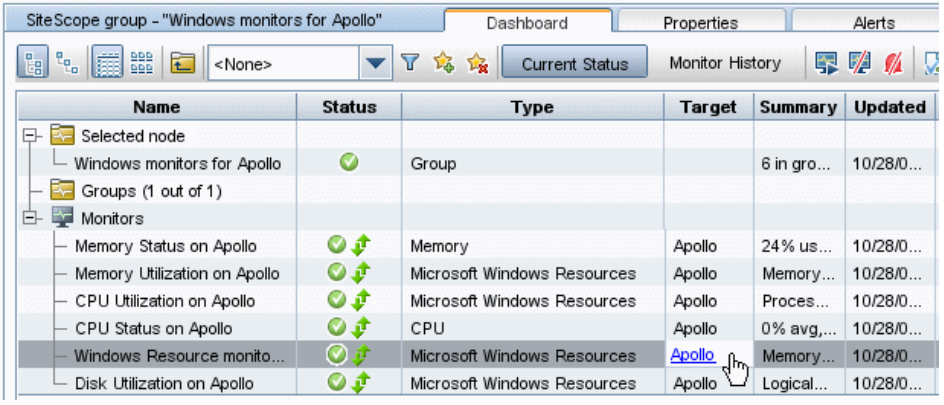


After David deploys the solution template, SiteScope creates a group named Windows monitors for Apollo that contains the Microsoft Windows Resources monitor.

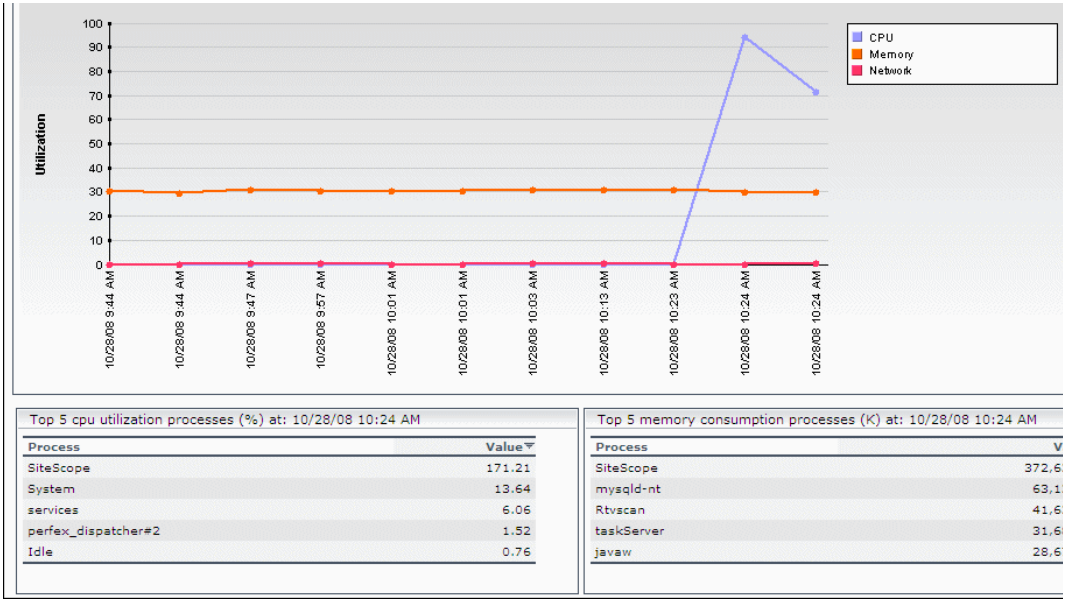


3 Creating a Server-Centric Report

David generates the Server-Centric Report for Apollo from the Current Status view of Dashboard.



The Server-Centric Report opens, displaying the CPU Utilization, Memory Utilization, and Network Utilization metrics on the same graph. David can use this data to view the top processes by CPU utilization and memory consumption during different times, and focus in on problematic periods to locate the processes running at that time.



Top 5 cpu utilization processes (%) at: 10/28/08 10:24 AM

Process	Value
SiteScope	171.21
System	13.64
services	6.06
perfex_dispatcher#2	1.52
Idle	0.76

Top 5 memory consumption processes (K) at: 10/28/08 10:24 AM

Process	V
SiteScope	372,6
mysqld-nt	63,1
Rtvscan	41,6
taskServer	31,6
javaw	28,6

Server-Centric Report Measurements

The following table displays the counters which must be selected when defining the monitor for the Server-Centric Report manually:

OS Type	Server-Centric Mandatory Counters
Counters for Microsoft Windows Resource Monitor	Memory\% Committed Bytes In Use
	Processor_Total\% Processor Time
Counters for UNIX Resource Monitor on Solaris Platform	CPU utilization\%sys
	CPU utilization\%usr
	CPU utilization\%wio
	Memory\swap_avail
	Memory\swap_resv
Counters for UNIX Resource Monitor on AIX Platform	Processor\Total\%sys
	Processor\Total\%usr
	Processor\Total\%wio
Counters for UNIX Resource Monitor on Linux Platform	Memory\MemFree
	Memory\MemTotal
	Processor\Total\System
	Processor\Total\User
	Processor\Total\User low

For details on selecting counters for monitor definition, see "Microsoft Windows Resources Monitor Settings" on page 738 (for Microsoft Windows Resources Monitor counters) and "UNIX Resources Monitor Settings" on page 747 (for Solaris, AIX, and Linux platforms).

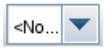
SiteScope Dashboard User Interface

This section describes:

SiteScope Dashboard - Current Status View

Description	Displays current performance data for the infrastructure elements being monitored by SiteScope and provides access to functions you use to define filters. The Dashboard displays a table of groups and monitors for the element highlighted in the monitor tree or listed in the path. You can double-click each group or monitor node to navigate to child nodes and monitors. From the Dashboard, you can access the following SiteScope functions: ➤ Server-Centric Report ➤ Preconfigured Quick Report ➤ Acknowledge Monitor Status ➤ Monitor Tools ➤ SiteScope Health Status ➤ Monitor History Information ➤ Enable/Disable Monitors and Alerts **To access:** Open the **Monitors** context. Select an object in the monitor tree and click the **Dashboard** tab in the right pane.
Important Information	By default, the maximum number of objects that can be displayed in the Dashboard table for a selected element is 4000, and the maximum number of icons that can be displayed in Icon View is 700. You can modify these numbers by changing the **Maximum number of objects displayed in Dashboard** and **Maximum number of icons displayed in Dashboard Icon View** values in **Preferences** > **Infrastructure Settings** > **Dashboard Settings**. However, we recommend that you use the default setting. If the selected element has more lines than the maximum number that can be displayed in the Dashboard table, try creating a more restrictive tree filter or configure a Dashboard filter.
Included in Tasks	"Analyze Data in SiteScope Dashboard" on page 1493
Useful Links	"SiteScope Dashboard Overview" on page 1488

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	**Show Child Groups and Monitors** displays only those elements that are direct children of the selected node. Subgroups and monitors are displayed in separate sections in the group and monitor status information area.
	**Show All Descendent Monitors** displays all descendent monitors of the selected node. When the Icon view option is selected, only descendent monitor icons and names are displayed.
	**Detailed View** displays groups and monitors in tabular list format with the element name, status, and other information arranged in individual table rows.
	**Icon View** displays groups and monitors as an array of status icons with the name of the element below the icon.
	Click the **Up** button to go up one level in the monitor tree. This option is not available for SiteScope (the highest level in the tree).
	The Favorite box contains a drop-down list of the existing favorite views of Dashboard filter settings. You can select the one you want to display in the Current Status or Monitor History view. **Default value:** <None>
	Click the **Dashboard Filter** button to open the Dashboard Filter page. For details on the user interface, see “Dashboard Filter Page” on page 1518.
	Click the **Add to Favorites** button to open the Add Dashboard Favorite dialog box which enables you to save the current Dashboard filter as a favorite view. For details on the user interface, see “Add to Dashboard Favorites Dialog Box” on page 1516.

GUI Element	Description
	Click the **Delete Favorites** button to open the Delete Dashboard Favorites dialog box which enables you to delete existing favorite views. For details on the user interface, see "Delete Dashboard Favorites Dialog Box" on page 1517.
	Displays a table of groups and monitors for the element highlighted in the monitor tree or listed in the path.
	Displays information about monitors, monitor groups, and alerts over the last 24 hours. This information is filtered by the number of hours, monitor status, and the number of data entries. For more information on viewing monitor history, see "SiteScope Dashboard - Monitor History View" on page 1513.
	Click the **Run Monitors** button to run the monitor or any monitors configured in the group, and opens an information window with the results.
	Click the **Enable/Disable Monitor** button to open the Enable/Disable Monitor dialog box which enables you to enable or disable the monitor or all the monitors in the group, regardless of the setting in the monitor properties. If you select **Disable**, the monitors are disabled until you return to this dialog box and select **Enable**. For details on the Enable/Disable Monitor user interface, see "Enable/Disable Monitor or Monitors in Group Dialog Box" on page 1522.
	Click the **Enable/Disable Associated Alerts** button to open the Enable/Disable Associated Alerts dialog box which enables you to enable or disable all alerts associated with the monitor or all monitors in the group.
	Click the **Add Acknowledgment** button to open the Add Acknowledge dialog box which enables you to add an acknowledgment to a monitor. For details on the Add Acknowledge user interface, see "Add Acknowledge Dialog Box" on page 1514.

GUI Element	Description
	Click the **Delete Acknowledgment** button to delete the monitor's acknowledgment.
	Click the **Quick Report** button to create a one-time SiteScope management report for the selected monitor. For more details on the report, see "Quick Report" on page 1688.
	Click the **Tools** button to open a diagnostic tool to test the selected monitoring environment. This button is available only for those monitor instances for which there is an appropriate diagnostic tool. For details on the SiteScope Tools, see "Diagnostic Tools" on page 1522.
	The **Acknowledge** column indicates that a SiteScope user has acknowledged the current status of a monitor and may have temporarily disabled alert actions associated with that monitor. This icon is only displayed in Dashboard Detailed views. Moving the pointer over the icon displays the acknowledgment information as a tool tip. For details on this topic, see "Acknowledging Monitor Status" on page 1491.
	The **Configured Alerts** column indicates that one or more alerts are associated with the group or monitor. If you double-click the icon, a tooltip displays the configured alerts. Selecting an applicable alert definition name from the list opens the Edit Alert dialog box enabling you to view or edit the alert properties. For details on this topic, see "SiteScope Alerts" on page 1579.
	The **Triggered Alerts** column indicates that at least one alert has been triggered in the monitor. If no alert was triggered, the icon is not displayed. If a single alert was triggered, an icon representing the specific alert type is displayed. If multiple alerts were triggered, an icon representing multiple alerts is displayed. Clicking the alert icon displays alert details. The Triggered Alert column only appears for a table that contains monitors. For details on this topic, see "SiteScope Alerts" on page 1579.

GUI Element	Description
Name	A display name (alias) for the monitor instance or group. When a new group is created, you type its name. When a new monitor is created, you select its type from the list of available monitors. If you do not override this type in the **Name** box, the monitor is identified by the type of monitor. You can then optionally type an alias that helps you identify this monitor.
Status	A colored icon is displayed for each node in a Dashboard view, representing the operational status assigned to that component for its current performance level. A color-coded arrow is also displayed for each element in a Dashboard view, representing the data availability status of the monitor. You can point at the icons to display the monitor status and availability. For a description of the monitor status and availability icons, see "Status and Availability Levels" below.
Type	The type of monitor being displayed. You select the monitor type in the New Monitor page when you create the monitor instance.
Target	The **Target** column contains the name of the remote server containing the monitored object (if such a server exists). If, for example, the monitor type is CPU, then the target would be the name of the server on which the CPU being monitored is installed. The name displayed in the **Target** column can be either the system ID of the server or the user-assigned name (alias), depending on what was entered in the **Name** box when the server was added to the monitor tree. If the group contains a Microsoft Windows Resources Monitor or UNIX Resources Monitor, the server name in the Target column appears as a link. You can click the link to open the Server-Centric Report for the server. For details on the user interface, see "Server-Centric Report" on page 1524.

GUI Element	Description
Summary	For monitors, the **Summary** column displays the most recent measurement results reported by the monitor. This may include more than one measurement, depending on the monitor type. For monitor groups, the summary displays the number of monitors within the group and the number of monitors, if any, that are reporting an error status.
Updated	The date and time when the last event occurred in the group or monitor.
Description	The **Description** column can contain either text that describes the monitor or group or it can contain HTML that performs various actions when you click it. If this field contains text, you can double-click it to open a dialog box that displays the full description in HTML format. You can enter information in this column by selecting the monitor or group in the monitor tree and selecting the **Properties** tab. In the page that opens, expand **General Settings** and enter a description in the **Monitor/Group description** box.

Status and Availability Levels

Icon	Description
	**Good Status**. All performance measurements are within the Good threshold level.
	**Warning Status.** At least one performance measurement is within the Warning range, but no measurements are within the Error or Poor range.
	**Error/Poor Status.** At least one performance measurement is within the Error or Poor range. This indicates either of the following: ➤ The performance measurement has a value, but at poor quality level. ➤ There is no measurement value due to some error.

Icon	Description
	**Status Not Defined (No Data).** There is no data for the group or monitor. This can be caused by any of the following reasons: ➤ A new monitor has not yet run. ➤ Monitor counters have not yet been collected. ➤ The monitors on which the group or monitor depend are not reporting a Good condition.
	**No Thresholds Breached Status.** No thresholds were defined for the monitor counter, so no status is assigned.
	**Disabled Manually.** The group or monitor is currently disabled, and no data updates are being received.
	**Data Collected Availability.** Indicates that SiteScope was able to connect to the remote system and perform the action defined by the respective monitor configuration. The resulting monitor status represents the results of the monitor action. If an error or warning is indicated, it represents an accurate measure of the target system's performance or the availability of the target resource.
	**Availability Warning.** Indicates that SiteScope has detected a possible problem with the connectivity to the remote system.
	**No Data Availability.** Indicates that SiteScope was not able to connect to the remote system. Any resulting error status for the respective monitor may be attributed to the failure to communicate with a remote server. It does not necessarily mean the target resource has failed.

Dashboard Context Menu

The following options are available by right-clicking in any column of a group object row:

GUI Element (A-Z)	Description
Add Acknowledgment	Opens the Acknowledge dialog box which enables you to add an acknowledgement to a monitor.
Delete Acknowledgment	Deletes the monitor's acknowledgement.
Enable/Disable Associated Alerts	Opens the Enable/Disable Alert Settings dialog box which enables you to enable or disable all the alerts for all monitors in the group. If you select **Disable**, the alerts are disabled until you return to this page and select **Enable**.
Enable/Disable Monitor **Enable/Disable Monitors in Group**	Opens the Enable/Disable Monitor Settings dialog box which enables you to enable or disable the monitor or all monitors in the group. If you select **Disable**, the monitors are disabled until you return to this page and select **Enable**.
Quick Report	Create a one-time SiteScope management report for the selected monitor over a given time period. For more details, see "Quick Report" on page 1688. **Note:** This menu item is displayed for monitors only.
Run Monitor(s)	Runs the selected monitor or all monitors in the selected group.
Tools	Opens a diagnostic tool that can help you troubleshoot monitor configuration problems. For details on the available tools, see "SiteScope Tools Overview" on page 171. **Note:** This menu item is displayed for monitors only, and is only available for specific monitors.

SiteScope Dashboard - Monitor History View

Description	Displays information about monitors, monitor groups, and alerts collected during the last 24 hours. This information is filtered by the number of hours, monitor status, and the number of data entries. **To access:** Open the **Monitors** context. Click the **Monitor History** button within SiteScope Dashboard.
Important Information	You enable this function in General Settings Preferences. You can determine exactly how much data you want saved for this function so that your database does not get overloaded. By default, the maximum number of objects that can be displayed in the Monitor History table for a selected element is 4000, and the maximum number of icons that can be displayed in Icon View is 70. You can modify these numbers by changing the **Maximum number of objects displayed in Dashboard** and **Maximum number of icons displayed in Dashboard Icon View** values in **Preferences > Infrastructure Settings > Dashboard Settings**. However, we recommend that you use the default setting. If the selected element has more lines than the maximum number that can be displayed in the Monitor History table, try creating a more restrictive tree filter or configure a Dashboard filter.
Included in Tasks	"Analyze Data in SiteScope Dashboard" on page 1493
Useful Links	"Dashboard Monitor History View Options" on page 1137

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	The **Triggered Alert** icon appears next to any monitor that triggered an alert.
Run Time	The time the monitor ran.
Name	The name of the monitor.
Status	The monitor's status at runtime (Error, Warning, or Good). For details on the user interface, see "Status and Availability Levels" on page 1510.
Summary	The description of the monitor run.

Add Acknowledge Dialog Box

Description	Enables you to add or edit an acknowledgement for a monitor. **To access:** Open the **Monitors** context. In the monitor view, right-click a group or monitor, and select **Add Acknowledgment**.
Included in Tasks	"Analyze Data in SiteScope Dashboard" on page 1493
Useful Links	"Acknowledging Monitor Status" on page 1491

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Acknowledge comment	Enter an acknowledgement comment which is displayed as a tooltip associated with the acknowledgment icon in the Dashboard view and is recorded in the Acknowledge Log. You can update the comment as new information becomes available. The comment is displayed until the acknowledgment is deleted.
Enable all associated alerts	Enables all associated alerts (default setting).
Disable all associated alerts for the next <time period>	Disables alerting immediately and to continue suppressing alerting on the selected monitor or group for a duration that you specify.
Disable all associated alerts on a one time schedule from <timeA> to <timeB>	Disables alerting during a period of time that you specify. This can be useful if the system being monitored is expected to be unavailable during a certain period but you want to continue to run the monitor without triggering an alert.
Disable description	Enter an optional text description for alert icons associated with the monitors in the acknowledged context. The text description is added to the tool tip text that is displayed when the pointer is placed over any alert icon associated with the monitor in the Dashboard view. This text is displayed only while the alert disable option is in force. It is not written to the Acknowledge Log.

Add to Dashboard Favorites Dialog Box

Description	Enables you to define combinations of Dashboard filter settings (which were selected using the Dashboard Filter dialog box) and save them as a named favorite view. **To access:** Open the **Monitors** context. Click the **Add to Favorites** button in the Dashboard.
Important Information	Dashboard favorites are limited to settings that are applicable to Dashboard views. This means that Dashboard favorites do not save user-global view settings, or the context that was selected in the monitor tree when the favorite was saved.
Useful Links	"SiteScope Dashboard Overview" on page 1488

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a display name for the favorite view settings and click the Add Favorite button.
Existing Favorites	A list of the existing favorite views. If you want to replace one of the existing favorites with the current settings, click on the favorite and it appears in the **Name** box. By default, the list includes three preconfigured favorites: ➤ All Objects. ➤ Errors Only. ➤ Errors and Warnings.

Delete Dashboard Favorites Dialog Box

Description	Enables you to delete existing favorite views. **To access:** Open the **Monitors** context. Click the **Delete Favorites** button in the Dashboard.
Useful Links	"SiteScope Dashboard Overview" on page 1488

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Existing Favorites	Select the view or views you want to delete from the list of current favorite views. By default, the list includes three preconfigured favorites: ➤ All Objects. ➤ Errors Only. ➤ Errors and Warnings.

Dashboard Filter Page

Description	Enables you to configure a Dashboard filter by entering match criteria and selecting from the menu options. **To access:** Open the **Monitors** context. Click the **Filter** button in Dashboard.
Important Information	Any combination of filter options can be included in a single filter. For example, the filter definition can filter on a combination of **Monitor type**, **Monitored target**, and **Status**.
Included in Tasks	"Analyze Data in SiteScope Dashboard" on page 1493
Useful Links	"Dashboard Filter Overview" on page 1489

Global Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Monitor name	Enter a text string or regular expression that matches the name of one of more monitors. When you apply this filter to the Dashboard view, only the monitors that match the **Monitor name** criterion are displayed.
Monitor type	Use this list to create a filter to display only selected monitor types.
Target server	Enter the server name to filter monitors based on a particular host or server being monitored.

GUI Element	Description
Status	Use this option to filter monitors by reported status. The status filter criterion can be defined in terms of monitor category status. The following status options are available: ➤ **Any Status.** Show all monitors with any status. This is the default option. This can be used in combination with the **Data Available** option to filter out monitors that are in error due to connectivity or availability factors. ➤ **Disabled.** Show only monitors reported as disabled. ➤ **Error.** Show only monitors reporting an error status. ➤ **Good.** Show only monitors reporting a good or OK status. ➤ **Good, Warning, or Error.** Show all monitors except those reported as disabled. ➤ **Warning.** Show only monitors reporting a warning status. ➤ **Warning or Error.** Show only monitors reporting a warning or error status. ➤ **Warning or Good.** Show only monitors reporting a warning or good status. **Example:** Create a filter that displays only those monitors reporting a warning or error.

GUI Element	Description
Status (with Availability)	Use this option to create a compound filter by combining the monitor status category with the data availability status. The following data availability status options are available: ➤ **Data Available.** Show monitors for which data is available, meaning the monitor was able to retrieve measurements from the target system. ➤ **Data Unavailable.** Show monitors for which data is not available, meaning SiteScope was not able to retrieve measurements from the target system. **Example:** Create a filter that displays only those monitors reporting **Error** and **Data Available**. This means that the filter shows monitors that indicate an error status for which the monitor was able to receive data from the monitored system as opposed to monitors that are reporting an error because the monitor was not able to communicate with the monitored system (that is, **Data Unavailable**).
Summary text	Use this option to filter monitors based on text included in their summary string. You can type a literal text string or a regular expression to match a text pattern. For details about regular expressions see "Using Regular Expressions" on page 217.
Acknowledged	Use this option to filter monitors based on their Operator Acknowledgment status. To filter on monitors that have been acknowledged, select **Yes** from the drop-down menu. To filter on unacknowledged monitors, select **No** from the drop-down menu.
Acknowledgment notes	Use this option to filter monitors based on text that may appear in their Operator Acknowledgment notes. You can type a literal text string or a regular expression to match a text pattern. For details about regular expressions see "Using Regular Expressions" on page 217.

GUI Element	Description
Alerts configured	Use this option to filter monitors based on whether alerts have been configured on them. To filter on monitors that have one or more alerts configured on them, select **Yes** from the drop-down menu. To filter on monitors that do not have configured alerts, select **No** from the drop-down menu.
Alerts triggered	Use this option to filter monitors based on whether they have triggered an alert event. To filter on monitors that have generated one or more alerts, select **Yes** from the drop-down menu. To filter on monitors that have not generated alerts, select **No** from the drop-down menu.

Monitor History Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Display time period	Select the time frame for past events. **Default value:** Past 1 hour
Monitor run status	Select the required event status, relational operator, and data availability. **Default value:** Any

Diagnostic Tools

Description	The diagnostic tools view represents the utilities that are useful to test the monitoring environment. Use these tools to make a variety of requests and queries of systems you are monitoring and to view detailed results of the action. **To access:** Open the **Monitors** context. In the Dashboard, select a monitor instance for which a diagnostic tool is available, and click the **Tools** button.
Important Information	You can see the list of diagnostic tools that are available in SiteScope by clicking the **Tools** button in the left pane.
Useful Links	"SiteScope Tools Overview" on page 171

Enable/Disable Monitor or Monitors in Group Dialog Box

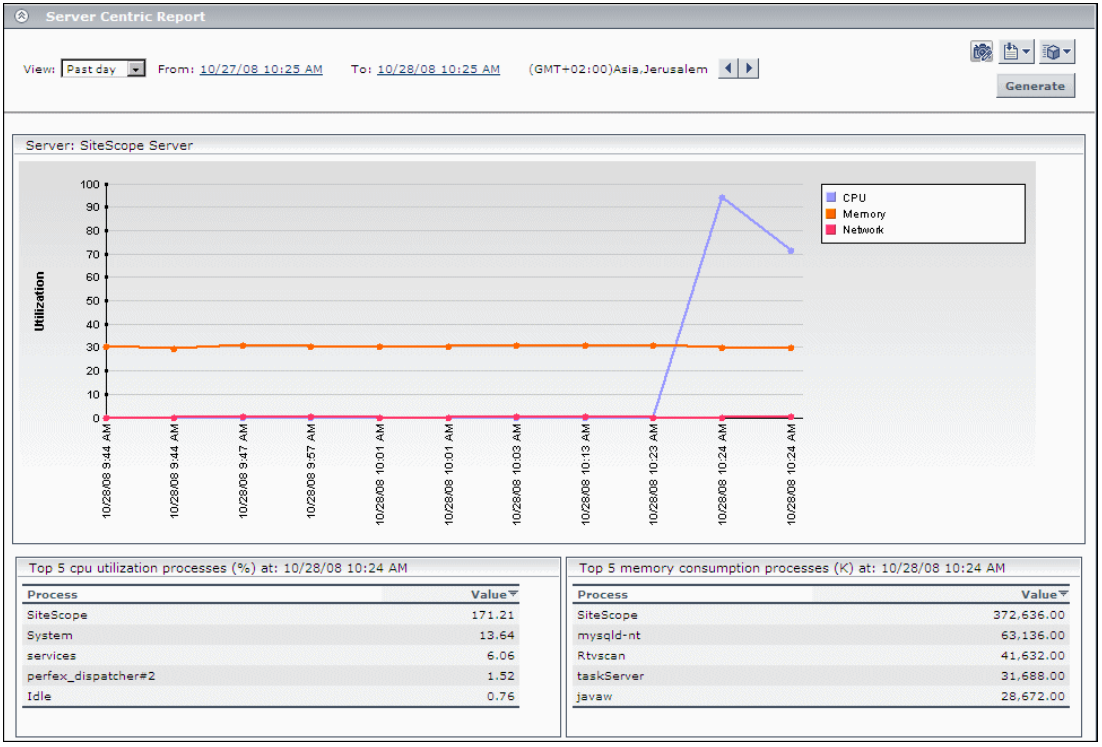
Description	Enables you to select an option for enabling or disabling the monitor or all the monitors in the group, regardless of the individual monitor setting in the monitor properties tab. If you select **Disable**, the monitors are disabled until you return to this dialog box and select **Enable**. **To access:** Open the **Monitors** context. In the Dashboard, select a monitor or group, and click the **Enable/Disable Monitor** button.
Useful Links	"Enable/Disable Monitor" on page 319

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Enable monitor(s in group)	If the monitor/monitors in the group have previously been disabled in the monitor properties, select to enable the monitor/monitors in the group. **Default value:** Selected
Enable temporarily disabled monitor(s in group) only	If the monitor/monitors in the group have previously been disabled temporarily in the monitor properties, select to enable the monitor/monitors in the group.
Disable monitor(s in group)	When a monitor/monitors in the group have been disabled, SiteScope continues to schedule the monitor/monitors in the group to run based on the **Frequency** setting for the monitor but the monitor action is not run. SiteScope records a monitor data log entry for the monitor/monitors in the group when it was scheduled to be run but reports the monitor status as disabled in the place of measurement data.
Disable monitor(s in group) for the next <time period>	Enter a time period that the monitor/monitors in the group should remain disabled. Select **Seconds**, **Minutes**, **Hours**, or **Days** to define the disable time period as applicable.
Disable monitor(s in group) from <time> to <time>	Use this option to temporarily disable the monitor/monitors in the group for a time period in the future. The time period can span more than one day. Enter or select the start time and end time for the disable period using the format: hh:mm:ss mm/dd/yyyy.
Disable description	Enter optional descriptive text. This description appears as part of the monitor status in the monitor group display. The disable status text also includes a string indicating which disable option is in force for the monitor, for example Disabled manually indicates that the monitor was disabled using the **Disable monitor** option.

Server-Centric Report

The following is an example of the Server-Centric report.



Description	A graphical report showing the metrics CPU utilization, memory utilization, and network utilization for a selected server. **To access:** Open the **Monitors** context. Click the server name link in the **Target** column of SiteScope Dashboard for a Microsoft Windows Resources Monitor or UNIX Resources Monitor.
Important Information	This report is available only on those servers being monitored by a dedicated Microsoft Windows Resources monitor or UNIX Resources monitor created for the purpose of running the report. We highly recommend that you deploy these monitors using the applicable solution templates for these monitors. The templates are preconfigured with the correct measurement counters and options already selected. The Server-Centric Report is not supported in Firefox 2.x. If a monitor encounters a problem and returns non-applicable data, that data point is skipped. Thus, you may see missing data points in the graph.
Included in Tasks	"Monitor Your Microsoft Windows/UNIX Server's Resources" on page 1497
Useful Links	"Generating a Server-Centric Report" on page 1490 "Create a Server-Centric Report – Scenario" on page 1499

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click to create a snapshot of the report you are viewing and highlight important areas of the report by drawing shapes, lines, and adding text to the snapshot. For details on the Annotation Tool user interface, see "Annotation Tool" on page 1697.
	Click to format the report data to a file for exporting. Select the format for the file. The options are printer-friendly, CSV, Excel, or XML.
	Click to export the report data in an E-mail. Select the option for sending the file. The options are HTML mail, HTML attachment, or PDF. **Note:** To use the export functionality, you must add the SiteScope machine to the trusted sites.
	Click to view the report one time frame earlier than the currently displayed time frame. **Tooltip:** Back **Example:** If the value of the **View** box is **Day**, clicking this button displays data for one day earlier than the currently displayed report.
	Click to view the report one time frame later than the currently displayed time frame. **Tooltip:** Forward **Example:** If the value of the **View** box is **Day**, clicking this button displays data for one day later than the currently displayed report.
View	Select a time range for which you want to view the report. Available time ranges include the following: ➤ Custom (enables you to configure any range) ➤ Hour, Day, Week ➤ Past hour, Past day, Past week

GUI Element	Description
From/To <date links>	Click the **From** link to configure a start date and time for the report. Click the **To** link to configure an end date and time for the report. The calendar contains the following buttons: ➤ **OK.** Updates the date link for the selected date and closes the calendar. ➤ **Revert.** Returns to the previously selected report date. ➤ **Current.** Selects today's date in the calendar. ➤ **Cancel.** Closes the calendar without making any changes.
Generate	Click to create a report for the date range displayed in the date links.

Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<Tooltip>	Hold the pointer over any data point on the graph to display a tooltip showing the value at the selected time of the utilization for the selected metric, as well as the date and time.
Server name	The name of the server appears above the Utilization graph.
Utilization graph	A graph displaying utilization over time. The different colored lines represent CPU utilization, memory utilization, and network utilization. All three metrics are scaled as percents (that is, out of 100% utilization). You can click on a data point in the graph to focus in on a shorter timer range. The data tables are updated to show results for the time of the data point you selected (clicking any of the three data points for the same time updates the report in the same way). This is useful when you notice a point with particularly high utilization. By clicking on the point, you can determine the cause of the high utilization. **Note**: Network utilization is supported for Windows servers only.
Top 5 CPU Utilization Processes table	A table displaying the top five processes in terms of CPU utilization at any point in the graph. The table displays the process name and the CPU utilization value as a percent of total available CPU processing potential.
Top 5 Memory Consumption Processes table	A table displaying the top five processes in terms of memory consumption at any point in the graph. The table displays the process name and the memory consumption value in kilobytes.

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SiteScope Server Health

This chapter includes the main concepts, tasks, and reference information for monitoring SiteScope server health.

This chapter includes:

Concepts

Tasks

Reference

SiteScope Health Overview

SiteScope Health is a specially designed group of monitors that display information about SiteScope's the performance and availability SiteScope itself. Health monitors retrieve data about SiteScope's resource usage, key processes, monitor load, server parameters, and the integrity of key configuration files.

By default, the daily monitor logs record the SiteScope Health monitoring data and let you can create reports on SiteScope's performance and operational health. These log files are useful for understanding SiteScope performance issues, for troubleshooting monitor and alert problems, and for reviewing SiteScope management actions. For example, SiteScope's audit log contains configuration changes performed in the new user interface, such as creation of monitors, templates, alerts, and so forth.

Together with the SiteScope Health monitoring, the SiteScope Progress Report Page provides several key indicators you use to monitor the performance of the SiteScope application.

This section includes the following topics:

➤ "Skipped Monitor Events" on page 1531

➤ "Problems Reporting Data" on page 1532

Skipped Monitor Events

A SiteScope monitor is reported as skipped if the monitor fails to complete its actions before it is scheduled to run again. This can occur with monitors that have complex actions to perform, such as querying databases, stepping through multi-page URL sequences, waiting for scripts to run, or waiting for an application that has hung.

For example, assume you have a URL Sequence Monitor that is configured to transit a series of eight Web pages. This sequence includes performing a search which may have a slow response time. The monitor is set to run once every 60 seconds. When the system is responding well, the monitor can run to completion in 45 seconds. However, at times, the search request takes longer and then it takes up to 90 seconds to complete the transaction. In this case, the monitor has not completed before SiteScope is scheduled to run the monitor again. SiteScope detects this and makes a log event in the SiteScope error log. The SiteScope Log Event Monitor detects this and signals an error status.

A monitor may also skip if it is a monitor type that requires a process from the process pool but the process pool limit has been reached. Generally, this is not likely to happen but may occur in some situations with high monitoring load. The SiteScope Health Log Event Monitor also watches for process pool events. Skipped monitors can cause loss of data when a monitor run is suspended due because a previous run has not completed or has become hung by a unresponsive application. They can also cause SiteScope to automatically stop and restart itself, an event that is also monitored by the SiteScope Health Log Event Monitor. A restart is done in an effort to clear problems and reset monitors. However, this can also lead to gaps in monitoring coverage and data. Adjusting the run frequency at which a monitor is set to run or specifying an applicable timeout value can often correct the problem of skipping monitors.

Note:

- You can enable a setting that automatically disables monitors that exceed the maximum allowed skip count. If this occurs, SiteScope shuts down with an error and sends an e-mail to the SiteScope administrator about the skipping monitor to signal the disable event. To enable this setting: In the preferences view, click **Infrastructure Settings**, and expand the **Server Settings** panel. Select the **Shutdown on monitor skips** check box. This functionality is disabled by default.
- You can control the maximum number of processes available. You should only change this setting if adjustments to monitor configurations do not resolve the monitor performance problems. The initial value is 200 processes per pool (by default, the maximum processes per pool is 20). To change this setting: In the preferences view, click **Infrastructure Settings**, and expand the **General Settings** panel. Configure the number of processes in the **Maximum processes per pool** box.

Problems Reporting Data

SiteScope Health monitors are also configured to report events that indicate a problem with the transfer of SiteScope monitor and configuration data to an HP Business Availability Center installation. For information about troubleshooting data reporting to Business Availability Center, see "Reporting Data to Business Availability Center" on page 1231.

SiteScope Health Group

SiteScope Health monitors can monitor several key aspects of its own environment to help uncover monitor configuration problems as well as SiteScope server load. SiteScope can also monitor its connectivity and related data events when connected to HP Business Availability Center.

Similar to regular monitors, Health monitors can be edited in order to reconfigure their frequency and thresholds. Administrators can enhance the Health group by adding new monitors targeting additional servers and environments.

The Health monitor group is displayed as a health icon within the main SiteScope container. You view the contents of the Health monitor group by clicking the **Health** container.

SiteScope Health monitoring includes the following monitor types:

Monitor Type	Default Name	Description
BAC Integration Statistics Monitor	BAC Integration Statistics	Checks the traffic volume between SiteScope and Business Availability Center when SiteScope is configured as a data collector for HP Business Availability Center.
Log Event Health Monitor	Log Event Checker	Checks for certain events logged to the SiteScope error log.
Monitor Load Monitor	Monitor Load Checker	Checks for data about the number of monitors being run or waiting to run.
Health of SiteScope Server Monitor	Health of SiteScope Server	Checks a large number of server process and resources for the server on which SiteScope is running.

BAC Integration Statistics Monitor

The BAC Integration Statistics monitor checks the health of HP Business Availability Center. When SiteScope is integrated as a data collector for Business Availability Center, this health monitor enables you to track the volume of traffic between SiteScope and Business Availability Center. SiteScope sends metrics to BAC every minutes.

For details on configuring this monitor, see "BAC Integration Statistics Monitor Page" on page 1559.

SiteScope Log Events Monitor

The Log Event Monitor is the equivalent of a SiteScope monitor group that watches the SiteScope Error Log (**error.log**) for certain events. These events include Log entries indicating that a monitor has been skipped or there was a problem in reporting data to another application.

For details on configuring this monitor, see "Log Event Health Monitor Page" on page 1560.

SiteScope Monitor Load Monitor

The Monitor Load Monitor watches how many monitors are running and how many are waiting to be run. Watching monitor load is important to help maintain monitoring performance and continuity. If the number of monitors waiting approaches or exceeds the number of monitors running, adjustments should be made to monitor configurations to reduce the number of monitors waiting to run. Generally, this can be done by reducing the run frequency of some monitors.

For details on configuring this monitor, see "Monitor Load Monitor Page" on page 1563.

SiteScope Server Health Monitor

The Health of SiteScope Server Monitor is the equivalent of a SiteScope monitor that monitors server resources on the server where SiteScope is running. This includes monitors for CPU, disk space, memory, and key processes. A problem with resource usage on the SiteScope server may be caused by monitors with configuration problems or may simply indicate that a particular SiteScope is reaching it performance capacity. For example, high CPU usage by SiteScope may indicate that the total number of monitors being run is reaching a limit. High disk space usage may indicate that the SiteScope monitor data logs are about to exceed the capacity of the local disk drives. For details on SiteScope data logging options, see "Log Preferences" on page 1113.

Note: This monitor is supported in SiteScopes that are running on Windows versions only. However, this monitor can monitor remote servers running on any platform/operating system.

For details on configuring this monitor, see "Health of SiteScope Server Monitor Page" on page 1564.

Using Log Files

SiteScope maintains a number of log files that are useful for understanding SiteScope performance issues, for troubleshooting monitor and alert problems, and for reviewing SiteScope management actions.

Log files can be accessed using the Log File tab. When you click a log file, a new browser window opens displaying the text of the log file. You can use the scroll bars to view the contents of the log or use the browser's text Find utility to locate specific information. For example, you can search for a unique text string that appears in a monitor's **Name** property to locate entries for a particular monitor instance. For details on the various SiteScope log files, see "Log Files Page" on page 1568.

The log files are written in plain text and stored in the **<SiteScope_root_path>\logs** directory. In the default configuration, these log files are tab-delimited text files. Understanding the order and content of these files is useful for examining particular monitor results or for porting the SiteScope monitor results to another database. For details, see "SiteScope Log File Columns" on page 1547.

Using the Audit Log

SiteScope's audit log provides you with a record of actions performed in SiteScope, the time they were performed, and by whom. It contains configuration changes performed in the new user interface, such as creation of monitors, templates, alerts, and so forth.

Note: When SiteScope is attached to System Availability Management Administration in HP Business Availability Center, the actions you perform on SiteScope appear in HP Business Availability Center's audit log and not in SiteScope's audit log.

As each operation is performed, an entry is made in the audit log. When the current audit log reaches its size limit, it is closed and a new log is created. Older logs are named audit.log.1, audit.log.2, and so forth. The higher the number concatenated to the name, the older the log. For details on setting the size limit and the maximum number of backup audit logs to be kept, see "Configure the Audit Log" on page 1546.

The name of the current audit log is **audit.log** and it is found in the **<SiteScope root directory>\logs** directory. You can access the audit log from the directory or through the SiteScope application. For details on viewing the audit log, see "Log Files Page" on page 1568.

Most operations performed in the monitor tree are recorded in the audit log. For a list of operations that are not recorded in the audit log, see "Audit Log Limitations" on page 1575.

Using the SiteScope Progress Report

The SiteScope Progress Report page provides an overview of several key SiteScope server performance metrics. It displays the SiteScope monitoring load statistics and a list of which SiteScope monitors are running, and which monitors have run recently, at what time, and what was the returned status. The report page is updated every 20 seconds.

This section includes the following topics:

Viewing the Progress Report

For details on the Progress Report, see "SiteScope Progress Report Page" on page 1572.

Interpreting the Progress Report

Monitoring Load can be a key indicator of SiteScope scaling problems, monitor configuration problems, or network performance issues. The following is a brief explanation of the SiteScope monitor execution model and interpreting the Progress Report in the context of this model.

A SiteScope monitor instance is essential as an instruction set that is run by the SiteScope application on a regularly scheduled interval. While a monitor instance is defined, SiteScope queues the monitor for execution based on the run (update) frequency and schedule options. If the monitor instance is marked as disabled, it is still scheduled in the queue but the normal instructions are not run.

As a Java-based application, SiteScope makes use of multi-threading to accomplish parallel execution of monitor tasks. Each monitor instance scheduled for execution is assigned a thread. Once it is assigned a thread, the monitor instance becomes a **Monitor Running**. It remains bound to the thread until the monitor execution instruction has either received a result or the timeout value, if applicable, has been reached.

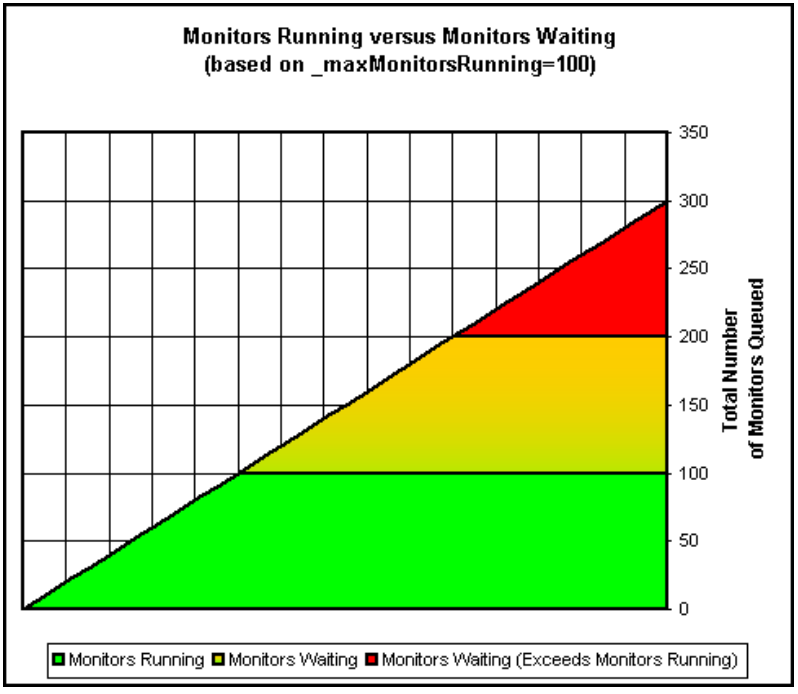
Even in this model, monitor execution is not instantaneous and there is a finite limit to the number of monitor threads that can be run in parallel. If not more threads are available, a monitor that is queued for execution becomes a **Monitor Waiting** for an execution thread.

It is difficult to assign specific values and limits to SiteScope Monitoring Load because the specifics of the server capacity and network deployment can vary widely. The monitoring load may also vary significantly over time simply due to transient network traffic issues or SiteScope monitor configuration problems.

One key warning signal for interpreting monitoring load is the ratio of Monitors Waiting to Monitors Running. Generally, having some monitors waiting for execution is not a problem unless the ratio of Monitors Waiting to Monitors Running is consistently 1:2 or higher. For example, if the number of monitors running is at the maximum of 100 and there are 50 monitors waiting, this represents a ratio of 1 monitor waiting for every two running.

Note: The initial maximum number of monitor execution threads for the _maxMonitorsRunning= setting controlled by the **master.config** file is 400 (the default value is 30 in **master.xml**).

The graph below presents a visualization of the relationship between Monitors Running and Monitors Waiting. This graph is based on the _maxMonitorsRunning setting of 100 monitors. The green region shows that SiteScope is able to run all queued monitors until the number of queued monitors exceeds 100. At that level, additional monitors that are scheduled to run are given the status of Monitor Waiting. The red region represents an area where the number of monitors waiting is more than twice the number of monitors running. This is certain indication that your SiteScope monitor configurations are not well aligned with the capacity of the server and network.



You can adjust the following monitor configuration settings if there are consistently too many monitors waiting:

- **Frequency.** This is the basic schedule parameter for every monitor type. A large number of Monitors Running and Monitors Waiting can often be explained by a large number of monitors set to run (or update) at short intervals. The minimum update interval is 15 seconds. Depending on a number of system factors, there are several monitor actions which may take more than 15 seconds to complete. For example, Web transactions, database queries, logging onto remote servers, and some regular expression matches may delay monitor completion. Use the "Monitor Summary Report" on page 1692 to check the **Frequency** setting for groups of monitors and consider increasing the value for some monitors.
- **Verify error.** Regular or extensive use of this option has the effect of rapidly increasing the monitor run queue whenever the applicable SiteScope monitors detect an error condition. While this option has its purpose, it should not be used by default on every monitor. Use the "Monitor Summary Report" on page 1692 to list monitors that may have the **Verify error** setting enabled.

Analyze SiteScope Health Monitor Data

This task describes the steps involved in analyzing SiteScope Health monitor data and viewing the SiteScope log files and Progress Report.

This task includes the following steps:

1 Prerequisites

To access the log files and the Progress Report page, you must have the correct user privileges.

a In the left pane, click **Preferences** and select **User Management**.

b Right-click the user name, and select **Edit User**.

c In the Edit User dialog box, expand **Permissions.**

d In the **Other** section, make sure that **View progress** and **View logs** are selected (these settings are selected by default).

2 Deploy SiteScope Health Monitors

If the SiteScope Health monitors are not present when you import a SiteScope to System Availability Management in HP Business Availability Center, you must deploy the monitors.

For details on how to perform this task, see "Deploy SiteScope Health Monitors" on page 1545.

Note: The SiteScope health monitors are normally present, because they are enabled automatically when SiteScope is deployed.

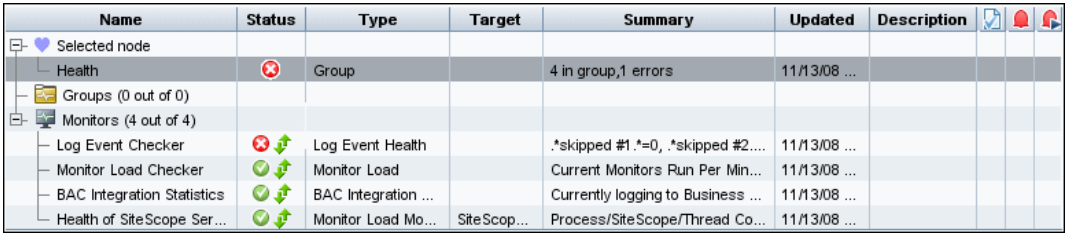
---

3 View SiteScope Health Monitors

You can view the data collected by the SiteScope Health monitors in the SiteScope Dashboard.

For details on the user interface, see "SiteScope Health User Interface" on page 1558.

Example

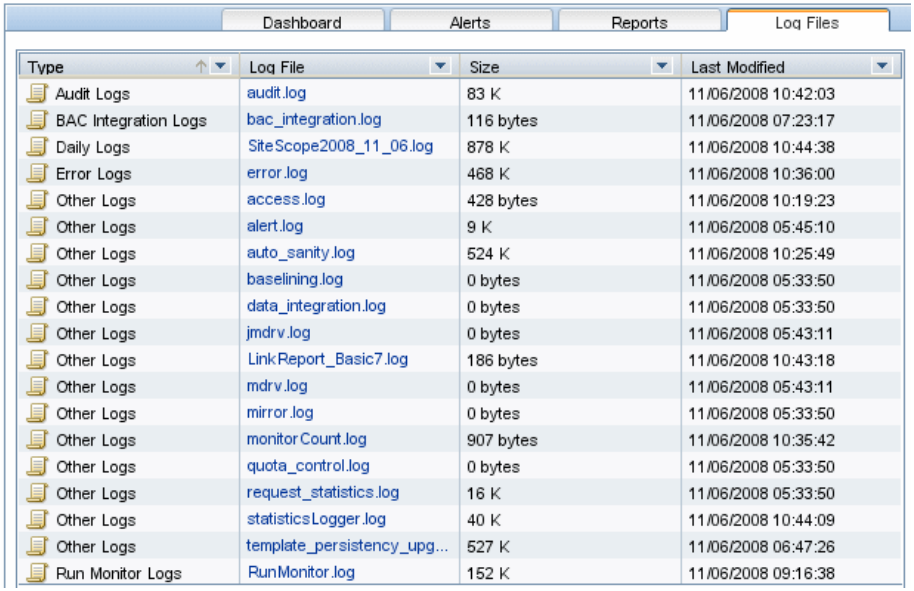


Name	Status	Type	Target	Summary	Updated	Description
Selected node						
Health		Group		4 in group,1 errors	11/13/08 ...	
Groups (0 out of 0)						
Monitors (4 out of 4)						
Log Event Checker		Log Event Health		.*skipped #1.*=0, .*skipped #2....	11/13/08 ...	
Monitor Load Checker		Monitor Load		Current Monitors Run Per Min...	11/13/08 ...	
BAC Integration Statistics		BAC Integration ...		Currently logging to Business ...	11/13/08 ...	
Health of SiteScope Ser...		Monitor Load Mo...	SiteScop...	Process/SiteScope/Thread Co...	11/13/08 ...	

4 View SiteScope Log Files

You can view the various SiteScope log files in the Log Files tab. For details on the user interface, see "Log Files Page" on page 1568.

Example



Dashboard | Alerts | Reports | Log Files

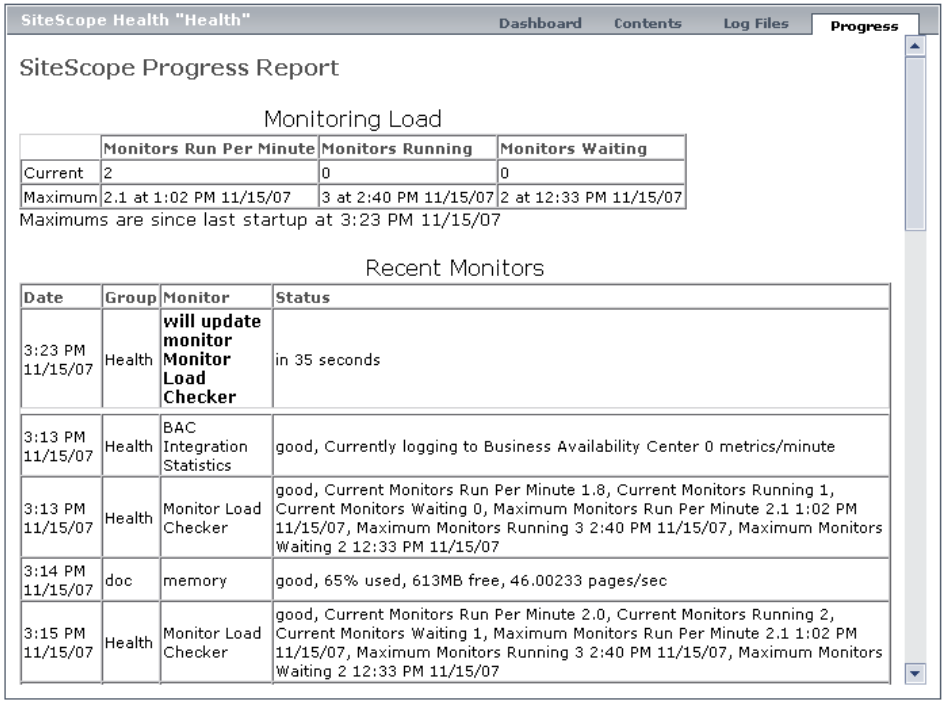
Type	Log File	Size	Last Modified
Audit Logs	audit.log	83 K	11/06/2008 10:42:03
BAC Integration Logs	bac_integration.log	116 bytes	11/06/2008 07:23:17
Daily Logs	SiteScope2008_11_06.log	878 K	11/06/2008 10:44:38
Error Logs	error.log	468 K	11/06/2008 10:36:00
Other Logs	access.log	428 bytes	11/06/2008 10:19:23
Other Logs	alert.log	9 K	11/06/2008 05:45:10
Other Logs	auto_sanity.log	524 K	11/06/2008 10:25:49
Other Logs	baselining.log	0 bytes	11/06/2008 05:33:50
Other Logs	data_integration.log	0 bytes	11/06/2008 05:33:50
Other Logs	jmdrv.log	0 bytes	11/06/2008 05:43:11
Other Logs	LinkReport_Basic7.log	186 bytes	11/06/2008 10:43:18
Other Logs	mdrv.log	0 bytes	11/06/2008 05:43:11
Other Logs	mirror.log	0 bytes	11/06/2008 05:33:50
Other Logs	monitorCount.log	907 bytes	11/06/2008 10:35:42
Other Logs	quota_control.log	0 bytes	11/06/2008 05:33:50
Other Logs	request_statistics.log	16 K	11/06/2008 05:33:50
Other Logs	statisticsLogger.log	40 K	11/06/2008 10:44:09
Other Logs	template_persistency_upg...	527 K	11/06/2008 06:47:26
Run Monitor Logs	RunMonitor.log	152 K	11/06/2008 09:16:38

5 View the SiteScope Progress Report

You can view the load on the SiteScope server and a list of the most recently run monitors in the SiteScope Progress Report.

For details on the user interface, see "SiteScope Progress Report Page" on page 1572.

Example



SiteScope Health "Health" | Dashboard | Contents | Log Files | Progress

SiteScope Progress Report

Monitoring Load

	Monitors Run Per Minute	Monitors Running	Monitors Waiting
Current	2	0	0
Maximum	2.1 at 1:02 PM 11/15/07	3 at 2:40 PM 11/15/07	2 at 12:33 PM 11/15/07

Maximums are since last startup at 3:23 PM 11/15/07

Recent Monitors

Date	Group	Monitor	Status
3:23 PM 11/15/07	Health	**will update monitor Monitor Load Checker**	in 35 seconds
3:13 PM 11/15/07	Health	BAC Integration Statistics	good, Currently logging to Business Availability Center 0 metrics/minute
3:13 PM 11/15/07	Health	Monitor Load Checker	good, Current Monitors Run Per Minute 1.8, Current Monitors Running 1, Current Monitors Waiting 0, Maximum Monitors Run Per Minute 2.1 1:02 PM 11/15/07, Maximum Monitors Running 3 2:40 PM 11/15/07, Maximum Monitors Waiting 2 12:33 PM 11/15/07
3:14 PM 11/15/07	doc	memory	good, 65% used, 613MB free, 46.00233 pages/sec
3:15 PM 11/15/07	Health	Monitor Load Checker	good, Current Monitors Run Per Minute 2.0, Current Monitors Running 2, Current Monitors Waiting 1, Maximum Monitors Run Per Minute 2.1 1:02 PM 11/15/07, Maximum Monitors Running 3 2:40 PM 11/15/07, Maximum Monitors Waiting 2 12:33 PM 11/15/07

Deploy SiteScope Health Monitors

This task describes how to deploy SiteScope Health monitors to a SiteScope installation if the monitors were not present when you imported a SiteScope to System Availability Management in HP Business Availability Center.

To deploy SiteScope Health Monitors:

1 Open the SiteScope container to which you want to display the Health monitors. Confirm that the SiteScope includes the Health monitor group container.

Note: The Health monitor group container is identified with a health indicator icon.

---

2 Find the **Health Templates** in the monitor tree. Click to expand the container contents. The available Health monitor templates are displayed.

3 Select the Health monitor template for the operating system on which the SiteScope you want to monitor is running. The choices are:

- UNIX Health Monitors
- Windows Health Monitors

4 Right-click the template icon and select **Copy** from the action menu.

5 Right-click the **Health** monitor group container of the SiteScope to which you want to deploy the Health monitors and select **Paste**. The monitors in the selected template are then configured and deployed to the selected SiteScope server.

Configure the Audit Log

This task describes the steps involved in configuring the maximum size of the audit log.

To configure the audit log:

1. Open the **log4j.properties** file located in the **<SiteScope root directory>\conf\core\Tools\log4j\PlainJava** directory.
2. Set **MaxFileSize** to the maximum number of lines in the log.
3. Set **MaxBackupIndex** to the maximum number of backup audit logs to be kept before the oldest audit log is deleted.

   For example, if **MaxBackupIndex** is 5, no more than 5 backup audit logs are kept. If 5 backup log files exist, then after the current audit.log file reaches **MaxFileSize** size, audit.log.5 is deleted, audit.log.4 is renamed to audit.log.5, audit.log.3 to audit.log.4 and so forth. The current audit.log is renamed audit.log.1 and a new audit.log is created.

SiteScope Log File Columns

When SiteScope runs a monitor instruction to test the availability of components in the infrastructure, the monitor results are written to data log files. The first six columns of each log entry in a SiteScope monitor data log are the same for each monitor type. After the first six columns of each log entry, the content of each column is specific for each monitor type.

The following table describes the content of these columns. The columns in each log file are written as tab-delimited text.

Column	Data in Column
1	Time and date the sample was recorded.
2	Category (for example, good, error, warning, nodata).
3	Monitor group name where the monitor defined (also called ownerID).
4	Monitor title text.
5	stateString (this is the status string that shows up on the Monitor Group Detail Page).
6	id:sample number (a unique ID for this monitor where group + id is a unique key for a monitor). The sample number is a unique sample number for that monitor.

Audit Log Entries

Each line of the audit log describes an operation performed in SiteScope.

This section includes the following topics:

SiteScope Startup

When SiteScope is restarted, its entry is:

```
YYYY-MM-DD HH:MM:SS - SiteScope Audit Log initialized
```

Group Operations

Operations performed on groups have the format:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Group
'<group_name>' '<operation>' '<container>'
```

where:

- **<group_name>** is the name of the group that was operated on.
- **<operation>** can be one of the following:
  - **Created In.** The location where the group was created.
  - **Updated in.** The location where the group's information was updated.
  - **Deleted From.** The location from where the group was deleted.
  - **Pasted On.** The user copied information from one group to another.
- **<container>** is the name of the group container that was operated on.

Monitor Operations

Operations performed on monitors have the format:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Monitor
'<monitor_name>' '<operation>' '<container>'
```

- <**monitor_name**> is the name of the monitor that was operated on.
- <**operation**> can be one of the following:
  - **Created In.** The location where the user created a monitor.
  - **Updated in.** The location from where the user updated a monitor's information.
  - **Deleted From.** The location where the user deleted a monitor.
  - **Pasted On.** The user copied information from one monitor to another.
- <**container**> is the name of the container.

Update to General Preferences

Changes made in **General Preferences** under the **Preferences** container in the monitor tree have the format:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed:
'<preferences_name>' updated
```

where <**preferences_name**> is the name of the preference that was changed.

The nature of the change to the preference is not in the log.

Update to Other Preferences

Changes to preferences other than those listed in **General Preferences** in the monitor tree have the format:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed:
'<preferences_name>' named '<object_name>' '<operation>'
```

- <**preferences_name**> is the name of the preference.
- <**object_name**> is the name of the object to which the preference refers.
- <**operation**> can be one of the following:
  - **Updated.** The user changed the preference.
  - **Deleted.** The user deleted the preference.

This format is used for the following types of preferences:

- Microsoft Windows Remote Servers
- UNIX Remote Servers
- Mail Preferences
- Pager Preferences
- SNMP Preferences
- Absolute Schedule Preferences
- Range Schedule Preferences
- User Preferences

Applying Templates

When an entity is created by deploying a template, the log entry is:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Configuration
Template '<template_name>' pasted on '<group_name>'
```

- **<template_name>** is the name of the template from which the entity was created.
- **<group_name>** is the name of the group that contains the entity that was created from the template.

Note: To see which entities were created by deploying the template, look at the contents of template itself. Information about entities is not included in the audit log.

Template Containers

When a template container is created, deleted, or updated, the log entry is:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Template
Container '<container_name>' '<operation>' '<container>'
```

- **<container_name>** is the name of the template container that was either created, deleted, or updated.
- **<operation>** can be one of the following:
  - **Created in.** The location where the user created the template container.
  - **Deleted from.** The location from where the user deleted the template container.
  - **Updated in.** The location where the user changed the template container.
- **<container>** is the name of the container containing the template.

Create, Delete, Modify Templates

When a template is created, deleted, or updated, the log entry is:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Template
'<template_name>' '<operation>' '<container>'
```

- **<template_name>** is the name of the template that was either created, deleted, or updated.
- **<operation>** can be one of the following:
  - **Created in.** The location where the user created the template.
  - **Deleted from.** The location from where the user deleted the template.
  - **Updated in.** The location where the user changed the template.
- **<container>** is the name of the container containing the template.

Template Variables

When a template variable related to an object, such as server ID, is created, deleted, or updated in a container, the log entry is:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Template
Variable '<variable_name>' '<operation>' '<container>'
```

- **<variable_name>** is the name of the variable that was either created, deleted, or updated.
- **<operation>** can be one of the following:
  - **Created in.** The location where the template variable for the object was created.
  - **Deleted from.** The location where the template variable for the object was deleted.
  - **Updated in.** The location where the template variable for the object was updated.
- **<container>** is the name of the container containing the template variable.

Template Groups

When a template group for a specific type of object is created, deleted, or updated, the log entry is:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Template Group '<group_name>' '<operation>' '<container>'
```

- <**group_name**> is the name of the template group created, updated or deleted.
- <**operation**> can be one of the following:
  - **Created in.** The location where the template group for the object was created.
  - **Deleted from.** The location from where the template group for the object was deleted.
  - **Updated in.** The location where template for the object was updated.
- <**container**> is the name of the container containing the template group.

Template Remote Objects

When a template remote server is created, deleted, or updated, the log entry is:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Template Remote '<remote_name>' '<operation>' '<container>'
```

- <**remote_name**> is the name of the remote server.
- <**operation**> can be one of the following:
  - **Created in.** The location where the remote entity was created.
  - **Deleted from.** The location from where the remote entity was deleted.
  - **Updated in.** The location where the remote entity was updated.
- <**container**> is the name of the container containing the remote entity.

Template Alerts

When a template for an alert is created, deleted, or updated, the log entry is:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Template Alert
'<alert_name>' '<operation>' '<container>'
```

- <**alert_name**> is the name of the object for which the template alert is defined.
- <**operation**> can be one of the following:
  - **Created in.** The location where the template alert was created.
  - **Deleted from.** The location from where the template alert was deleted.
  - **Updated in.** The location where the template alert was updated.
- <**container**> is the name of the template container.

Template Monitors

When a template for a monitor is created, deleted, or updated, the log entry is:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Template
'<monitor_name>' '<operation>' '<container>'
```

- <**monitor_name**> is the name of the monitor.
- <**operation**> can be one of the following:
  - **Created in.** The location where the template for the monitor was created.
  - **Deleted from.** The location from where the template for the monitor was deleted.
  - **Updated in.** The location where the template for the monitor was updated.
- <**container**> is the name of the container containing the template.

Alerts

Operations performed on alerts are in the format:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Alert
‘<alert_name>’ ‘<operation>’ ’<container>’
```

- <**alert_name**> is the name of the alert.
- <**operation**> can be one of the following:
  - **Created In.** The location where the new alert was created.
  - **Updated in.** The location where the new alert was updated.
  - **Deleted From.** The location from where the new alert was deleted.
  - **Pasted On.** The user copied information from one alert to another.
- <**container** > is the container of the alert.

Reports

Operations performed on report definitions are in the format:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Report
‘<report_name>’ ‘<operation>’ ’<container>’
```

- <**report_name**> is the name of the report.
- <**operation**> can be one of the following:
  - **Created In.** The location where a new report was created.
  - **Updated in.** The location where a new report was updated.
  - **Deleted From.** The location from where a new report was deleted.
  - **Pasted On.** The information was copied from one report to another.
- <**container** >**.** The container of the report.

Global Search and Replace Operations

Global Search and Replace operations are in the format:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: GSAR operation started
---------------------------------------------------------------------------------------------
YYYY-MM-DD HH:MM:SS -Global Replace updated group '<group_name>'
YYYY-MM-DD HH:MM:SS -Global Replace updated report '<report_name>'
YYYY-MM-DD HH:MM:SS -Global Replace updated monitor '<monitor_name>'
YYYY-MM-DD HH:MM:SS -Global Replace updated alert '<alert_name>'
YYYY-MM-DD HH:MM:SS -Global Replace updated preference '<preference_name>'
---------------------------------------------------------------------------------------------
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: GSAR operation finished
```

Start and end operations always appear in the log. The entries appear depending on the actions performed by the Global Search and Replace.

Login-Logout

Login and logout are in the format:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: <message>
```

where <**message**> is either:

- Logged in.
- Logged out.

Failed Login

Failed login attempts are in the format:

```
YYYY-MM-DD HH:MM:SS - Username and password do not match. Failed to login.
```

Changed Password

Password operations are logged and appear in the following format:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: <message>
```

where <**message**> is either:

- Changed password successfully.
- Failed to change password.

Categories

Operations performed on categories are logged and appear in the following format:

```
YYYY-MM-DD HH:MM:SS - User: <username> Operation Performed: Category
'<category_name>' '<operation>'
```

- <**category_name**> is the name of the category.
- <**operation**> can be one of the following:
  - **Created.** The location where a new category was created.
  - **Updated.** The location where a new category was updated.
  - **Deleted.** The location from where a new category was deleted.

SiteScope Health User Interface

This section describes:

- BAC Integration Statistics Monitor Page on page 1559
- Log Event Health Monitor Page on page 1560
- Monitor Load Monitor Page on page 1563
- Health of SiteScope Server Monitor Page on page 1564
- Log Files Page on page 1568

➤ SiteScope Progress Report Page on page 1572

BAC Integration Statistics Monitor Page

Description	Enables you to check the volume of traffic between SiteScope and HP Business Availability Center. **To access:** Open the **Monitors** context. In the monitor tree, expand **Health** and click **BAC Integration Statistics**.
Important Information	Monitor data is relevant only if SiteScope is integrated as a data collector for Business Availability Center.
Useful Links	"BAC Integration Statistics Monitor" on page 1534

Main Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Counters	**Currently logging to Business Availability Center.** Shows the amount of metrics currently logging per minute to HP Business Availability Center.

Log Event Health Monitor Page

Description	Enables you to monitor the local SiteScope installation **error.log** file for certain events. These events include log entries indicating that a monitor has been skipped or there was a problem in reporting data to another application. **To access:** Open the **Monitors** context. In the monitor tree, expand **Health** and click **Log Event Checker**.
Included in Tasks	"Analyze SiteScope Health Monitor Data" on page 1542
Useful Links	"SiteScope Log Events Monitor" on page 1534

Log Event Health Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Counters	➤ **skipped #1.** A monitor has skipped its scheduled run once. ➤ **skipped #2.** A monitor has skipped its scheduled run two times. ➤ **skipped #3.** A monitor has skipped its scheduled run three times. ➤ **skipped #4.** A monitor has skipped its scheduled run four times. ➤ **skipped #5.** A monitor has skipped its scheduled run five times. ➤ **SiteScope is shutting down.** SiteScope has been shut down. ➤ **Reached the limit of processes in the process pool.** The number of processes requested from the process pool exceeds the number of processes available in the pool. ➤ **Error. data reporter failed to report chunk of data.** There was a fault in the transfer of SiteScope monitor measurement data to HP Business Availability Center. ➤ **Error. config reporter failed to report chunk of data.** There was a fault in the transfer of SiteScope configuration data to HP Business Availability Center System Availability Management. ➤ **Error. HP Business Availability Center failed to process data.** HP Business Availability Center reported a fault in processing data sent from SiteScope.

GUI Element	Description
Counters	➤ **Error. CacheSender. Got to the max number of cached files.** SiteScope has reached the maximum number of cached data file awaiting transfer to HP Business Availability Center. This may occur if data transfer between SiteScope and HP Business Availability Center has been interrupted. ➤ **Error. CacheSender. Got to the max old dir size.** SiteScope has reached the maximum directory size for cached data file awaiting transfer to HP Business Availability Center. This may occur if data transfer between SiteScope and HP Business Availability Center has been interrupted. ➤ **HP Business Availability Center SEVERE.** HP Business Availability Center reported a data transfer or processing fault with a status of SEVERE. ➤ **Commit verification failed.** ➤ **Error loading monitor.** ➤ **Error contacting mirror server.** ➤ **Error: open SSH connections limit reached.** ➤ **Error: failure in baseline process.** ➤ **Error: failed to parse rule.** ➤ **Topology Reporter failed to report.**
Reset counter values	Click to reset the monitor counter values to 0.

Monitor Load Monitor Page

Description	Enables you to check several SiteScope load statistics reported by the Progress Report for the local SiteScope installation. **To access:** Open the **Monitors** context. In the monitor tree, expand **Health** and click **Monitor Load Checker**.
Included in Tasks	"Analyze SiteScope Health Monitor Data" on page 1542
Useful Links	"SiteScope Monitor Load Monitor" on page 1535

Monitor Load Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Counters	➤ Current Monitors Run Per Minute ➤ Current Monitors Running ➤ Current Monitors Waiting ➤ Maximum Monitors Run Per Minute ➤ Maximum Monitors Running ➤ Maximum Monitors Waiting

Health of SiteScope Server Monitor Page

Description	Enables you to check the SiteScope server resource and process statistics for the local SiteScope installation. **To access:** Open the **Monitors** context. In the monitor tree, expand **Health** and click **Health of SiteScope Server**.
Important Information	Process/perfex counters were removed from the SiteScope Server Health monitor and are no longer supported. **Note when working in template mode:** The maximum number of counters that you can select is 100. If you import a template monitor from an earlier version of SiteScope, or perform a copy to template action, the number of counters is not limited.
Included in Tasks	“Analyze SiteScope Health Monitor Data” on page 1542
Useful Links	“SiteScope Server Health Monitor” on page 1535

Health of SiteScope Server Monitor Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Counters (on UNIX)	➤ Current Monitors Run Per Minute ➤ Current Monitors Running ➤ Current Monitors Waiting ➤ Maximum Monitors Run Per Minute ➤ Maximum Monitors Running ➤ Maximum Monitors Waiting ➤ Used Disk Space on SiteScope Drive (accessible on SiteScope installed on UNIX) ➤ MegaBytes Available on SiteScope Drive ➤ Physical Memory Free ➤ Physical Memory Free Megabytes ➤ Swap Free ➤ Swap Free Megabytes ➤ Load Avg 5min ➤ SiteScope Process Memory ➤ SiteScope Process Thread Count ➤ SiteScope Process Handle Count ➤ Average CPU ➤ PageIns/sec ➤ PageOuts/sec ➤ SwapIns/sec ➤ SwapOuts/sec ➤ ContextSwitches/sec ➤ Net_TotalPacketsIn/sec ➤ Net_TotalPacketsOut/sec ➤ Net_TotalCollisions/sec

GUI Element	Description
Counters (on Windows)	**Memory** ➤ Page Faults/sec ➤ Pool Paged Bytes ➤ Pool Nonpaged Bytes ➤ % Committed Bytes In Use ➤ Available MBytes **System** ➤ Context Switches/sec ➤ File Data Operations/sec ➤ System Up Time ➤ Processor Queue Length ➤ Processes ➤ Threads **Processor** ➤ _Total ➤ % Processor Time ➤ % DPC Time **Process** ➤ java ➤ Thread Count ➤ Pool Paged Bytes ➤ Pool Nonpaged Bytes ➤ Handle Count

GUI Element	Description
Counters (on Windows)	**Network Interface** ➤ MS TCP Loopback interface ➤ Bytes Total/sec ➤ Current Bandwidth ➤ Bytes Received/sec ➤ Bytes Sent/sec ➤ <*Ethernet_hardware*> (hardware specific to the particular SiteScope server) ➤ Bytes Total/sec ➤ Current Bandwidth ➤ Bytes Received/sec ➤ Bytes Sent/sec **LogicalDisk** ➤ <*logical_drive*> (hardware specific to the particular SiteScope server) ➤ % Free Space ➤ Free Megabytes ➤ Avg. Disk Bytes/Transfer ➤ _Total ➤ % Free Space ➤ Free Megabytes ➤ Avg. Disk Bytes/Transfer **PhysicalDisk** ➤ _Total ➤ Current Disk Queue Length ➤ Disk Transfers/sec ➤ <*physical_disk(s)*> (hardware specific to the particular SiteScope server) ➤ Current Disk Queue Length ➤ Disk Transfers/sec

GUI Element	Description
Counters (on Windows)	**Server** ➤ Bytes Total/sec ➤ Errors Logon ➤ Errors Access Permissions ➤ Errors System ➤ Files Open ➤ Server Sessions

Log Files Page

Description	Enables you to inspect the SiteScope log files. **To access:** Open the **Monitors** context. In the monitor tree, click the **SiteScope** root node or the **Health** container. Click the **Log Files** tab to display the list of log files. Double-click a log file to open the file in your Web browser.
Important Information	The Log Files tab is available only on the SiteScope root node and for the Health container in the monitor tree.
Included in Tasks	"Analyze SiteScope Health Monitor Data" on page 1542 "Configure the Audit Log" on page 1546
Useful Links	"Using Log Files" on page 1536 "SiteScope Log File Columns" on page 1547 "Audit Log Entries" on page 1548 "Audit Log Limitations" on page 1575

Log Files Table

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Change the sort order in the columns by clicking the arrow in the column title. A small up or down arrow is displayed to the left of the arrow which indicates the sort order. **Note:** Clicking the arrow in the **Type** column title opens the list of log types, which enables you to filter the list by the log type you want to display. To clear the filter, click the arrow again, and select **(All)**.
Type	The log file type. For details on the different types of log files, see "Log File Types" on page 1569.
Log File	The name of the log file.
Size	The size of the log file.
Last Modified	The time and date on which the log file was last modified.

Log File Types

The following elements are included (unlabeled GUI elements are shown in angle brackets):

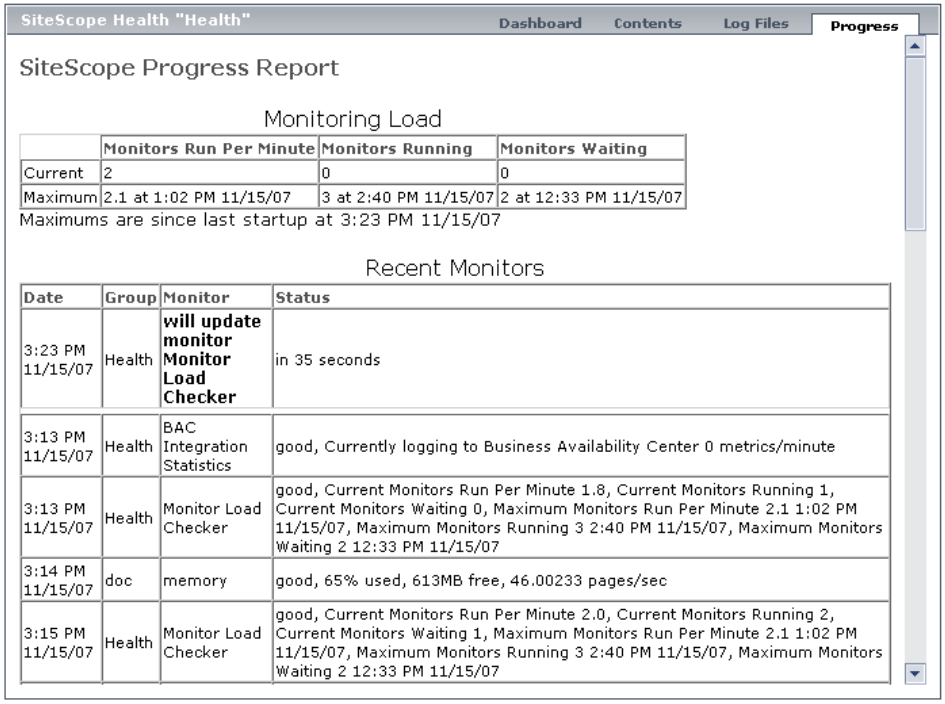
GUI Element	Description
Audit Logs	This section contains links to the logs containing all configuration changes that were performed, such as creation of monitors, templates, alerts and so on. For details on audit logs, see "Using the Audit Log" on page 1537.
BAC Integration Logs	Contains information about connectivity and monitor data transfer when SiteScope is configured to report to HP Business Availability Center.

GUI Element	Description
Daily Logs	This section contains links to the logs containing individual monitor measurements. SiteScope creates a new monitor log each day to record all monitors run during that 24 hour period. These logs are the basis for SiteScope Reports. **Note:** The monitor logs can become very large depending on the monitor environment. This may make it impractical to view them using a Web browser.
Error Logs	Contains a variety of messages relating to the operation of SiteScope. This includes a record of errors that SiteScope may have encountered when trying to perform monitor actions or data communication actions. It also includes messages indicating when SiteScope was stopped or started and if there are monitors that are skipping because they are unable to complete their task.

GUI Element	Description
Other Logs	➤ **Alert Log.** Records alert information whenever SiteScope generates an alert. This can be used to troubleshoot alert actions and to confirm that alerts were sent. ➤ **Operator Log.** An optional log file used to record SiteScope operator actions, primarily information from use of the Acknowledgement function. This log is created when an acknowledgement is added to one or more monitors. ➤ **Post Log File.** An optional log file used to record HTTP Post requests made to the SiteScope server. This can be used to track administrative actions performed. This log is only enabled when the _postLogFile=true setting exists in the **master.config** file. ➤ **URL Details.** An optional log file used to record the complete contents of HTTP and HTTPS requests made by SiteScope URL monitor types. This can be used to troubleshoot URL and URL Sequence monitor types. This log is only enabled when the _urlDetailLogEnabled=true setting exists in the **master.config** file. This can be used selectively by adding the _urlDetailLogEnabled=true setting into an individual monitor group configuration file that contains a URL monitor type.
Run Monitor Log	Records information when specific monitor runs and some actions related to managing monitors. This can be useful in troubleshooting monitors.

SiteScope Progress Report Page

The following is an example of the SiteScope Progress report.



Description	Enables you to view an overview of several key SiteScope server performance metrics. The Load Measurements table displays the load on the SiteScope server and the Recent Monitors table displays which SiteScope monitors are running, and which monitors have run recently, at what time, and what was the returned status. **To access:** Open the **Monitors** context. In the monitor tree, right-click the **SiteScope** root node and select **Reports** > **Progress**.
Included in Tasks	"Analyze SiteScope Health Monitor Data" on page 1542
Useful Links	"Using the SiteScope Progress Report" on page 1538

Report Content - Monitoring Load Table

The following elements are included (unlabeled GUI elements are shown in angle brackets). For each statistic, the current and maximum values are displayed.

Parameter	Description
Monitors Run Per Minute	This is a rolling average of the last 10 minutes of monitoring, and tracks the rate (per minute) at which monitors are being run.
Monitors Running	This number represents the number of monitors queued for execution, based on their update frequency or schedule, that currently have execution threads. This means they are being run.
Monitors Waiting	This measurement is the complement of the Monitors Running measurement representing the number of monitors queued for execution, based on their update frequency or schedule, that currently are awaiting execution threads. This means they are not being run.

Report Content - Recent Monitors Table

The following elements are included (unlabeled GUI elements are shown in angle brackets):

Parameter	Description
Date	The date and time the monitor ran.
Group	The group to which the monitor belongs.
Monitor	The name of the monitor that SiteScope ran.
Status	The status returned by the monitor.
<The first monitors in the list displayed in bold text>	The monitors that are currently being run.
<Monitors displayed below the blank row divider>	The monitors that have most recently completed running.

Troubleshooting and Limitations

Audit Log Limitations

- Audit log entries can only be created in English. This means that audit log entries are also displayed only in English, regardless of what language you use to view SiteScope.
- The following operations are not recorded in the audit log:
  - When a template is deployed, operations on the various elements in the template are not logged.

    For example, you deployed a template that created group MM2_Servers with monitors in the new group. The audit log entry is:

    Operation performed: Configuration Template 'MM2' pasted on 'MM2_Servers'.

    Note that there are no entries in the audit log about creation of monitors in MM2_Servers group.
  - Attaching and detaching SiteScope to HP Business Availability Center are not logged.

    When SiteScope is attached to System Availability Management Administration in HP Business Availability Center, the actions you perform on SiteScope appear in HP Business Availability Center's audit log and not in SiteScope's audit log.
  - Group configurations that were made by using a <group name>.mg file are not recorded in the audit log. Only group changes made through the monitor tree are recorded in the audit log.

    When you create a group in the monitor tree, a <group name>.mg file with all the configuration changes for the group is automatically created for that group. This means that you can configure a group through the monitor tree or by changing its mg file.

Part IX

Alerts and Reports

56

SiteScope Alerts

This chapter includes the main concepts, tasks, and reference information for SiteScope Alerts.

This chapter includes:

Concepts

Tasks

➤ Customize Alert Template Tag Styles on page 1608

Reference

➤ SiteScope Alert Templates Directory on page 1609

➤ SiteScope Alerts User Interface on page 1609

SiteScope Alerts Overview

SiteScope alerts are notification actions that are triggered when the conditions for the alert definition are detected. You use an alert to send some notification of an event or change of status in some element or system in your infrastructure. For example, an alert can be triggered when a SiteScope monitor detects a change from Good to Error indicating that the monitored system has stopped responding.

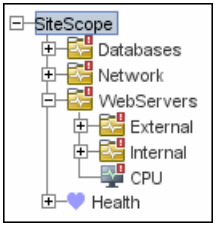
An alert definition contains settings that tell SiteScope what monitors can trigger the alert, what condition to watch for, and what information to send. For example, you can create an alert that includes instructions for SiteScope to send the specific server address and error code to your pager or e-mail when an error condition is detected on a particular system. You can also have SiteScope respond to problems by automatically initiating recovery or action scripts with Script Alert. For example, you can configure a Script Alert to run a script to restart a server if a monitor detects that a system is no longer responding and CPU utilization has reached 100%. For details on the alert types, see “Action Type Dialog Box” on page 1619.

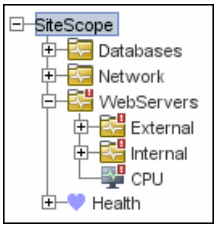
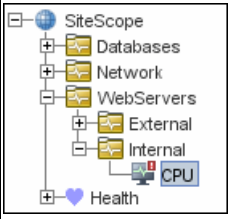
SiteScope alerts can be configured in several ways. Alerts can be associated with one or more individual monitors, with one or more groups of monitors, a combination of monitors and groups, or globally for all monitors and groups. Global and group-wide alerting is generally the most efficient but may not provide the needed control.

You can use the **Filter Settings** function on each alert definition page to create filter criteria to control global and group alerts to more specific criteria. Filter criteria can be used to restrict the alert to only monitors of a certain type, that contain a certain text string, or other filter criteria. For example, creating a global alert with a filter criteria for CPU Monitor creates an alert that is triggered only for the CPU monitor type. For details on how to configure alerts, see "SiteScope Alerts Page" on page 1610.

Alert Associations and Considerations

The table below displays an overview of the different alert associations and considerations.

Alert Class	Description
Global Alerts	Alerts that are triggered when any monitor on a given SiteScope reports the category status defined for the alert. New groups and monitors added after the alert definition is created are automatically associated with the alert. The following display is an example of a global alert associated with the SiteScope node. All monitors can trigger this alert.  **Note**: We do not recommend creating a global alert because the alert can potentially be triggered by every group and monitor within SiteScope.

Alert Class	Description
Group Alerts	Alerts that are triggered when any monitor within the associated group or groups reports the category status defined for the alert. The following is an example of a group alert. Any monitor or subgroup within the group WebServers can trigger this alert.  New subgroups and monitors added within the associated group or groups after the alert definition is created are automatically associated with the alert.
Individual Monitor Alerts	Alerts that are triggered when an associated monitor reports the category status defined for the alert. The following is an example of an individual monitor alert. Only the associated monitor can trigger this alert.  New monitors added after the alert definition is created are not automatically associated with the alert but can be added by editing the alert definition.

You can create as many SiteScope alert definitions as required. However, you should plan and consolidate alerts to keep the number of alert definitions to a minimum. This facilitates alert administration and helps reduce redundant alert messages or actions.

Creating Alert Actions

When you create an alert scheme in SiteScope, you create alert actions to be triggered when the alert conditions are met. You create alert actions using the Alert Action dialog box. While in the dialog box, you determine the following:

- The type of alert action. For a detailed list of available alert actions, see "Action Type Dialog Box" on page 1619.
- The settings for the type of alert being sent. For example, you can define the recipients and their addresses for an e-mail alert action.
- The status condition that triggers the alert. For example, you can instruct SiteScope to trigger an alert action when a monitor's status changes to error or unavailable.
- The trigger settings that determine when the alert is triggered and when it is sent. For details, see "Understanding When SiteScope Alerts Are Sent" on page 1584.

You can create multiple alert actions for an alert scheme.

- **Multiple methods of delivery**. You can create an alert action to send a sound alert and another alert action to send an e-mail alert. Both are sent when the alert is triggered.
- **Schedule-dependent delivery**. You can also set different schedules for the different actions within the same alert definition. For example, you can schedule an e-mail alert action to be sent during regular working hours and an SMS alert action for evening and night hours. Both are triggered by the same change in condition but are sent at different times, depending on when the alert is triggered.
- **Action dependencies**. You can also make one alert action dependent on another alert action. This enables you to instruct SiteScope to send one type of alert when the trigger condition is first met and send another type of alert only when the first type of alert has been sent a number of times.

You can copy an alert action into other monitors or groups for use by other alerts. To use alert actions for other alerts, you must copy the alert and paste it into another monitor or group. All the alert actions for the alert are copied into the new alert. You can then edit the alert to be triggered for the new target monitor or group.

For details on working with different alert types, see "Action Type Dialog Box" on page 1619.

Understanding When SiteScope Alerts Are Sent

SiteScope triggers the alert as soon as any monitor it is associated with matches the alert trigger condition. The trigger settings options in the Alert Action dialog box enable you to control when alerts are actually sent in relation to when a given condition is detected. For example, you can choose to have SiteScope send an alert only after an error condition persists for a specific interval corresponding to a given number of monitor runs. This is useful for monitors that run frequently that monitor dynamic, frequently changing environment parameters. In some cases, a single error condition may not warrant any intervention. For details about configuring trigger settings, see "Trigger Frequency Panel" on page 1638.

The following examples illustrate how different alert configurations send alerts after the error condition has persisted for more than one monitor run. It is important to note that the sample interval corresponds to how often the monitor is run. If a monitor runs every fifteen seconds and the alert is set to be sent after the third error reading, the alert is sent 30 seconds after the error was detected. If the monitor run interval is once every hour with the same alert setup, the alert is not sent until 2 hours later.

Example 1 - Always, after the condition has occurred at least N times

Example 1a. An alert is sent for each time monitor is in error after condition persists for at least three monitor runs. Compare this with Example 1b below.

Alert setup	Always, after the condition has occurred at least 3 times								
sample interval	0	1	2	3	4	5	6	7	8
status									
count	c=0	c=1	c=2	c=3 alert!	c=4 alert!	c=5 alert!	c=0	c=1	c=2

Example 1b. An alert is sent for each time monitor is in error after condition persists for at least three monitor runs. Shows how the count is reset when the monitor returns one non-error reading between consecutive error readings. Compare this with Example 1a above.

Alert setup	Always, after the condition has occurred at least 3 times								
sample interval	0	1	2	3	4	5	6	7	8
status									
count	c=0	c=1	c=2	c=0	c=1	c=2	c=3 alert!	c=0	c=0

Example 2 - Once, after the condition has occurred exactly N times

Example 2. An alert is sent only once if monitor is in error for at least three monitor runs, regardless of how long the error is returned thereafter.

Alert setup	**Once, after the condition has occurred exactly 3 times**								
sample interval	0	1	2	3	4	5	6	7	8
status									
count	c=0	c=1	c=2	c=3 alert!	c=4	c=5	c=6	c=7	c=8

Example 3 - Initially, after X times, and repeat every Y times

Example 3a. An alert is sent on the fifth time monitor is in error and for every third consecutive error reading thereafter. Compare this with Example 3b below.

Alert setup	**Initially, after 5 times, and repeat every 3 times**								
sample interval	0	1	2	3	4	5	6	7	8
status									
count	c=0	c=1	c=2	c=3	c=4	c=5 alert!	c=6	c=7	c=8 alert!

Example 3b. An alert is sent on the third time monitor is in error and for every fifth consecutive error reading thereafter. Compare this with Example 3a above.

Alert setup	**Initially, after 3 times, and repeat every 5 times**								
sample interval	0	1	2	3	4	5	6	7	8
status									
count	c=0	c=1	c=2	c=3 alert!	c=4	c=5	c=6	c=7	c=8 alert!

Example 4 - Configuring Multiple Alerts

Example 4. Because you can create multiple alerts and associate more than one alert to a monitor, you can tell SiteScope to take more than one action for a given situation. For example, you can create one alert that tells SiteScope to page you whenever any monitor returns an error status. You can then create another alert that tells SiteScope to run a script file to delete files in the /tmp directory on your server if your Disk Space Monitor returns an error. If your disk becomes too full, SiteScope would page you because of the first alert definition and would run the script to delete files in the /tmp directory because of the second alert definition.

SiteScope alerts are generated when there is a change in state for a monitor reading. Thus you can set an alert for OK or warning conditions as well as error conditions. One way to take advantage of this is to add two alerts, one alert on error, and one alert on OK. Set alerts to be sent after the condition is detected 3 time. For the OK alert, check the box marked **Only alert if monitor was previously in error at least 3 times**. This prevents unmatched OK alerts, such as when a monitor was disabled for any reason (manually, by schedule, or by **depends on**) and then starts up again. This can also be used so that an OK alert is only sent after a corresponding error alert was sent. With these two alerts, you get a page when a link or service goes down (monitor detects change from OK to error), and another when it comes back up (monitor detecting change from error to OK).

The following is an example of using two alerts with a monitor. An Alert on error sent once for error after condition persists for at least three monitor runs. Alert on OK sent once for good status after at least one error or warning interval.

Alert on Error Setup	**On** Error		**Once, after the condition has occurred exactly 3 times**						
Alert on OK Setup	**On OK**		**Once, after the condition has occurred exactly 1 times** and **Only alert if monitor was previously in error at least 3 times**						
Sample Interval	0	1	2	3	4	5	6	7	8
Status									
Count	c=0	c=1	c=2	c=3 alert!	c=4	c=5	c=6	c=7	c=1 alert!

Once the monitor's status changes, the relevant status count is reset to zero.

Customizing Alert Templates

SiteScope uses templates when generating alert messages and reports. In most cases, you select the template you want to use in the Alert page when you create an alert. You can customize the existing templates or create your own by making a copy of an existing template. You customize the alert templates by adding or removing text, by adding property variables, or changing the order of text or property variables that are included in the template.

Note: We recommend that you create custom alert templates using new filenames. If you modify one of the default templates provided with SiteScope and save the changes to the same file, the changes that you make may be lost if you reinstall SiteScope or upgrade the SiteScope installation.

To make a custom alert template available to SiteScope, you must save any customized alert templates into the directory containing the templates for the applicable alert type. For the list of directory names containing SiteScope alert templates you can copy and customize, see "SiteScope Alert Templates Directory" on page 1609.

The templates in these groups are text files that include property variable markers. You use a text editor to create or modify these templates. The new templates saved into the directories shown become available to the applicable alert on the Alert page.

For details on customizing alert template settings, see "Customize an Alert's Message Content" on page 1606 and "Customize Alert Template Tag Styles" on page 1608.

Example - Typical Template Used for the E-mail Alert

The following is an example of the default template used for the E-mail Alert. The first section is the alert header. The first line in the alert header includes a link to the SiteScope installation which sent the problem. This provides you with a way to access the SiteScope installation reporting the problem.

Below the link is a block of text that further summarizes what caused the alert. This includes:

- the name of the monitor that triggered the alert
- the group to which the monitor belongs
- the alert status reported by the monitor
- the sample ID number indicating how many times the monitor ran before the condition was reported
- the time of day when the error occurred

```
This alert is from SiteScope at <SiteScopeURL>
Monitor: <groupID>:<name>
Group: <group>
Status: <state>
Sample #: <sample>
Time: <time>
----------------------Detail ----------------------
<mainParameters>
<mainStateProperties>
```

The names that appear within <brackets> are property variable markers. When the alert is generated, SiteScope replaces these markers with the corresponding values of the variable for the monitor or monitor group that has triggered the alert.

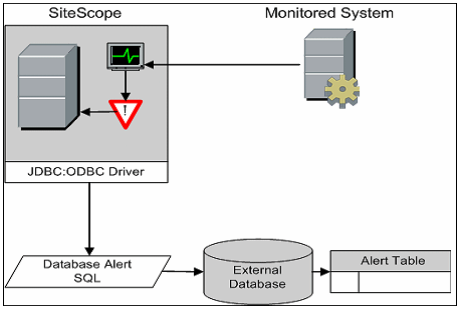
You add or edit the text portions of the template. For example, you could change the first line of the template above to read:

```
A Web monitoring alert was generated by the SiteScope installation found at
<SiteScopeURL>
```

Working with Database Alerts

Database alerts can forward system fault data and other status information to any SQL-compliant database.

The following diagram illustrates the Database alert.



You need the following to be able to use the Database alert type:

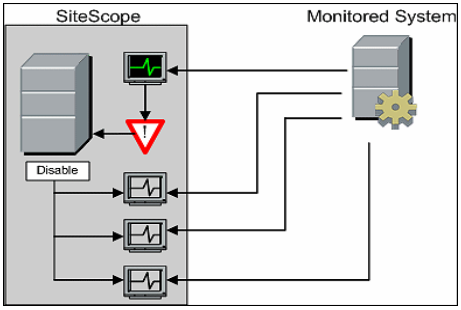
- Access to a SQL compliant database.
- The applicable database connection URL which the SiteScope server uses to connect to the database.
- Installation of the applicable database middleware driver that the SiteScope application uses to communicate with the database on the SiteScope server.
- Database tables that have been created and structured to match the corresponding SQL statement that SiteScope uses to enter the alert into the database.

For details on how to configure an alert, see “Configure an Alert” on page 1604.

Working with Disable or Enable Monitor Alerts

Disable or Enable Monitor alerts can turn off and turn on the triggering of alerts for monitors. This is useful for times when server maintenance or other activities are being performed that would logically result in errors for some monitors and cause unnecessary alerts to be generated.

The following diagram illustrates an example of this alert type used to disable several monitors based on the condition reported to one monitor.

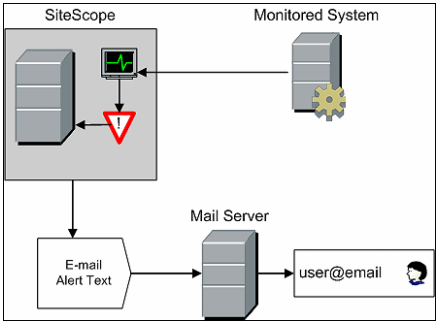


This alert type provides a functionality similar to the **Depends on** function for building group dependencies between monitors and monitor groups. One important difference is that monitors disabled by this type of alert are not automatically re-enabled when the status of the subject monitor or group changes back to the original state. You can create one alert with an **Alert Category** of **Error** that disables monitors. You can then create a second alert with an **Alert Category** of **Good** that enables the same monitors.

For details on how to configure an alert, see “Configure an Alert” on page 1604.

Working with E-mail Alerts

E-mail alerts send event notifications from SiteScope to a designated e-mail address as seen in the following diagram.



You need the following to be able to use the E-mail alert type:

- Access to an active e-mail server
- One or more e-mail accounts that can receive the e-mail alerts
- SiteScope E-mail Preferences set to work with the external e-mail server

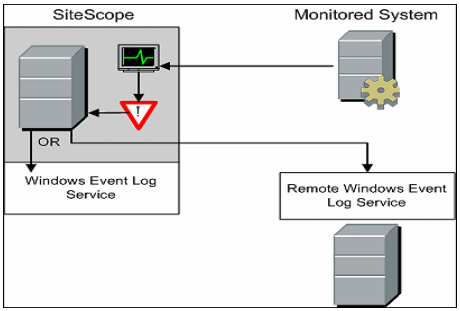
For more information on configuring SiteScope e-mail recipients, see "E-mail Preferences" on page 1114.

For details on how to configure an alert, see "Configure an Alert" on page 1604.

Working with Log Event Alerts

Log Event alerts can be used to extend the types of events that are logged to a Windows Application Event Log. This provides a way to forward event data to log query systems that may not normally be logged by the Windows operating system.

The following diagram illustrates the Log Event alert.



You need the following to be able to use the Log Event alert type:

- Access to the Windows Event Log service. By default, this is the Event Log on the machine where SiteScope is running. The alert definition can be configured to send log events to another server.
- SiteScope running on a Microsoft Windows platform.

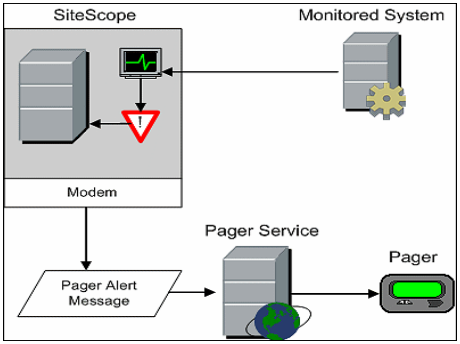
Important: If you are using SiteScope's Microsoft Windows Event Log Monitor, you must use care when using the Log Event alert type because it is possible create an endless loop condition that can fill your Event log file. This can happen when a Microsoft Windows Event Log Monitor detects an event that triggers a Log Event alert, which in turn puts an new event into the event log, which the Event Log Monitor then detects, and then triggers the Log Event alert, and so forth. To avoid this, Log Event alert types should not be associated with Microsoft Windows Event Log Monitors.

For details on how to configure an alert, see “Configure an Alert” on page 1604.

Working with Pager Alerts

Pager alerts can be used to send event notification to electronic pagers. This is particularly useful when access to e-mail may not be available. Depending on the type of pager you use and the capabilities of the pager service, you can configure the Pager Alert to send a pager message with an abbreviated description of the problem or detected condition.

The following diagram illustrates the Pager alert.



You need the following to be able to use the Pager alert type:

- Access to an active pager service
- A modem which the SiteScope server can use to connect to the pager service
- One or more pagers that can receive the pager alerts
- SiteScope Pager Preferences set to work with the modem and pager service

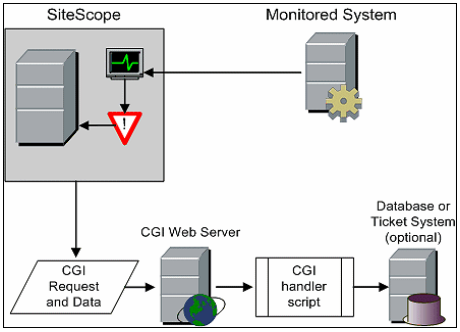
For more information on configuring SiteScope to use pager alerts, see “Pager Preferences” on page 1114.

For details on how to configure an alert, see “Configure an Alert” on page 1604.

Working with Post Alerts

Post alert use the Common Gateway Interface protocol to forward POST data to a CGI enabled program. This can be used to forward event data to CGI script on another server that is a front-end for a trouble ticket system or reporting database. This alert type also provides a way of sending alert information through a firewall using HTTP or HTTPS without having to make other security changes.

The following diagram illustrates the Post alert.



You need the following to be able to use the Post alert type:

- HTTP access between the SiteScope server and the server running the CGI script or server.
- Format and syntax of the CGI POST request to the applicable CGI script or server.

For details on how to configure an alert, see “Configure an Alert” on page 1604.

Working with Script Alerts

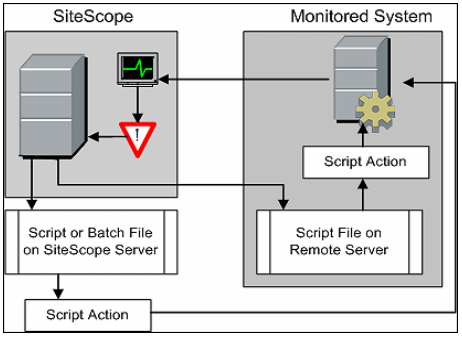
Script alerts can automatically initiate recovery scripts. You can configure a Script alert to run a command to restart a server or a service.

The most important components of Script Alerts are:

- The script definition itself.
- The monitor or monitors that are assigned to trigger the alert.
- The script to be run by the alert.

The alert message template and resulting alert message file may also need to be considered depending what the script needs to do. You can use a script template, together with the **Parameters** setting to pass data to your script.

The following diagram illustrates the general concept of the script alert for both a local script and a script on a remote host.



The script alert definition or instance and the monitor or monitors that trigger the alert are handled as with other alerts or monitors in SiteScope. For example, you may create a monitor to watch a Web server running on a remote UNIX server. You can create a Script Alert associated with that monitor that runs a script to kill and restart the Web server process if the monitor reports an error.

This section includes the following topics:

Managing Script Files

Creating the script file to be called or run by the Script Alert definition is another key step in using this automation capability in SiteScope. The specific commands and actions taken by the script are up to you. The script file should be written as a plain text file compatible with the operating system where the script is to be run. This may be the same server where SiteScope is running or it may be on a remote machine to which SiteScope has access.

To run a script on the machine where SiteScope is running, the script file must be saved in the **<SiteScope root_directory>\scripts** directory on the SiteScope machine where the Script Alert is defined.

To run a script on a remote machine, you must save the script in a directory called **\scripts** in the home directory tree for the user account that SiteScope has execute permissions for on the remote machine.

The current execution directory when a script is run is **<SiteScope root directory>\classes** and not the **<SiteScope root directory>\scripts** directory. For commands run by the script itself, the relative execution directory is **<SiteScope root directory>\classes**. Use full paths for any other file system commands or programs called by your script so that you do not need to worry about the current directory. Also, the server system environment variables may not have been set up for the script execution. This is another reason to use full paths for executables called by the script. If a script works when you run it from the command line but not from SiteScope, then you must determine what the error is.

Passing Data to a Script

SiteScope passes a number of parameters to the script as command line arguments. You can use this option to pass data to a script that can be used to modify a script's action. This adds versatility to the Script Alert. By default, a SiteScope Script Alert passes seven command line arguments to a script. These are:

- The path of the scripts directory.
- The name of the monitor that caused the alert.
- The current status of the monitor.
- The path to the Alert Message File.
- The ID code of the monitor.
- The group the monitor is in.
- Any additional parameters specified on the **Parameters** text box in the alert form.

Two of these default arguments allows the script to access even more data. One is the Alert Message File and the other is the **Parameters** text box. The Alert Message File is a temporary text file created by SiteScope based on the alert template chosen for the Script Alert instance. Depending on the template you create or use, the Alert Message File may contain custom information as well as data specific to the monitor that triggered the alert. By passing the path to the Alert Message File to the script, you can have the script access this data.

You use the Parameters text box to specify individual monitor parameter data to be passed to the script. You can include multiple parameters by separating the parameters with spaces. This effectively allows you to increase the total number of parameters passed to the script.

The path of the scripts directory can be useful in setting a execution path to another program as well as setting a directory path for any output written by the script.

For more information and examples of passing parameters and data to scripts, see “Writing Scripts for Script Alerts” on page 1641.

Running Different Types of Scripts

You can run non-batch scripts, for example VBScript or Perl scripts, without wrapping them into a batch file (in versions of SiteScope earlier than 9.50, this was not possible).

- You can see scripts with any extensions that you specify in the _scriptExtensions property of the **master.config** file. For example, to see **.pl**, **.py**, or **.php** scripts, use the following format: _scriptMonitorExtensions=.pl;.py;.php
- You can run script interpreters with script extensions by specifying the _scriptInterpreters property of the **master.config** file as follows: _scriptInterpreters=pl=c:/perl/perl.exe;py=c:/python/python.exe;php=c:/php/php.exe

Troubleshooting Scripts

- The scripts are run with the permissions of the account used by the SiteScope service. Some scripts may need extra permissions and you must use the Services control panel to change the login account for SiteScope and then stop and start SiteScope. For example, scripts that restart services or reboot remote machines or scripts that copy protected files.
- Because the script is run by the SiteScope service, anything done as part of your login may not have occurred in the script. For example, you can not rely on mapped drives, environment variables, or other login script items. In addition, it cannot receive any interactive input from a keyboard or other input device. Any script action or command that requires a user confirmation or input would cause the script to hang. Do not include any interactive commands requiring a user action as part of the script. Also, opening a WIN32 application (for example, Notepad) also causes the script to hang because it is waiting for the user to exit or close the application before continuing with the script execution.
- If there are quotation marks in the Script Alerts status summary, SiteScope doubles the quotation marks in the Script Alert results. You should take this into account when defining a content match filter.

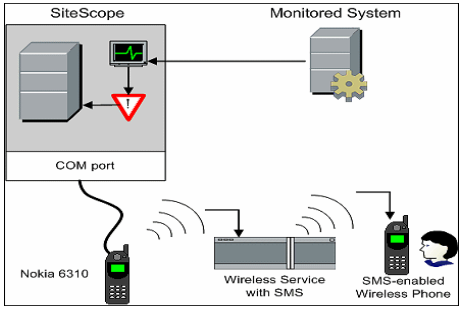
For details on how to configure an alert, see “Configure an Alert” on page 1604.

Working with SMS Alerts

SMS alerts are designed to transmit the name of the SiteScope monitor that has reported an event condition and the status of that monitor as the content of the message. It is an alternative to the Pager alert for communicating event notifications to mobile users without using e-mail.

Note: At present, the SMS alert can only be sent from SiteScope by using the hardware specified in this section. For alternative ways of sending SMS messages using SiteScope, see the HP Software Self-solve knowledge base (http://h20230.www2.hp.com/selfsolve/documents). To enter the knowledge base, you must log in with your HP Passport ID.

The following diagram illustrates the SMS Alert.



You need the following to be able to use the SMS alert type:

- An available serial communications port on the SiteScope machine that is sending the SMS alerts.
- A serial-to-wireless device interface cable, RS-232 Adapter Cable Nokia DLR-3P to connect the wireless transmitting device to the machine where SiteScope is running.
- An SMS-enabled wireless device connected to the SiteScope machine that is sending the alerts (that is, the Nokia 6310 phone using the interface cable).
- The necessary software to enable the SMS Alert (normally included with SiteScope 7.6c1 and later).

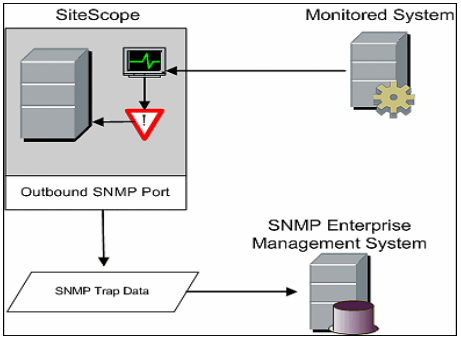
Note: Make sure that you do not have Nokia Data Suite, Palm Hot Sync, or any PDA software running on the server where SiteScope is running. These programs can bind the COM ports and prevent the dialer from working correctly.

For details on how to configure an alert, see "Configure an Alert" on page 1604.

Working with SNMP Trap Alerts

SNMP Trap alerts forward event data from any type of SiteScope monitor to an SNMP enabled host or management system. This means that SiteScope can be used to monitor and report events for applications and systems that do not have their own SNMP agent. For example, this can be used to send measurement data from a SiteScope Microsoft Windows Performance Counter based monitor type or a URL monitor in the form of an SNMP trap.

The following diagram illustrates the SNMP Trap Alert.



You need the following to be able to use the SNMP trap alert type:

- Access to the applicable SNMP network ports
- SiteScope SNMP Preferences set to work with the applicable SNMP management console

For more information on configuring SiteScope to use SNMP alerts, see "SNMP Trap Preferences" on page 1115.

For details on how to configure an alert, see "Configure an Alert" on page 1604.

Working with Sound Alerts

Sound alerts play a sound or audio file on the machine on which SiteScope is running when an alert is generated. The alert is effective only if the SiteScope server is in an area regularly occupied by support staff and the server is equipped with a sound card capable of processing the associated sound file.

Alternatively, SiteScope can be configured to embed an alert audio file into the Web pages served by SiteScope. This audio file is included with any SiteScope page that includes an error status for any monitor, such as the main panel or group detail pages. While this allows audio notification to all SiteScope clients through the user interface, it is not a true SiteScope alert and thus does not enable the same configuration options as the Sound Alert. For information about how to configure SiteScope to embed audio files for error notification, refer to the HP Software Self-solve knowledge base (h20230.www2.hp.com/selfsolve/documents). To enter the knowledge base, you must log in using your HP Passport ID.

For details on how to configure an alert, see "Configure an Alert" on page 1604.

Configure an Alert

This task describes the steps involved in configuring an alert definition.

This task includes the following steps:

1 Create an Alert

You can create a new alert or copy an existing alert into any group or monitor container in the SiteScope tree.

- **Create a new Alert.** Right-click the container to which you want to associate the alert, and select **New** > **Alert**. Enter a name for the alert, select the targets to trigger the alert, and configure an alert action. For details on the user interface, see "New/Edit Alert Dialog Box" on page 1612.
- **Copy an Alert Definition.** In the Alerts tab, select the alert you want to copy, and paste it into the desired group or monitor container. The alert target automatically changes to the group or monitor into which the alert is copied.

Important: If you copy an alert definition from one group container to another, the **Alert targets** for the pasted alert are automatically reset to include all of the children of the container into which the alert is pasted. After pasting an alert, edit the alert definition properties to be sure that the assigned **Alert targets** are appropriate to the new alert context and your overall alerting plan.

---

2 Test the Alert

Select the alert in the Alerts tab of the monitor tree and click **Test**. Select the monitor instance you want to test and click **OK**. A dialog box opens with information about the alert test.

Note: The monitor you select does not have to be reporting the same status category that is selected to trigger the alert to test the alert. For example, the monitor does not have to currently be reporting an error to test an alert that is triggered by error conditions.

---

3 Customize an Alert's Message Content

Customize SiteScope alert templates to alter the content and format of alert messages. For details on how to perform this task, see "Customize an Alert's Message Content" on page 1606.

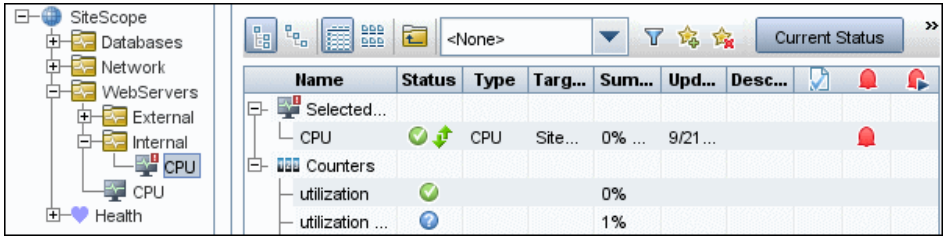
4 Customize Alert Template Tag Styles

Customize SiteScope alert templates tag styles if you have a parser that needs a specific delimiter or to change the bracket delimiters used to identify variables. For details on how to perform this task, see "Customize Alert Template Tag Styles" on page 1608.

5 Results

An alert is added to the specified container in the monitor tree (indicated by the icon). The alerts icon is also displayed in SiteScope Dashboard next to each group or monitor that has one or more configured alerts.

Example



Customize an Alert's Message Content

This task describes how to customize SiteScope alert templates to alter the content and format of alert messages.

To customize an alert's message content and format:

1. Open a text editor that has access to the alert template directories on the SiteScope machine.

   For a list of the directory names containing SiteScope alert templates, see "SiteScope Alert Templates Directory" on page 1609.

2. Open an existing template file of the alert type you want to customize within a text editor.

3. Make changes to the template. Depending on the alert type, you can add or remove text, change the order of text or property variables, or add other property variables. To add specific properties, add the applicable property variable name between < > bracket pairs to the template.

4. Save the changes to a unique filename within the directory for the applicable alert type.

Note: The new template is added to the Action Type Settings Template drop-down list.

Example - Shortening an E-mail Alert Message

You can shorten the length of an e-mail alert by removing properties that provide unneeded information. For example, if there is no added value in reporting the time of a specific alert, you can remove the <time> property from the template.

Tip: It is recommended that you use the Typical template (the default setting) as a base for your customized template.

In the <**SiteScope root_directory**>**templates.mail** directory, open the **Typical** template file. Remove the line Time: <time>. Save the changes to a new filename.

Example - Changing an SNMP Alert Message

You can change the SNMP Alert message from displaying the SNMP monitor's status to displaying a list of counters that are in Error state along with their values. This causes the message to only contain counters that breached the Error threshold and to omit all other counters.

In the <SiteScope root dir>\templates.SNMP directory, open the **Default** template file in a text editor. The file contains the line:
SiteScope\<group>\<name>\<sample>\<state>\

Replace the string <state> with the string <errorOnly>. The angle brackets (<,>) must remain around the text.

Note: If you want to display a list of counters that are in Warning state, replace the string <state> with the string <warningOnly>.

Edit <**SiteScope root dir**>**groups****master.config** file and add the line
_errorOnlyDelimiter=,

with other similar error definitions.

In this example, the delimiter is a comma (,), but you can also use a space (" ") or a tab (\t). The added line in **master.config** looks something like:

```
_errorInsertHTML=
_errorOnlyDelimiter=,
_errorOnlyNewlineFormat=true
```

Note:

- If you used the string <**warningOnly**>, you must use the string **_warningOnlyDelimiter=<delimiter>** in **master.config**.
- If no **_errorOnlyDelimiter** is defined in **master.config**, the default delimiter is a space (" ").

Customize Alert Template Tag Styles

This task describes how to change the delimiter between items in the list if, for example, you have a parser that processes alert messages and needs a specific delimiter. You can also change the bracket delimiters that are used to identify variables. This is useful if you want the message read by XML and a variable replaced by an XML string.

To change the bracket delimiter:

1. Edit the template file for which you want to change the bracket delimiter. For example: <SiteScope root directory>\templates.mail\.
2. Use a text editor to add the following lines to the top of the relevant file:

   [Tag-Style:{}]

   Enter the characters after the colon (in this example {}) that should be used as the delimiter instead of the html brackets (<>).
3. Edit the relevant variables to be bracketed by the new characters defined in the Tag-Style string. For example: {state}.

SiteScope Alert Templates Directory

The following is a list of the directory names containing SiteScope alert templates you can copy and customize.

Template Group	Description	Location
Event Log	Format and content of data written into event logs.	<SiteScope root directory>\templates.eventlog
History	Format and content of e-mail messages that notify recipients that a report has been generated.	<SiteScope root directory>\templates.history
E-mail	Format and content of alert messages sent by e-mail.	<SiteScope root directory>\templates.mail
Template	Group, Description, Location, Pager Format, and content of pager alerts.	<SiteScope root directory>\templates.page
Post	Format and content of messages submitted to a CGI script by a post alert.	<SiteScope root directory>\templates.post
Script	Format and content of messages sent to a script when a script alert is triggered.	<SiteScope root directory>\templates.script
SNMP	Format and content of messages sent by SNMP when a SNMP trap is triggered.	<SiteScope root directory>\templates.snmp

SiteScope Alerts User Interface

This section describes:

- SiteScope Alerts Page on page 1610
- New/Edit Alert Dialog Box on page 1612
- Action Type Dialog Box on page 1619
- Alert Action Dialog Box - Action Type Settings Panel on page 1622

SiteScope Alerts Page

Description	Displays information about the alerts associated with the selected monitor or group. Use this page to add, edit, or delete alert definitions. **To access:** Select a group or monitor in the monitor or template tree that has the alert symbol displayed next to it. In the right pane, click the **Alerts** tab to display the alerts configured for the object.
Important Information	Alerts created for a specific monitor or group are displayed in the object's **Alerts on Monitor/Group** list. Targeted monitors or groups are displayed in the **Alerts Associated with Monitor/Group** list.
Included in Tasks	"Configure an Alert" on page 1604
Useful Links	"SiteScope Alerts Overview" on page 1580

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
	Click the **Show Child Alerts to** display only those alerts that are direct children of the selected node.
	Click the **Show All Descendent Alerts** displays all descendent alerts of the selected node.
	Click the **New Alert** button to open the New Alert dialog box which enables you to configure an alert, and add it to the selected SiteScope group or monitor. For details on the user interface, see "New/Edit Alert Dialog Box" on page 1612. **Note:** This button is available in the **Alerts on Monitor/Group** table only
	Click the **Edit Alert** button to open the Edit Alert dialog box which enables you to edit the properties of the selected alert. For details on the user interface, see "New/Edit Alert Dialog Box" on page 1612.

GUI Element (A-Z)	Description
	Click the **Copy** button to make a copy of the alert. **Note:** This button is available in the **Alerts on Monitor/Group** table only.
	Click the **Paste** button to paste the alert to a selected location in the tree. **Note:** This button is available in the **Alerts on Monitor/Group** table only.
	Click the **Delete Alert** button to delete the alert from the tree.
	Click the **Enable** button to enable the alert associated with the monitor/group.
	Click the **Disable** button to disable the alert associated with the monitor/group.
	Click the **Test** button to test the alert definition on a selected server.
	Click the **Select All** button to select all listed alerts.
	Click the **Unselect All** button to clear the selection.
Name	The name by which the alert is known in SiteScope.
Status	The enabled/disabled status of the alert.
Description	A description of the alert.
Action Name	The name given to the alert action in the Action Type Dialog Box.

New/Edit Alert Dialog Box

Description	Enables you to define alerts for a SiteScope, a group, or a monitor. **To access:** Right-click the SiteScope, group, or monitor for the alert, and select **New > Alert**, or select an existing alert in the Alerts tab (monitor or template view) and click the **Edit Alert** button.
Important Information	Any box with a red asterisk (*****) must be filled.
Included in Tasks	"Configure an Alert" on page 1604
Useful Links	"SiteScope Alerts Overview" on page 1580 "Action Type Dialog Box" on page 1619 "Alert Action Dialog Box - Action Type Settings Panel" on page 1622

General Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Name	Enter a text description for this alert definition. This name is used to identify this alert definition in the product display.
Alert description	You can type free text to give a description to this alert. This description does not appear in any other context. It appears only when editing the alert.

Alert Targets

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Alert targets	Use the context menu tree to select the groups and/or monitors to trigger this alert. The context menu includes the currently selected object and all of the child objects. Check the box beside the current object to associate this alert with all objects within this object. Check one or more individual objects to associate this alert definition to the selected objects. Alternatively, you may select the SiteScope root and then define an alert filter rule in the Filters Settings to limit alerting to those objects that match the conditions set in the filter.

Alert Actions

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
	Click the **New Alert Action** button to open the Action Type dialog box, which enables you to define an action to be done when an alert is triggered. For details on the user interface, see “Action Type Dialog Box” on page 1619.
	Edits the alert action. For details on the user interface, see “Action Type Dialog Box” on page 1619.
	Deletes the alert action. It does not disable the associated monitors.
	Duplicates the alert action.
	Selects all listed alert actions.

GUI Element	Description
	Clears the selection.
 **<Alert Action Type icon>**	Indicates the type of action defined in the alert.
	 **Database.** Sends an alert message with a description of the problem as a record to a SQL database.
	 **Disable or Enable Monitors.** Manually controls the generation of alerts.
	 **E-mail.** Sends an e-mail message to one or more e-mail addresses with a description of the error or warning.
	 **Log Event.** Logs events to the Microsoft Windows Event Log.
	 **Pager.** Sends a message to a pager to signal that SiteScope has detected a particular condition.
	 **Post.** Submits a CGI POST containing a description of a monitor condition to a CGI script, servlet, or other CGI-enabled program.
	 **Script.** SiteScope can run scripts or batch files when the alert trigger condition is detected. The script or batch file that is called can run a system command or a program in any language that can be called from a command line entry.
	 **SMS.** Sends a short text message using the Short Message Service (SMS) to an SMS-enabled mobile phone or wireless device.
	 **SNMP Trap.** Sends an SNMP trap to an SNMP host or management console.
	 **Sound.** Plays a sound or audio file on the machine on which SiteScope is running when an event has been detected.
Name	The name given to the action to be done when the alert is triggered. It is not the name of the alert.

GUI Element	Description
Category	The category selected in the Status Trigger panel that triggers the alert action. For details on the Status Trigger user interface, see "Status Trigger Panel" on page 1637.
When	The schedule selected in the Trigger Frequency panel for when the alerts are sent. For details on the Trigger Frequency user interface, see "Trigger Frequency Panel" on page 1638.
Schedule	The daily/weekly schedule selected in the Action Type Settings panel. For details on the Action Type Settings panel user interface, see "Alert Action Dialog Box - Action Type Settings Panel" on page 1622.

Enable/Disable Alerts

Description	Use to manually control the generation of alerts. This can be useful when the systems being monitored are off-line for maintenance or if the recipient of the alerts is unavailable for a period of time.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Enable alert	Overrides any disable action on the alert and enables the alert for execution based on the conditions defined.
Disable alert indefinitely	Prevents SiteScope from executing the alert action even if the alert condition is met until this radio button is cleared and the alert definition is updated. **Note:** Use of this option may result in loss of expected alert capability if the alert is disabled to accommodate a temporary condition. It is important to review this status later to manually enable the alert definition, as needed.

GUI Element	Description
Disable alert for the next <time period>	Prevents the execution of the alert action for the time period you type, even if the alert condition is met. The alerts are disabled immediately and re-enabled when the time period expires.
Disable on a one time schedule from <time1> to <time2>	Prevents SiteScope from executing the alert action for the time period indicated, even if the conditions are met. The alerts are disabled at the beginning of the time period and re-enabled after the time period expires.
Disable description	(Optional) Description of the purpose of the disable operation.

Filter Settings

Description	Creates filter conditions to limit the alert action to only those monitors that match the criteria you entered. You can define alerts for a large number of monitors and then apply a filter so that only certain monitors within the selected list actually trigger the alert. This can simplify the creation of alert definitions and alert management.
Important Information	To disable alert filtering, clear the applicable fields and update the alert definition.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Name match	Suppresses the alert for all associated groups or monitors except those with a specific text appearing as part of their name. ➤ Enter a regular expression in this text box to match a name string pattern. For details, see "Regular Expressions Overview" on page 218. ➤ Enter all or part of the monitor name string you want to use as a filter criteria. For example, entering the string URL: limits this alert to monitors whose name contains the string URL:. **Note:** The match is case sensitive.
Status match	Suppresses the alert for all associated monitors except those returning a specific status text. ➤ Enter a string that you expect to appear in the status text for the monitor you want to trigger this alert. For example, if you type the text timeout in this box, an alert is only triggered by a monitor associated with this alert that also has a status of timeout. ➤ Enter a regular expression in this text box to match a status string pattern. For details, see "Regular Expressions Overview" on page 218. **Note:** The match is case sensitive.
Monitor type match	Limits the alert action to a monitor type from the set of monitors associated with this alert. Select the monitor types you want to include from the **Monitor Type List** and move them to the **Selected Monitor Type List** button.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

Action Type Dialog Box

Description	Use the Action Type dialog box to select the action to be done when an alert is triggered. **To access:** Right-click the SiteScope, group, or monitor for the alert, and select **New > Alert**, or select an existing alert in the Alerts tab (monitor or template view) and click the **Edit Alert** button. In the Alert Actions section of the Add/Edit Alert page, click the **New Alert Action** button.
Important Information	You can select only one type of alert at a time. If you are editing an alert, you cannot change the action type. For example, if an alert's action type was E-mail, you cannot change it to SMS.
Included in Tasks	"Configure an Alert" on page 1604
Useful Links	"SiteScope Alerts Overview" on page 1580 "New/Edit Alert Dialog Box" on page 1612 "Alert Action Dialog Box - Action Type Settings Panel" on page 1622

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Database	Sends an alert message with a description of the problem as a record to a SQL database. You can then use database tools to provide more advanced recording, sorting, and reporting on your monitoring data. For details on Database Alerts, see "Database Alert Properties" on page 1623.
Disable or Enable Monitors	Automatically enables or disables monitors or monitor groups based on a change of state in another monitor. **Note:** This action is not available when creating a template alert. For details on Disable/Enable Monitor Alerts, see "Disable or Enable Monitors Alert Properties" on page 1625.
E-mail	Sends an e-mail message to one or more e-mail addresses with a description of condition that triggered the alert. For details on E-mail Alerts, see "E-mail Alert Properties" on page 1626.
Log Event	Logs events to the Microsoft Windows Event Log. Entries in the event log can then be viewed with the Event Viewer and/or used by other software utilities that perform centralized alerting from the event log. For details on Log Event Alerts, see "Log Event Alert Properties" on page 1628.
Pager	Sends a message to a pager to signal that SiteScope has detected a particular condition. For details on Pager Alerts, see "Pager Alert Properties" on page 1629.
Post	Submits a CGI POST message to a CGI script, servlet, or other CGI-enabled program. The message contains a description of a monitor condition. For details on Post Alerts, see "Post Alert Properties" on page 1630.

GUI Element	Description
Script	SiteScope can run scripts or batch files when the alert condition is met. The script or batch file can run a system command or a program in any language that can be called from a command line entry. You can use this alert to run recovery scripts that automatically respond to critical conditions or failures (for example, to reboot a server or to copy files). For details on Script Alerts, see "Script Alert Properties" on page 1632.
SMS	Sends a short text message using the Short Message Service (SMS) to an SMS-enabled mobile phone or wireless device. For details on SMS Alerts, see "SMS Alert Properties" on page 1634.
SNMP Trap	Sends an SNMP trap to an SNMP management console or host. This enables SNMP reporting of system parameters not normally supported by SNMP agents. For details on SNMP Trap Alerts, see "SNMP Trap Alert Properties" on page 1635.
Sound	Plays a sound or audio file on the machine on which SiteScope is running when an event has been detected. For details on Sound Alerts, see "Sound Alert Properties" on page 1636.

Alert Action Dialog Box - Action Type Settings Panel

Description	Use the Alert Action dialog box to define the settings that are specific to the alert type and to configure actions to be taken when an alert is triggered. The Action Alert dialog box consists of three panels: ➤ **Action Type Settings.** The Action Type settings vary according to the type of alert action you selected in the Action Type Dialog Box. For details, see the specific action type below. ➤ **Status Trigger.** For details, see "Status Trigger Panel" on page 1637. ➤ **Trigger Frequency.** For details, see "Trigger Frequency Panel" on page 1638. **To access:** Right-click the SiteScope, group, or monitor for the alert, and select **New** > **Alert**, or select an existing alert in the Alerts tab (monitor or template view) and click the **Edit Alert** button. In the Alert Actions section of the Add/Edit Alert page, click the **New Alert Action** button. In the Action Type dialog box, select an action type. **Note:** When clicking the **Help** button in this dialog box, you may be prompted for your user login credentials.
Included in Tasks	"Configure an Alert" on page 1604
Useful Links	"SiteScope Alerts Overview" on page 1580 "New/Edit Alert Dialog Box" on page 1612

The following element is common to all action types in the Action Type Settings:

GUI Element	Description
Action name	The name given to the action to be done when the alert is triggered. It is not the name of the alert. **Example:** If you want to configure an alert to check the CPU of all Solaris machines and send an SMS message when some alert is triggered, you could define the alert name in General Settings to be Solaris_CPU and the action name to be send_sms.

Database Alert Properties

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Database connection URL	Enter the URL to a database connection. **Example**: In Windows NT, use the ODBC Data Sources manager in the Settings control panel to create a connection called test and then type jdbc:odbc:test as the database connection URL. **Note for using Windows Authentication:** If you want to access the database using Windows authentication, type jdbc:mercury:sqlserver://<server name or IP address>:1433;DatabaseName=<database name>; AuthenticationMethod=type2 as the connection URL, and com.mercury.jdbc.sqlserver.SQLServerDriver as your database driver. Leave the **Database user name** and **Database password** boxes empty, because the Windows user credentials of the account from which the SiteScope service is running are used to establish a connection to the database.

GUI Element	Description
Database driver	Enter the Java class name of the JDBC database driver. SiteScope uses the same database driver for both primary and backup database connections. If a custom driver is used, the driver must also be installed in the **<SiteScope root>/java** directory. For more information about setting up database drivers for SiteScope, see "Database Query Monitor Overview" on page 527.
SQL statement	Enter the SQL statement used to add the alert to the database. Items enclosed in angle brackets (< and >) are replaced with fields from the monitor that triggered the alert. **Default value:** INSERT INTO SiteScopeAlert VALUES('<time>', '<group>', '<name>', '<state>')
Database user name	Enter the user name to connect to the database if required.
Database password	Enter the password to connect to the database if required.
Backup database connection URL	If a backup database for SiteScope alert logging is required, enter the URL to the backup database connection to use if the main database connection fails. **Example**: If the ODBC connection for the backup database connection is called testdb2, the URL would be jdbc:odbc:testdb2.
Schedule	Select the daily and weekly schedule to perform the alert action if the alert conditions are met and the alert is triggered. **Default value:** every day, all day

Disable or Enable Monitors Alert Properties

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Group/Monitors action	Select whether this alert action disables or enables a monitor when the alert is triggered. **Default value:** Disable
Targets	Select the groups and monitors that should be affected by the action of this alert. The **Targets** list includes all groups and monitors configured for the SiteScope. You can select any groups or monitors running in any group for this alert action and add them to the **Selected Targets** list. **Example:** This alert action is being configured for a Disk Space monitor. An alert triggered for this monitor can disable all CPU monitors monitoring the same server. **Default value:** None selected
Schedule	Select the daily and weekly schedule to perform the alert action if the alert conditions are met and the alert is triggered. **Default value:** every day, all day

E-mail Alert Properties

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Send e-mail to	Select e-mail alert recipients using either of the following: ➤ **Recipients.** Select one or more E-mail recipients for the alert from the E-mail Alert Recipients list. The list displays the recipients that have been configured in Mail Preferences. For details, see "E-mail Preferences" on page 1114. ➤ **Addresses.** Enter one or more e-mail addresses separated by a comma (","). The addresses are checked for valid syntax according to the official standard RFC 2822, but not for other errors (for example, that the e-mail user exists). **Note:** If the **Addresses** box contains data, selections from the E-mail Alert Recipients list are ignored. **Default value:** None selected
Subject	Select the subject field template for the e-mail alert action message. The Typical template includes the following values: ➤ the subject of the message (SiteScope Alert) ➤ the category of the monitor alert (error, warning, ok, or no data) ➤ the name of the monitor or monitor title ➤ the status returned by the monitor ➤ the address, in parenthesis, of the SiteScope installation that sent the alert **Default value:** Typical **Example:** SiteScope Alert, error, URL: http://gate.company.com, unknown host name (gate.company.com)

GUI Element	Description
Template	Select the template for the e-mail alert action. In an E-mail alert action, select the **ShortMail** template for a shorter e-mail message. Other options enable you to choose the level of detail to include in E-mail alerts. **Default value:** Typical. This template includes the following values: Monitor: <groupID>:<name>; Group: <group>; Status: <state>; Sample #: <sample>; Time: <time> **Note**: You can add additional templates into the **<SiteScope root directory>\templates.mail** directory. For details on the available templates, you can open the files in this directory in a text editor to see what values are sent with each option.
Schedule	Select the daily and weekly schedule to perform the alert action if the alert conditions are met and the alert is triggered. You cannot edit this value. It is determined by the schedule defined for the mail recipients in preferences.
Mark this action to close alert	When the status changes and the alert trigger condition is no longer true, this action closes the alert and sends a close notification by adding the word **Close** to the message sent. **Default value:** Not selected

Log Event Alert Properties

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Send to	Enter the name of the Windows machine where the event is to be appended to the event log. **Default value:** localhost (the machine where SiteScope is running).
Template	Select the template for the log event type alert action. **Default value:** Typical **Note**: You can view the contents of the existing templates or add additional templates in **<SiteScope root directory>\templates.eventlog**.
Message	Enter the message prefix to be sent to the event log.
Event source	Enter the string used to set the <Source> field of the logged event. **Syntax:** must be text. **Default value:** SiteScope
Event ID	Enter the number used to set the <ID> field of the event that is logged. **Syntax:** must be numeric. **Default value:** 1000
Event type	Select the event type used for the event. **Default Value:** Use monitor status. This means that the Event Type is Error for an Error status, Warning for Warning, and Informational for monitors reporting a status of Good.
Event category ID	Enter a number to be used as the <category ID> for the event created by this alert. **Default value:** 0

GUI Element	Description
Schedule	Select the daily and weekly schedule to perform the alert action if the alert conditions are met and the alert is triggered. **Default value:** every day, all day
Mark this action to close alert	When the status changes and the alert trigger condition is no longer true, this action closes the alert and sends a close notification by adding the word **Close** to the message sent. **Default value:** Not selected

Pager Alert Properties

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Pager alert recipients	Select one or more pager recipients for the alert from the Pager Alert Recipients list. The list displays the recipients that have been configured in Pager Preferences. For details on this topic, see "Pager Preferences" on page 1114. **Default value:** None selected
Template	Select the template for the pager alert action type. **Default value:** Typical **Note**: You can view the contents of the existing templates or add additional templates in the **<SiteScope root directory>\templates.page** directory.
Message	Enter the message text to be sent to the pager. **Note:** The maximum length is 32 characters.

GUI Element	Description
Schedule	Select the daily and weekly schedule to perform the alert action if the alert conditions are met and the alert is triggered. You cannot edit this value. There is a predefined schedule for pager recipients defined in preferences.
Mark this action to close alert	When the status changes and the alert trigger condition is no longer true, this action closes the alert and sends a close notification by adding the word **Close** to the message sent. **Default value:** Not selected

Post Alert Properties

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Post to URL form	Enter the URL of the CGI script that SiteScope should submit to the alert. For example, http://admindb.server.net/cgi-bin/error.pl. **Syntax:** You must include the string **http://**. There is syntax checking for a valid URL address.
Template	Select the template for the post alert action type. **Default value:** Typical **Note**: You can view the contents of the existing templates or add additional templates in the **<SiteScope root directory>\templates.post** directory.

GUI Element	Description
Authorization user name	Enter the user name to access the URL of the CGI script in a Post Alert. Not all CGI scripts require a user name. Alternatively, leave this entry blank and type the user name in the **Default authentication user name** section in the General Settings page (**Preferences** > **General Settings**). Use this method to define common authentication credentials for use with multiple monitors.
Authorization password	Enter the password for the Authorization user name in a Post Alert. Alternatively, leave this entry blank and type the password in the **Default authentication password** section in the General Settings page (**Preferences** > **General Settings**). Use this method to define common authentication credentials for use with multiple monitors.
HTTP proxy	Enter the domain name and port of an HTTP Proxy Server used to access the URL of the CGI script.
Proxy server user name	Enter the user name to access the URL of the CGI script, if required by the proxy server. Your proxy server must support Proxy-Authenticate.
Proxy server password	Enter the password to access the URL of the CGI script, if required by the proxy server. Your proxy server must support Proxy-Authenticate.
Schedule	Select the daily and weekly schedule to perform the alert action if the alert conditions are met and the alert is triggered. **Default value:** every day, all day

Script Alert Properties

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Server	Select the server on which the script should be run. The scripts directory must be in the directory tree of the remote login account that allows remote scripts to be run by SiteScope. **Default value:** SiteScope Server
Script	Select the script to run in response to the selected condition. You can create as many custom scripts as you need. Place them in <**SiteScope root directory**>**scripts** directory or the applicable scripts directory on a remote machine. SiteScope lists all files found in this directory on the selected server in the drop-down list. **Default value:** restartServer.bat

GUI Element	Description
Parameters	Additional monitor parameters that you can pass to your script, such as: ➤ path of the scripts directory ➤ name of the monitor that caused the alert ➤ current status of the monitor ➤ path to the alert message file ➤ ID of the monitor ➤ monitor group These parameters are sent as the seventh, eighth, ninth, and so forth, command line arguments respectively. The parameters available to be passed to the script are dependent on the type of monitor that triggers the alert. **Syntax:** Surround the property name variable in the properties list with angle brackets (< >). For example, to pass the server name to the script, type <_machine> in the text box. To pass more than one extra parameter, separate the parameters with a single space. This is the same way the arguments would be added on the command line. **Default value:** No value. The Script Alert always passes the above parameters to a script as command line arguments. They do not need to be listed here.
Output encoding	Select the encoding of the script output. This enables SiteScope to match and display the encoded file content correctly. **Default value:** windows-1252
Template	Select the template for the script alert action type. **Default value:** Typical **Note**: You can view the contents of the existing templates or add additional templates in the <**SiteScope root directory**>**templates.script** directory.

GUI Element	Description
Schedule	Select the daily and weekly schedule to perform the alert action if the alert conditions are met and the alert is triggered. **Default value:** every day, all day

SMS Alert Properties

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SMS number	Enter the telephone number required by the SMS service that identifies the destination for the message. **Syntax:** Numeric only. Maximum of 9 digits.
Schedule	Select the daily and weekly schedule to perform the alert action if the alert conditions are met and the alert is triggered. **Default value:** every day, all day

SNMP Trap Alert Properties

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
SNMP Trap	Select one or more SNMP Traps to trigger an alert. **Default value:** None selected
Template	Select a template for the SNMP trap alert action type. Each line in the template is sent as a separate SNMP variable. The template file can also be modified using: ➤ [Agent Host: <hostname-or-ip-address>] as the first line of the template, to send the trap with that hostname or IP address as the source of the trap. By default, the IP address of the machine that SiteScope is running on is used as the source of the trap. ➤ [Command: <command name>] to override the default command. ➤ [Type: <var-type>] to override the default type of the object. [OID: <object id>] to change the default object id. For example, use this to change a var-binding variable object id. **Default value:** Typical **Note**: You can view the contents of the existing templates or add additional templates in the <**SiteScope root directory**>**templates.snmp** directory.
Message	Enter an optional prefix to be added to the SNMP trap sent by this alert.

GUI Element	Description
Schedule	Select the daily and weekly schedule to perform the alert action if the alert conditions are met and the alert is triggered. **Default value:** every day, all day
Mark this action to close alert	When the status changes and the alert trigger condition is no longer true, this action closes the alert and sends a close notification by adding the word **Close** to the message sent. **Default value:** Not selected

Sound Alert Properties

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Sound file	Select the sound to be played from **<SiteScope root directory>\templates.sound** directory. Additional sounds can be added to the directory in AU format (8 bit, &#micro;law, 8000 Hz, one-channel) with an .au suffix. **Default value:** Default
Schedule	Select the daily and weekly schedule to perform the alert action if the alert conditions are met and the alert is triggered. **Default value:** every day, all day

Status Trigger Panel

Description	Use the Status Trigger panel to select the status of the object type that triggers an alert action. Alerts are triggered when the status changes from one state to another. Select the category that triggers the alert action. **Default value:** Error

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Unavailable	Alerts are triggered if the monitored machine was previously available and is no longer.
Error	Alerts are triggered if the monitor was previously reporting a status of Good.
Warning	Alerts are triggered if the monitor was previously reporting a status of Good.
Good	Alerts are triggered if the monitor was previously reporting a status of Error.

Trigger Frequency Panel

Description	Use the Trigger Frequency panel to select the trigger frequency.
Important Information	The available options vary according to what you chose in the Status Trigger Panel. For more detailed information on the options here, see "Understanding When SiteScope Alerts Are Sent" on page 1584.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Escalate, after action <> occurred exactly <N>times	Select this option if the alert action you are creating is dependent on another alert action. You must select the name of the alert action on which this alert action is dependent and the number of times the first alert action is triggered before this alert action is triggered. **Example**: You created an alert action to send a sound alert when a certain condition is met. You want an E-mail alert to be sent when the sound alert action has been triggered 3 times. Select the name of the sound alert action and 3. **Note**: This option is displayed only if another alert action has been defined for the alert.
Always, after the condition has occurred at least <N> times	After the alert conditions have occurred at least N times, the alert is triggered every time the alert conditions are met again after the initial trigger. Enter the minimum number of times the alert condition must be met before the alert is triggered the first time. **Syntax:** numeric only **Range:** 1-99

GUI Element	Description
Once, after the condition has occurred exactly <N> times	The alert is triggered only once after the alert condition is met for the Nth time. Enter the number of times the alert conditions must be met before the alert is triggered. **Default value:** Selected **Syntax:** numeric only **Range:** 1-99
Initially after <X> times, and repeat every <Y> times	The alert is triggered after the alert condition occurs X consecutive times, and then the alert is triggered every consecutive Y occurrences that the alert conditions are met. For example, if X is set to 3, and Y is set to 4, then the alert action would be done on the 3rd, 7th, 11th, and so forth, occurrences of the alert condition. **Syntax:** numeric only **Range:** 1-99
Once, after <N> group errors	This is displayed if you chose **Error** in the Status Trigger panel. The alert is triggered only after any monitor in the group has reported the alert condition exactly N consecutive times. **Note:** This option is only available for SiteScope groups.

GUI Element	Description
Once, after all monitors in this group are in error	This is displayed if you chose **Error** in the Status Trigger panel. The alert is triggered the first time all monitors in the group are in error. **Note:** This option is only available for SiteScope groups.
Only alert if monitor was previously in error/warning at least <N> times	This is displayed if you chose **Good** or **Warning** in the Status Trigger panel. This option suppresses the triggering of the alert until the subject monitor or group has reported a status of either of the following: ➤ **Error** or **Warning** for alert category **Good** ➤ **Good** or **Error** for alert category **Warning**, for at least the number of times that you entered

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Writing Scripts for Script Alerts

This chapter includes concepts and reference information about how to write automated system recovery scripts for use with the SiteScope Script Alert.

This chapter includes:

Concepts

Reference

Writing Scripts for Script Alerts Overview

SiteScope has the ability to run scripts or batch files when an error or warning status is detected. This is normally done by creating a Script Alert that acts as a trigger for the script. The script or batch file can run any system command or call other programs written in any language. You can use this to create recovery scripts to automatically respond to critical conditions or failures.

Working with Scripts in SiteScope

The script file that a SiteScope Script alert is to run must be located in the **<SiteScope root directory>\scripts** folder or on a remote UNIX machine (for remote scripts). For example, if SiteScope is installed in the directory C:\SiteScope and your script is called actionTest.bat, SiteScope tries to run the following command line in response to Script Alerts you have created:

```
C:\SiteScope\scripts\actionTest.bat C:\SiteScope\scripts monitor_name
```

where C:SiteScope\scripts is the first command line parameter, monitor_name is the second command line parameter, and so forth.

Note: While the local script run by the Script Alert must reside in **<SiteScope root directory>\scripts**, the execution path is **<SiteScope root directory>\classes** directory. You should use full paths for any file system commands or programs called by the script to avoid problems with defining the current execution directory.

The action taken by a script is determined by the creator of the script. SiteScope passes several command line arguments to each script called by a Script Alert. You can use this to have program scripts take action based on information sent from SiteScope. By default, SiteScope passes the following parameters to each Script alert as command line arguments:

- The path of the scripts directory.
- The name of the monitor that caused the alert.
- The current status of the monitor.
- The path to the alert message file.
- The Id code of the monitor.
- The group in which the monitor is located.
- Any additional parameters specified in the **Parameters** box in the alert form.

These command line arguments can be accessed by the target script using the normal command line variable conventions. These conventions are %1, %2, %3 and so forth, for Windows NT systems, and $1, $2, $3 and so forth, for UNIX scripts (depending on the scripting shell or language used). The first six parameters (that is, %1 through %6) are passed by default to each script. To pass other parameters, the property variables or parameters must be added to the Script Alert Settings in the Parameters box to make them available to the script. The first variable or text entered in the Parameters box is then accessible as %7 by the script, the second parameter is accessed as %8, and so forth.

An example script written in Perl to access Script Alert parameters:

```
print "pathname to scripts directory: $ARGV[0]\n";
print "name of monitor causing alert: $ARGV[1]\n";
print "current status monitor: $ARGV[2]\n";
print "pathname to alert message file: $ARGV[3]\n";
print "id code of monitor: $ARGV[4]\n";
print "group for the monitor: $ARGV[5]\n";
```

The following is an example batch file for Microsoft Windows to echo the parameters passed to the script:

```
echo pathname to scripts directory: %1
echo name of monitor causing alert: %2
echo current status monitor: %3
echo pathname to alert message file: %4
echo id code of monitor: %5 echo group for the monitor: %6
```

Passing Data from SiteScope to a Script

In addition to the seven default parameters, there are two other mechanisms for passing parameters and data to scripts. One is to use the additional Parameters box in the Script Alert Settings. The other is to access the Alert Message file.

This section includes the following topics:

➤ "Passing Data Using the Script Alert Settings" on page 1644

➤ "Passing Data Using the Alert Message File" on page 1645

Passing Data Using the Script Alert Settings

The simplest way to send additional custom parameters and data to script is to use the Alert Action dialog box. The seventh default parameter passed to the script, which is any additional parameters specified on the alert form, allows you to specify one or more custom parameters to be sent to the script. You specify these for a Script Alert in the **Parameters** box on the Action Types Settings panel of the Alert Action dialog box.

These parameters could be hard-coded values. You can include multiple parameters by separating the individual parameters by spaces. For example, assume you want to pass the four text strings shown below to a script. To do this you type them in the Parameters box as follows:

These would then become the seventh (7th) through tenth (10th) command line parameters sent to the script. The following Windows batch file script would print the default parameters as well as the additional example custom parameters entered in the Parameters box of the Action Types Settings Page:

```
echo pathname to scripts directory: %1
echo name of monitor causing alert: %2
echo current status monitor: %3
echo pathname to alert message file: %4
echo id code of monitor: %5
echo group for the monitor: %6
echo seventh parameter(customA): %7
echo eighth parameter(customB): %8
echo ninth parameter:(customC) %9
echo tenth parameter(customD): %10
```

Passing Data Using the Alert Message File

The other method for passing data and SiteScope monitor parameters to a script is to use the Alert Message file. This is a file that is created by SiteScope using the alert template specified in the Alert Action dialog box. You can create your own custom alert templates and pass custom text strings or any of the SiteScope parameters available. The following shows the default NTEventLog template included with SiteScope. The parameters marked with < > brackets are replaced with the applicable values to and written to the Alert Message file each time the applicable Script Alert is triggered.

```
The NTEventLog Script Alert Template
Type: <eventType>
Event Time: <eventTime>
Source: <event>
Source ID: <eventID>
Category: <eventCategory>
Machine: <eventMachine>
Message: <eventMessage>
Monitor: <name>
Group: <group>
Sample #: <sample>
Time: <time>
<mainParameters>
<mainStateProperties>
```

To use this data in a script, your script needs to access the Alert Message file at the pathname location specified by the fourth default command line parameter (see "Working with Scripts in SiteScope" on page 1642). Then the script has to parse the content of the Alert Message file to extract the data you want to use in your script.

For more examples of how to write recovery scripts, look at the script files in the **<SiteScope root directory>\scripts** directory. You can use the **actionTest.bat** example template to create your own script. The **perlTest.pl** example shows how to call a Perl script. The **restartIIS.bat**, **restartService.bat**, and **restartServer.bat** scripts implement common recovery actions.

For the UNIX environment, the examples scripts are called action **Test.sh** and **perlTest.pl**.

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SiteScope Reports

This chapter includes the main concepts, tasks, and reference information for SiteScope reports.

This chapter includes:

Concepts

Tasks

Reference

SiteScope Reports Overview

SiteScope reports display information about how the servers and applications you are monitoring have performed over time. SiteScope reports are important tools in monitoring and troubleshooting operational performance and availability and reviewing the monitored environment.

You can create a report for a single monitor, several monitors, or even several monitor groups. Report definitions include several report content options including tables of specific monitor measurements, summaries of results, and graphs.

SiteScope reports can be valuable to many people in your organization, including management personnel in Sales, Marketing, Customer Support, and Operations. SiteScope User accounts can be created to enable these users restricted access to the SiteScope service to view reports. For more information, see "User Management Preferences" on page 1118.

Note:

- To view certain report elements on SiteScope for UNIX/Linux, it is necessary that an X Window system be running on the server where SiteScope is running.
- To be able to open reports generated in a previous version of SiteScope, you must manually copy the reports folder to the new installation directory.

SiteScope Monitor Data Log Files

SiteScope monitor data available for generating reports is limited to the amount of log data stored on the SiteScope server. By default, SiteScope retains monitor data log files for 40 days. The log files are rotated and files older than the log retention period are automatically deleted.

Note: Keeping monitor data logs for longer periods can cause a data storage problem for the SiteScope server depending on the total number of monitors configured and how often the monitors run per day. You should monitor the size of log files in the <**SiteScope root directory**>**logs** directory to estimate the data accumulation rate.

You can change the length of time that SiteScope retains monitor data using the log preferences. You can configure SiteScope to export monitor data to an external SQL-compliant database to maintain monitor data for longer periods or to make the data available to other reporting applications. For details, see "Log Preferences" on page 1113.

SiteScope Report Types

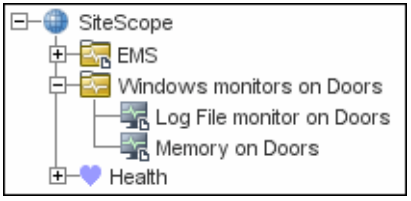
SiteScope includes four kinds of management reports. The following describes the report types and their usage.

Report Type	Description
Alert Reports	Alert reports provide information about SiteScope alerts generated during a specified period of time. You create an Alert report on an ad hoc basis. In addition, the settings for an Alert report are not saved to the SiteScope configuration data for later use. For details on configuring the Alert report, see "New SiteScope Alert Report Dialog Box" on page 1682.
Management Reports	Management reports provide a summary of infrastructure availability and performance data for a given period of time. Management reports are generated automatically based on their preset schedule from data collected by SiteScope monitors. According to the preset schedule, SiteScope reads the applicable log files and generates the report based on the monitor metrics for the time interval specified. You can save the report data in a file suitable for exporting to third-party applications. For details on configuring the Management report, see "New/Edit SiteScope Management Report Dialog Box" on page 1658.

Report Type	Description
Monitor Reports	Monitor reports enable you to review configuration properties and settings for existing monitors. You can export a monitor report in one of three text data formats. Unlike a Management report which is based on a schedule that you specify, you create a Monitor report on an ad hoc basis. In addition, the settings for a Monitor report are not saved to the SiteScope configuration data for later use. For details on configuring the Monitor report, see "New SiteScope Monitor Report Dialog Box" on page 1679.
Quick Reports	Quick reports enable you to view monitor data for specific monitors or groups of monitors during specific time periods. Unlike a Management report that is generated based on a schedule that you specify, you create a Quick report on an ad hoc basis. In addition, the settings for a Monitor Summary report are not saved to the SiteScope configuration data for later use. For details on configuring the Quick report, see "New SiteScope Quick Report Dialog Box" on page 1672.

Working with SiteScope Management Reports

Reports are added as elements to the Reports tab in the monitor view. They can be added as a child to the SiteScope node, to a group, or to an individual monitor. Reports are displayed in the left menu tree by a icon next to the group or monitor for which it was created, as shown in the example below.



Reports have a scope based on the container to which they are added. You add a report to the container or element that contains all of the monitors whose data you want to include in the report. You then use the **Report Targets** panel to narrow the selection of monitors to be included in the report.

When you select a node with a report icon, the Report tab displays two tables. The **Reports on** table displays the reports created on this node. The **Reports Associated with** table displays the reports created on an ancestor node and applied to this node using the target selection.

You can create as many SiteScope report definitions as you want. However, you should plan and consolidate reports to keep the number of report definitions to a minimum. This can facilitate report administration and help reduce redundant report messages or actions. When creating a report for a large number of monitors, you should consider making separate reports based on the type of monitor or measurement. For example, when reporting on system resources for 20 different remote servers, consider making one report with monitors that measure numeric values such as CPU or disk space and another report for monitors that report basic availability such as services or processes.

By default, SiteScope keeps the 10 most recently generated reports. This means that hourly reports are available for the last 10 hours, daily reports are available for 10 days, weekly reports are available for 10 weeks, and so forth. You can change this report storage period by changing the value of the _maximumReports setting in the SiteScope **master.config** file.

Deleting a Management report definition discontinues the generation of applicable report. Previously generated reports continue to be available until the underlying data is removed.

You can copy and paste a report definition. The report definition settings are pasted to the new location with the exception of the **Report targets** setting, which are automatically reset to include all of the children of the container into which the report is pasted. After pasting a report, you should edit the report definition properties to be sure that the assigned **Report targets** are appropriate to the new report context and your overall reporting plan.

Create a Report

This task describes the steps involved in creating a SiteScope report.

This task includes the following steps:

- "Select a Report Type" on page 1653
- "Configure the Report Settings" on page 1653
- "Results" on page 1654

1 Select a Report Type

Right-click the group or monitor container in which you want to create a report, and click **Reports**, or create a new report from the Reports tab. Select the report type you want to add or generate (only the Management report is added; all other reports are ad hoc and are not saved in SiteScope).

For details of report types, see "SiteScope Report Types" on page 1649.

2 Configure the Report Settings

Select the monitors to include in the report and configure the report settings.

For details on the report settings user interface, see "SiteScope Reports User Interface" on page 1654.

Note: By default, a report includes data from all monitors within the selected container. For Alert Reports, you cannot remove any of the monitors in the selected container from the report.

---

3 Results

Management reports are added to the selected container in the monitor tree (indicated by a report symbol). For details on viewing the Management report, see "Management Report" on page 1684.

All other reports are generated and displayed in your Web browser.

- For details on viewing the Alert report, see "Alert Report" on page 1695.
- For details on viewing the Monitor report, see "Monitor Summary Report" on page 1692.
- For details on viewing the Quick report, see "Quick Report" on page 1688.

SiteScope Reports User Interface

This section describes:

Reports Page

Description	Displays information about the reports defined in SiteScope. Use this page to add, edit, or delete report definitions. If a report has been set up for a SiteScope object (group or monitor), the report symbol is displayed next to the object icon in the monitor tree. Select the SiteScope object to display report properties for the specific object. **To access:** Open the **Monitors** context. In the monitor tree, click the **Reports** tab.
Important Information	Reports created for a specific monitor or group are displayed in the object's **Reports on Monitor/Group** list. Targeted monitors or groups are displayed in the **Reports Associated with Monitor/Group** list.
Included in Tasks	"Create a Report" on page 1653
Useful Links	"Working with SiteScope Management Reports" on page 1651

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
	Click the **New Report** button, and select the type of report you want to configure. Only Management reports are added to the Reports tab (all other report types are created on an ad hoc basis, and are not saved in SiteScope). For details on the New SiteScope Management Report user interface, For details on the user interface, see "New/Edit SiteScope Management Report Dialog Box" on page 1658. **Note:** This button is available in the **Reports on Monitor/Group** table only.
	Click the **Edit Report** button to edit the properties of the selected Management report. For details on the Edit SiteScope Management Report user interface, see "New/Edit SiteScope Management Report Dialog Box" on page 1658.
	Click the **Copy Report** button to make a copy of the selected report. **Note:** This button is available in the **Reports on Monitor/Group** table only.
	Click the **Paste Report** button to paste the report to the selected location in the tree. **Note:** This button is available in the **Reports on Monitor/Group** table only.
	Click the **Delete Report** button to delete the selected Management report from the Reports tab.
	Click the **Generate Report** button to generate a Management report for a selected monitor or group. For details on the user interface, see "Management Report" on page 1684.
	Click the **Select All** button to select all listed reports.

GUI Element (A-Z)	Description
	Click the **Unselect All** button to clear the selection.
Type	Indicates the report type.
Title	The name by which the report is known in SiteScope.
Description	A description of the report.
Enabled	Indicates whether the generation of this report is enabled.
Path	Displays a link to the ancestor node that is targeting this object. **Note:** This column is available in the **Reports associated with** table only.

New/Edit SiteScope Management Report Dialog Box

Description	Enables you to create a report that provides a summary of system availability data for a given time period. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a monitor group, or a monitor, and select **Reports** > **Management**.
Important Information	HTML code entered in report text boxes is checked for validity and security, and corrective action is taken to fix the code (for example, mismatched tags or code that was truncated because it spanned more than one line). If malicious HTML code or Javascript is detected, the entire field is rejected. The following is prohibited HTML content: ➤ Tags: **script**, **object**, **param**, **frame**, **iframe**. ➤ Any tag that contains an attribute starting with **on** is declined. For example, onhover. ➤ Any attribute with **javascript** as its value.
Included in Tasks	"Create a Report" on page 1653
Useful Links	"SiteScope Reports Overview" on page 1647 "Reports Page" on page 1655 "Management Report" on page 1684

General Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Report title	Enter a title for this Management Report. This name is used to identify this Management Report definition in the product display.
Description	(Optional) Use this text box to describe other information about this report definition. For example, include information about the purpose, target, setup date, or audience for this report.

Report Targets

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Report targets	Select the groups and/or monitors to be included in this report in the context menu tree. The context menu includes the currently selected container and all of the child containers. **Default value:** The current container and all child elements are selected.

Display Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Thresholds	
All thresholds	Creates a table of monitor error, warning, and good threshold settings for all of the monitors included in the report. If selected, this table is displayed as the first report section. **Default value:** Not selected
Error thresholds	Creates a table of individual error readings recorded by the monitors during the report period. **Default value:** Selected
Warning thresholds	Creates a table of individual warning readings recorded by the monitors during the report period. **Default value:** Selected
Good thresholds	Creates a table of individual good readings recorded by the monitors during the report period. **Default value:** Selected

GUI Element	Description
Uptime and Readings	
Uptime Summary and Measurement Summary tables	Creates two report tables: **Uptime Summary** and **Measurement Summary**. For details of the data included in these tables, see "Report Content - Management Report Page" on page 1686. **Default value:** Selected
Uptime: Include warnings	Includes any monitor readings that are reported as warnings in the overall Uptime calculation. **Default value:** Not selected
Uptime: Ignore warnings	Suppresses monitor readings reported as warnings from the overall Uptime and Readings Summary section. **Note:** This option only suppresses the display of the Warning % column in the table; it does not change the calculation of the Uptime %. **Default value:** Not selected
Uptime: Ignore errors	Suppresses monitor readings reported as errors from the overall Uptime and Readings Summary section. **Note:** This option only suppresses the display of the Error % column in the table; it does not change the calculation of the Uptime %. **Default value:** Not selected
General	
Measurements graph	For graph reports, use the drop-down list to choose a graphical measurement to be included in the report. For details of the options, see "Graph Measurement Options" on page 1670.

GUI Element	Description
Monitor readings	Creates a table of individual readings recorded by the monitors during the report period, including all readings (error, good, and warning). This report table may also include blank "buckets" depending on the period of the report and how often the monitors ran during the period. **Default value:** Selected
Alerts table	Select an option to include a table of alerts sent for the monitors in the report. The options for the alerts table level are: ➤ **No alerts table.** No table of alerts is included in the report (default) ➤ **Basic alerts table.** Displays the time and summary information for each alert sent. ➤ **Show detailed alerts table for all alerts.** Displays detailed alert information for each alert in the report. ➤ **Show detailed alerts table for failed alerts.** Displays the time and summary information for each alert, and a full diagnostics breakdown for each failed alert.
Detailed monitor information	Displays all of the information gathered for each monitor on the report. Otherwise, only the primary data is displayed for each monitor. **Default value:** Not selected **Example:** If this box is checked on a URL Sequence Monitor, the timing information for each step in the sequence is displayed in the report.
Time in error	Creates a table summary listing each monitor selected for the report with a summary of how many minutes the monitor status was calculated as being in error for the period of the report. **Default value:** Not selected

Filter and Scheduling Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Monitor filter	Select a subset of those monitors to be shown in the report —those that have had the specified status sometime during the report's time frame. You can select only monitors in Error or Warning, monitors in Error, monitors in Warning, monitors that were OK, or all monitors. **Default value:** Show all monitors **Example:** Choosing **Show only monitors in error** displays report data only if that monitor had spent time in error sometime during the time interval of the report.
Schedule filter	Select a schedule filter option for showing only a subset of the data in the report—those monitors that have samples during the time period of the schedule. **Default value:** The report shows data for the full period of the report (every day, all day). **Example:** Choosing weekdays, 09:00-18:00 displays report data for the selected monitors with samples from the 9am to 6pm time period, Monday through Friday. Only this data is used for all the calculations.

GUI Element	Description
Time period for report	Select the time period for which you want to view monitoring data. You can choose to report on data for a set number of hours, for the last day, the last several days, the past week, past month, or month-to-date for the current calendar month. **Default value:** Last day **Note:** Daily and month-to-date reports are generated every day at the scheduled time. Weekly reports are generated on Sundays at the scheduled time, and monthly reports are generated on the first day of the month following the current month so that they contain an entire month's worth of data.
End of report period	Choose an end time for the report by selecting a time from the drop-down list. For example, you may want to have your reports run from midnight to midnight. **Default value:** At time report is run (SiteScope generates reports starting at the indicated time and ending at the time the report was generated)

Report Format

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
File format	This option enables some customization of the report appearance. The options are: ➤ **Color background** (default) ➤ **Color background, no table borders** ➤ **White background**

Report Distribution

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
HTML format	Select if you want the reports sent in HTML format. Use this option to include the SiteScope report graphics. If you do not select this option only a text summary of the report is sent. **Default value:** Not selected
Send report to e-mail address	To have the report forwarded by e-mail when it is generated, enter the e-mail address(es) to which this report should be sent each time its generated. To send the reports to multiple e-mail addresses, separate the e-mail addresses with commas.
Format template	Select a template for SiteScope to use to create the e-mail message. You can choose from the following templates or make a copy of one of these and customize it to meet your own needs. ➤ **HistoryLongMail** - Choose this option to send a detailed history report. It contains both user and administration links. ➤ **HistoryLongXMLMail** - Choose this option to send a detailed history report. It contains both user and administration links for reports & XML files. ➤ **HistoryMail** - Choose this option to send a history report. This is the default option. ➤ **HistoryMailAlertDetail** - Choose this option to have all alerts included in the report that is e-mailed. ➤ **HistoryMailNoLinks** - Choose this option to send the report without any links in it.

GUI Element	Description
Comma-delimited file	Select to save a generated management report to a comma-delimited text file which you can then import into a spreadsheet application. SiteScope automatically saves these files in the **<SiteScope root directory>\htdocs** directory. To find the exact location of the saved file on your machine, click the **View Report** tab for the report, and move the pointer over the **text** link for the report in the **Information For** column. The full path to the file is listed in the status bar of your Web browser. To open the saved file on your machine, click the **text** link to go to the Report page. If you enter an e-mail address in the **E-mail** text box, SiteScope sends a copy of the comma-delimited file to that address. **Default value:** Not selected **Note:** The comma-delimited file creates two columns for each monitor reading; one containing the value with units, and the other containing just the value. This is to make it easier to import the comma-delimited data into a third party application which may not automatically separate data values from the text describing the units.
Send comma-delimited file by e-mail	If you enter an e-mail address in the text box, SiteScope sends a copy of the file to that address.

GUI Element	Description
XML file	Select this box to save a generated management report to an XML text file. SiteScope automatically saves these files in the **<SiteScope root directory>\htdocs** directory. To find the exact location of the saved file on your machine, click the **View Report** tab for the report, and move the pointer over the **xml** link for the report in the **Information For** column. The full path to the file is listed in the status bar of your Web browser. To open the saved file on your machine, click the **xml** link to go to the Report page. If you enter an e-mail address in the **E-mail** text box, SiteScope sends a copy of the comma-delimited file to that address. **Default value:** Not selected **Note:** The XML file creates two columns for each monitor reading; one containing the value with units, and the other containing just the value. This is to make it easier to import the XML data into a third party application which may not automatically separate data values from the text describing the units.
Send XML file by e-mail	If you enter an e-mail address in the text box, SiteScope sends a copy of the XML file to that address.

Calculation Method

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Best case calculation	Select this option to calculate the monitor uptime percentage, warning percentage, and error percentage using a best case scenario. In this scenario, monitor time in error is calculated from the first monitor run that explicitly reported an Error instead of from the time of the last known Good monitor run.
Time between samples	Use this time scale option to choose the time interval between monitor readings. You can choose intervals that range from once every minute to once a day, or you can use the automatic scaling. When automatic scaling is used, SiteScope determines how many readings were taken over the chosen time period for the given monitors and then selects an appropriate interval for the management report. **Default value:** Automatic time scale
Maximum graph value	Select a vertical scale option to choose the maximum value displayed on a graph. Choosing a specific scale value makes it easier to compare graphs from different monitors and times. **Default value:** Automatic vertical scale

Management Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Disable	Select to temporarily disable the generation of this report. To enable the report again, clear the box. **Default value:** Not selected
Generate report at (HH:MM)	The time that you want SiteScope to create this management report. The report contains information for the last day, week, or month, ending at the time the report is run. For example, if a daily report is generated at 18:00 (6:00 p.m.), it contains data generated between 18:00 the previous day and 18:00 of the current day. The default value is 00:00 which represents midnight. **Default value:** 04:00 **Note:** SiteScope Management report generation may temporarily affect overall SiteScope performance and responsiveness depending on the number of monitors and time period of the report. Try to schedule reports to be generated during off-peak hours relative to overall monitoring tasks and load. If you are generating many reports each day, you should consider staggering the **Generate report at** value for different reports.

Search/Filter Tags

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<tag name and values>	Keyword tags are used to search and filter SiteScope objects (groups, monitors, remote servers, templates, and preference profiles). If no tags have been created for the SiteScope, this section appears but is empty. If tags have been created, they are listed here and you can select them as required. For details on using tags, see "Working with Search/Filter Tags" on page 87.
Add Tag	Click the **Add Tag** button to open the New SiteScope Tag page and create a new keyword tag. For details on the New SiteScope Tag user interface, see "New/Edit SiteScope Tag Dialog Box" on page 96.

Note: A bar graph is generated using standard HTML, so it can be printed from all browser types. Line graphs are generated using a java applet and may not print directly from all browsers.

Graph Measurement Options

This table includes a description of the graph measurement options that can be included in the report:

Graph	Description
None - no graph	No graphs are included in the report. The report only includes the tabular data contents you have selected.
Bar graph - one graph per measurement	This bar graph option displays a single type of measurement per graph and per monitor during the specified time frame. For reports on multiple monitors, this results in the most number of graphs with one bar graph generated for each type of measurement for each monitor.
Line Graph - one graph per measurement	This line graph option displays a separate line graph for each type of measurement for a single monitor. Like the bar graph option, this results in the most number of line graphs with one line graph generated for each type of measurement for each monitor selected for the report regardless of any compatibility of measurement type.
Line Graph - group per monitor instance	This line graph option attempts to group all measurements from a single monitor instance into a single graph per monitor. The number of line graphs actually generated depends on whether the monitor records multiple measurements per monitor run (for example, the Microsoft Windows Resources or UNIX Resources monitor types) and whether the measurement types are compatibility with one another. Separate graphs are generated if the measurement types are not compatible.

Graph	Description
Line Graph - group same measurement types	Select this option to plot the same measurement types gathered by several different monitor instances into single graphs. A line graph is generated for each set of compatible measurement types regardless of the number of monitors selected for the report.
Line Graph - group compatible measurements	Select this option to display all compatible measurements from the selected monitors on a single graph. The option is intended to minimize the total number of line graphs generated. The number of graphs generated is still dependent on the compatibility of the selected monitor types and the measurement types collected by those monitors. If all of the monitors selected for the report are of the same type, for example URL monitors, then a single graph is generated with a colored line for each of the monitors.

Note: A bar graph is generated using standard HTML, so it can be printed from all browser types. Line graphs are generated using a java applet and may not print directly from all browsers.

New SiteScope Quick Report Dialog Box

Description	Enables you to create a one-time SiteScope management report for any monitor or group of monitors over a given time period. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a monitor group, or a monitor, and select **Reports** > **Quick**. Alternatively, select a monitor and click the **Report** button in Dashboard.
Important Information	➤ The time interval for a Quick report is not incremented automatically. This means that a Quick report always contain the data for the absolute **Report period** interval defined in the report definition. To view more recent data using a Quick report, edit the **Report period** setting. ➤ When working in Business Availability Center, Quick Report definitions in System Availability Management Administration are stored only with the Business Availability Center context. Quick Report definitions are not stored in, and do not persist on the SiteScope server.
Included in Tasks	"Create a Report" on page 1653
Useful Links	"SiteScope Reports Overview" on page 1647 "Quick Report" on page 1688

Report Targets

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Report targets	Select the groups and/or monitors to be included in this report in the context menu tree. The context menu includes the currently selected container and all of the child containers. **Default value:** The current container and all child elements are selected.

Display Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Thresholds	
All thresholds	Creates a table of monitor error, warning, and good threshold settings for all of the monitors included in the report. If selected, this table is displayed as the first report section. **Default value:** Not selected
Error thresholds	Creates a table of individual error readings recorded by the monitors during the report period. **Default value:** Selected
Warning thresholds	Creates a table of individual warning readings recorded by the monitors during the report period. **Default value:** Selected
Good thresholds	Creates a table of individual good readings recorded by the monitors during the report period. **Default value:** Selected
Uptime and Readings	
Uptime Summary and Measurement Summary tables	Creates two report tables: **Uptime Summary** and **Measurement Summary**. For details of the data included in these tables, see "Report Content" on page 1690. **Default value:** Selected
Uptime: Include warnings	Includes any monitor readings that are reported as warnings in the overall Uptime calculation. **Default value:** Not selected

GUI Element	Description
Uptime: Ignore warning	Suppresses monitor readings reported as warnings from the overall Uptime and Readings Summary section. **Default value:** Not selected **Note:** This option only suppresses the display of the Warning % column in the table; it does not change the calculation of the Uptime %.
Uptime: Ignore errors	Suppresses monitor readings reported as errors from the overall Uptime and Readings Summary section. **Default value:** Not selected **Note:** This option only suppresses the display of the Error % column in the table; it does not change the calculation of the Uptime %.
General Settings	
Measurements graph	For graph reports, use the drop-down list to choose a graphical measurement to be included in the report. For details of the options, see “Graph Measurement Options” on page 1670. **Default value:** Bar Graph - one graph per measurement
Monitor readings	Creates a table of individual readings recorded by the monitors during the report period, including all readings (error, good, and warning). This report table may also include blank "buckets" depending on the period of the report and how often the monitors ran during the period. **Default value:** Selected

GUI Element	Description
Alerts table	Select an option to include a table of alerts sent for the monitors in the report. The options for the alerts table level are: ➤ **No alerts table.** No table of alerts is included in the report (default). ➤ **Basic alerts table.** Displays the time and summary information for each alert sent. ➤ **Show detailed alerts table for all alerts.** Displays detailed alert information for each alert in the report. ➤ **Show detailed alerts table for failed alerts.** Displays the time and summary information for each alert, and a full diagnostics breakdown for each failed alert.
Detailed monitor information	Displays all of the information gathered for each monitor on the report. Otherwise, only the primary data is displayed for each monitor. **Example:** If this box is checked on a URL Sequence Monitor, the timing information for each step in the sequence is displayed in the report. **Default value:** Not selected
Time in error	Creates a table summary listing each monitor selected for the report with a summary of how many minutes the monitor status was calculated as being in error for the period of the report. **Default value:** Not selected

Filter and Scheduling Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Monitor filter	Select a subset of those monitors to be shown in the report —those that have had the specified status sometime during the report's time frame. You can select only monitors in Error or Warning, monitors in Error, monitors in Warning, monitors that were OK, or all monitors. **Default value:** Show all monitors **Example:** Choosing **Show only monitors in error** displays report data only if that monitor had spent time in error sometime during the time interval of the report.
Schedule filter	Select a schedule filter option for showing only a subset of the data in the report—those monitors that have samples during the time period of the schedule. **Default value:** The report shows data for the full period of the report (every day, all day). **Example:** Choosing **weekdays, 09:00-18:00** displays report data for the selected monitors with samples from the 9am to 6pm time period, Monday through Friday. Only this data is used for all the calculations.
Report period	Specify the time period for which you want to view monitoring data. Enter the time from which you want the report coverage to start in the **From** boxes and the time to which you want to cover in the **To** boxes. **Default value:** The time period is from one hour before the time that the Quick Report is generated until the current time. **Note:** Times should be entered in 24-hour format.

Report Format

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Report in	Select the format to be used in displaying the report: HTML format, Text format or XML format. **Default value:** HTML format
File format	This option enables some customization of the report appearance. The options are: ➤ **Color background** (default) ➤ **Color background, no table borders** ➤ **White background**

Report Distribution

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Send report to e-mail address	To have the report forwarded by e-mail when it is generated, enter the e-mail address(es) to which this report should be sent each time its generated. To send the reports to multiple e-mail addresses, separate the e-mail addresses with commas.

Calculation Method

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Best case calculation	Select this option to calculate the monitor uptime percentage, warning percentage, and error percentage using a best case scenario. In this scenario, monitor time in error is calculated from the first monitor run that explicitly reported an Error instead of from the time of the last known Good monitor run. **Default value:** Not selected
Time between samples	Use this time scale option to choose the time interval between monitor readings. You can choose intervals that range from once every minute to once a day, or you can use the automatic scaling. When automatic scaling is used, SiteScope determines how many readings were taken over the chosen time period for the given monitors and then selects an appropriate interval for the management report. **Default value:** Automatic time scale
Maximum graph value	Select a vertical scale option to choose the maximum value displayed on a graph. Choosing a specific scale value makes it easier to compare graphs from different monitors and times. **Default value:** Automatic vertical scale

New SiteScope Monitor Report Dialog Box

Description	Enables you to create a report that provides detailed information about the monitors defined in one or more monitor groups. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a monitor group, or a monitor, and select **Reports** > **Monitor**.
Included in Tasks	"Create a Report" on page 1653
Useful Links	"SiteScope Reports Overview" on page 1647 "Monitor Summary Report" on page 1692

Report Targets

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Report targets	Select the groups and/or monitors to be included in this report in the context menu tree. The context menu includes the currently selected container and all of the child containers. **Default value:** The current container and all child elements are selected.

Display Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Display columns	Select the monitor information to display in the report columns. Data is shown in the report for the selected parameters only if the particular option has been selected, such as Disabled and Frequency, or if a value has been supplied, such as Monitor Description. If the option or value has not been defined in the particular monitor setup, the column is blank for that parameter for that monitor. **Note:** Hold down the SHIFT key to select a set of adjacent groups. Use CTRL-click to select non-adjacent items.
Show parameters	Select if you want the report to contain the parameters defined for each monitor. This option includes a list of the active options defined for each selected monitor in a single table cell rather than individual columns as with the option above. **Default value:** Selected
Sort by	Select the monitor parameter to use as a sort key for the report. **Default value:** Monitor Type
Sort order	Select the order to use for sorting the report. For example, to sort the report alphabetically by monitor type, select Monitor Type, and select Ascending sort order. **Default value:** Ascending

Export Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Export to file	Select this box to have SiteScope export the Monitor Summary report data to a text file. **Default value:** Not selected
File name	When the **Export to file** option is enabled, SiteScope writes the data to the file name specified in this box using the selected text format. The file is written into the **<SiteScope root directory>\htdocs** directory. **Default value:** monSummary
File format	Select the format for the exported file. The options are comma-delimited text, tab delimited text, or HTML. **Default value:** comma-delimited (csv)

New SiteScope Alert Report Dialog Box

Description	Enables you to create a report used to display SiteScope alerts sent over a given time period. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a monitor group, or a monitor, and select **Reports** > **Alert**.
Included in Tasks	"Create a Report" on page 1653
Useful Links	"SiteScope Reports Overview" on page 1647 "Alert Report" on page 1695

Report Targets

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Report targets	Displays the groups and/or monitors to be included in this report in the context menu tree. The context menu includes the currently selected container and all of the child containers. **Note:** You cannot remove any of the groups or monitors in the selected container from the report.

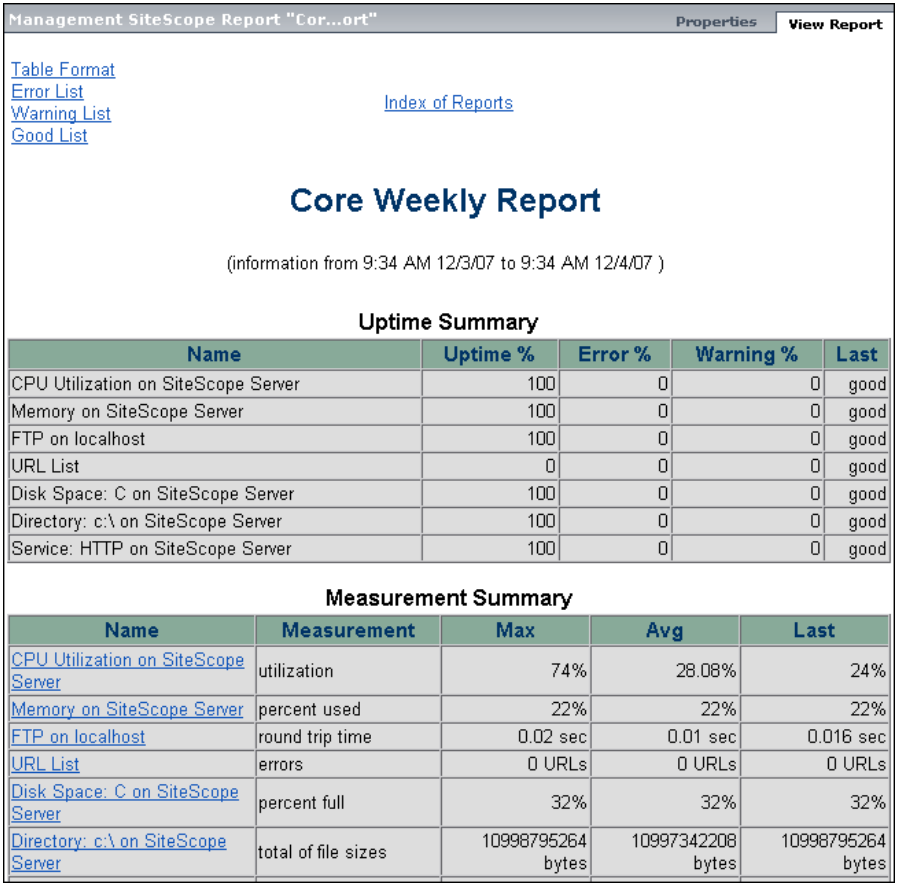
Alert Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Alert types	Select the alert types that you want to include in the report. **Note:** Hold down the SHIFT key to select a set of adjacent groups. Use CTRL-click to select non-adjacent items.
Detail level	Select the level of detail to include in the report. The options are: ➤ **Basic.** Displays the time and summary information for each alert sent (default setting). ➤ **Detail for all alerts.** Displays detailed alert information for each alert in the report. ➤ **Detail for failed alerts.** Displays the time and summary information for each alert, and a full diagnostics breakdown for each failed alert.
Alert time period	Specify the period of time that you want the report to cover. Select or enter the time and date you want report coverage to start in the **From** boxes and the time and date you want coverage to end in the **To** boxes. **Default value:** The alert time period is from one hour before the time that the Alert Report is generated until the current time. **Note:** Times must be entered in 24-hour format.

Management Report

The following is an example of the Management report.



Management SiteScope Report "Cor...ort" Properties View Report

Table Format
Error List
Warning List
Good List

Index of Reports

Core Weekly Report

(information from 9:34 AM 12/3/07 to 9:34 AM 12/4/07)

Uptime Summary

Name	Uptime %	Error %	Warning %	Last
CPU Utilization on SiteScope Server	100	0	0	good
Memory on SiteScope Server	100	0	0	good
FTP on localhost	100	0	0	good
URL List	0	0	0	good
Disk Space: C on SiteScope Server	100	0	0	good
Directory: c:\ on SiteScope Server	100	0	0	good
Service: HTTP on SiteScope Server	100	0	0	good

Measurement Summary

Name	Measurement	Max	Avg	Last
CPU Utilization on SiteScope Server	utilization	74%	28.08%	24%
Memory on SiteScope Server	percent used	22%	22%	22%
FTP on localhost	round trip time	0.02 sec	0.01 sec	0.016 sec
URL List	errors	0 URLs	0 URLs	0 URLs
Disk Space: C on SiteScope Server	percent full	32%	32%	32%
Directory: c:\ on SiteScope Server	total of file sizes	10998795264 bytes	10997342208 bytes	10998795264 bytes

Description	Displays a summary and specific details of infrastructure availability and performance data for monitors and monitor groups over a given period of time. Use Management reports to detect emerging trends and correct potential problems before they become a crisis. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a monitor group, or a monitor container, and select **Reports** > **Management**. Configure the report properties, and click **OK**. In the Reports tab, select the report and click the **Generate Report**  button. Click the date-coded link for the report period you want to view. If no reports have been generated, or if you want to create an updated report, click the **Generate** button.
Included in Tasks	"Create a Report" on page 1653
Useful Links	"Working with SiteScope Management Reports" on page 1651 "New/Edit SiteScope Management Report Dialog Box" on page 1658 "Reports Page" on page 1655

Report Content - Index Page

The following elements are included in the Management report index page:

GUI Element	Description
Most Recent Report	Click to display the most recent Management report available for the currently selected monitor or group.
Information For <report time and data>	Click to display the Management report for the time period specified in the link for the currently selected monitor or group. For details on the Management Report page, see "Report Content - Management Report Page" below.
Generate	Click to create a new report for the currently selected monitor or group, regardless of when the report was normally scheduled to be generated.

Report Content - Management Report Page

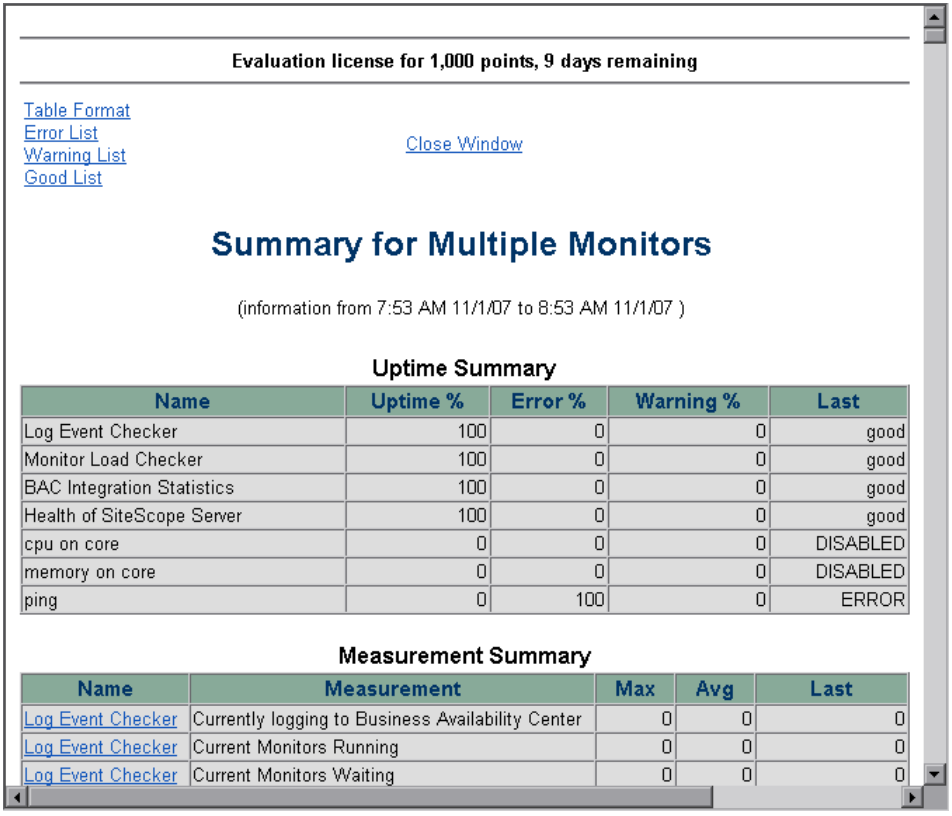
The following elements are included in the Management report page:

GUI Element	Description
Table Format	Click the **Table Format** link to go to the measurements data in table format in the currently selected report.
Error List	Click the **Error List** link to go to the list of monitors with error status in the currently selected report.
Warning List	Click the **Warning List** link to go to the list of monitors with warning status in the currently selected report.
Good List	Click the **Good List** link to go to the list of monitors with good status in the currently selected report.
Index of Reports	Click the **Index of Reports** link to go to the index of Management reports. For details on the Management Report index page, see "Report Content - Index Page" on page 1685.
Uptime Summary	This table includes the following: ➤ **Name.** The name of monitors included in the report. ➤ **Uptime %.** The percentage of monitor readings reported as good. ➤ **Warning %.** The percentage of monitor readings reported as warning. ➤ **Error %.** The percentage of monitor readings reported as error. ➤ **Last.** The last reading of the monitor for the report period.

GUI Element	Description
Measurement Summary	This table includes the following: ➤ **Name.** The name of monitors included in the report. ➤ **Measurement.** The parameter being monitored (for error condition). ➤ **Max.** The maximum value recorded for the Measurement parameter during the report period. ➤ **Avg.** The average value of the readings recorded for the report period. ➤ **Last.** The last reading of the monitor for the report period.
<Measurement Graphs>	Measurement data in graph format for each monitored instance for the report period.
<Measurement Tables>	Measurement data in table format, shown at 30 minute increments, for each monitored instance for the report period. Entries highlighted in red or yellow indicate that the measurement exceeded the error or warning status threshold for the monitor. Blue indicates that the monitor was disabled.
<Error List Table>	Lists the monitor instances that exceeded the error status threshold for the monitor. Entries are highlighted in red.
<Warning List Table>	Lists the monitor instances that exceeded the warning status threshold for the monitor. Entries are highlighted in yellow.
<Good List Table>	Lists the monitor instances that were in the good status threshold for the monitor. Entries are highlighted in green.

Quick Report

The following is an example of the Quick report.



Evaluation license for 1,000 points, 9 days remaining

Table Format
Error List
Warning List
Good List

Close Window

Summary for Multiple Monitors

(information from 7:53 AM 11/1/07 to 8:53 AM 11/1/07)

Uptime Summary

Name	Uptime %	Error %	Warning %	Last
Log Event Checker	100	0	0	good
Monitor Load Checker	100	0	0	good
BAC Integration Statistics	100	0	0	good
Health of SiteScope Server	100	0	0	good
cpu on core	0	0	0	DISABLED
memory on core	0	0	0	DISABLED
ping	0	100	0	ERROR

Measurement Summary

Name	Measurement	Max	Avg	Last
Log Event Checker	Currently logging to Business Availability Center	0	0	0
Log Event Checker	Current Monitors Running	0	0	0
Log Event Checker	Current Monitors Waiting	0	0	0

Description	Displays a summary and specific details of infrastructure availability and performance data for monitors and monitor groups over a given period of time. Quick reports are generated on an ad hoc basis and are not saved to the SiteScope configuration data. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a monitor group, or a monitor container, and select **Reports** > **Quick**. Alternatively, select a monitor and click the **Report**  button in Dashboard. Configure the report properties, and click **Generate Report**.
Important Information	➤ The time interval for a Quick report is not incremented automatically. This means that the report always contains the data for the absolute **Report Period** interval defined in the report definition. To view more recent data using a Quick report, edit the **Report Period** setting. ➤ When working in Business Availability Center, Quick Report definitions in System Availability Management Administration are stored only with the Business Availability Center context. Quick Report definitions are not stored in and do not persist on the SiteScope server.
Included in Tasks	"Create a Report" on page 1653
Useful Links	"New SiteScope Quick Report Dialog Box" on page 1672

Report Content

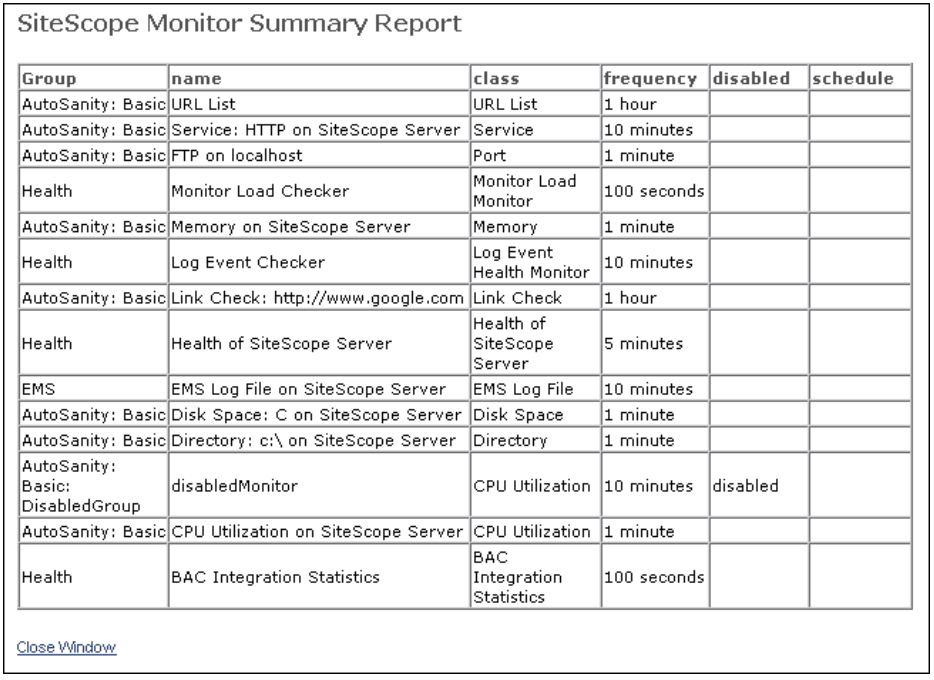
The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<License details>	License details are displayed at the top of the page. It includes the SiteScope license category, the number of monitor points available, and the number of days remaining on the license.
Table Format	Click to go to the measurements data in table format in the currently selected report.
Error List	Click to go to the list of monitors with error status in the currently selected report.
Warning List	Click to go to the list of monitors with warning status in the currently selected report.
Good List	Click to go to the list of monitors with good status in the currently selected report.
Uptime Summary	This table includes the following: ➤ **Name.** The name of monitors included in the report. ➤ **Uptime %.** The percentage of monitor readings reported as good. ➤ **Warning %.** The percentage of monitor readings reported as warning. ➤ **Error %.** The percentage of monitor readings reported as error. ➤ **Last.** The last reading of the monitor for the report period.

GUI Element	Description
Measurement Summary	This table includes the following: ➤ **Name.** The name of monitors included in the report. ➤ **Measurement.** The parameter being monitored (for error condition). ➤ **Max.** The maximum value recorded for the Measurement parameter during the report period. ➤ **Avg.** The average value of the readings recorded for the report period. ➤ **Last.** The last reading of the monitor for the report period.
<Measurement Graphs>	Measurement data in graph format for each monitored instance for the period of the report.
<Measurement Tables>	Measurement data in table format, shown at 30 minute increments, for each monitored instance for the period of the report. Entries highlighted in red or yellow indicate that the measurement exceeded the error or warning status threshold for the monitor. Blue indicates that the monitor was disabled.
<Error List Table>	Lists the monitor instances that exceeded the error status threshold for the monitor. Entries are highlighted in red.
<Warning List Table>	Lists the monitor instances that exceeded the warning status threshold for the monitor. Entries are highlighted in yellow.
<Good List Table>	Lists the monitor instances that were in the good status threshold for the monitor. Entries are highlighted in green.

Monitor Summary Report

The following is an example of the Monitor Summary report.



SiteScope Monitor Summary Report

Group	name	class	frequency	disabled	schedule
AutoSanity: Basic	URL List	URL List	1 hour		
AutoSanity: Basic	Service: HTTP on SiteScope Server	Service	10 minutes		
AutoSanity: Basic	FTP on localhost	Port	1 minute		
Health	Monitor Load Checker	Monitor Load Monitor	100 seconds		
AutoSanity: Basic	Memory on SiteScope Server	Memory	1 minute		
Health	Log Event Checker	Log Event Health Monitor	10 minutes		
AutoSanity: Basic	Link Check: http://www.google.com	Link Check	1 hour		
Health	Health of SiteScope Server	Health of SiteScope Server	5 minutes		
EMS	EMS Log File on SiteScope Server	EMS Log File	10 minutes		
AutoSanity: Basic	Disk Space: C on SiteScope Server	Disk Space	1 minute		
AutoSanity: Basic	Directory: c:\ on SiteScope Server	Directory	1 minute		
AutoSanity: Basic: DisabledGroup	disabledMonitor	CPU Utilization	10 minutes	disabled	
AutoSanity: Basic	CPU Utilization on SiteScope Server	CPU Utilization	1 minute		
Health	BAC Integration Statistics	BAC Integration Statistics	100 seconds		

Close Window

Description	Displays information about the configuration and current settings of monitors in the groups you have selected to include in the report. Use this report to view setup information on monitors as well as the organization and makeup of groups of monitors. For example, you can check and compare monitor run frequencies (the **Frequency** setting) if you are having problems with monitor skips. You can also use the report to check for monitor dependencies that can impact alerting. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a monitor group, or a monitor container, and select **Reports** > **Monitor**. Configure the report properties, and click **Generate Report**.
Included in Tasks	"Create a Report" on page 1653
Useful Links	"New SiteScope Monitor Report Dialog Box" on page 1679

Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
Group	The group name to which the monitor belongs.
Name	The display name or text description for each monitor.
Class	The monitor type.
Frequency	The frequency at which the monitor is set to run.
Disabled	Whether or not the monitor is disabled.
Depends on	Lists any dependent monitors, if the running of this monitor is dependent on the status of other monitors.

GUI Element	Description
Points	The number of license points used by the monitor instance.
OID	The Object ID for this monitor.
Schedule	The monitor schedule, if a schedule other than the default schedule is selected.
Error Frequency	If the **Error frequency** option is selected, the monitoring interval, in seconds, for monitors that have reported an error condition.
Timeout	The timeout setting for the monitor.
Verify Error	Displays On if the **Verify error** option is selected. This option automatically runs the monitor again if it detects an error.
Monitor Description	The text description for the monitor in the Monitor Description box.
Thresholds	The threshold conditions for the monitor instance.

Alert Report

The following is an example of the Alert report.

Alerts (SiteScope) from 4:20 PM 7/30/07 to 4:26 PM 7/30/07

Time	Type	Message	Monitor	Group
4:20 PM 7/30/07	Sound alert played	Default	FTP on localhost_2007/07/30_06:26:36	AutoSanity_2007/07/30_06:26:36: Basic_2007/07/30_06:26:36
4:21 PM 7/30/07	Sound alert played	Default	FTP on localhost_2007/07/30_06:26:36	AutoSanity_2007/07/30_06:26:36: Basic_2007/07/30_06:26:36
4:22 PM 7/30/07	Sound alert played	Default	FTP on localhost_2007/07/30_06:26:36	AutoSanity_2007/07/30_06:26:36: Basic_2007/07/30_06:26:36
4:23 PM 7/30/07	Sound alert played	Default	FTP on localhost_2007/07/30_06:26:36	AutoSanity_2007/07/30_06:26:36: Basic_2007/07/30_06:26:36
4:24 PM 7/30/07	Sound alert played	Default	FTP on localhost_2007/07/30_06:26:36	AutoSanity_2007/07/30_06:26:36: Basic_2007/07/30_06:26:36
4:25 PM 7/30/07	Sound alert played	Default	FTP on localhost_2007/07/30_06:26:36	AutoSanity_2007/07/30_06:26:36: Basic_2007/07/30_06:26:36
4:26 PM 7/30/07	Sound alert played	Default	FTP on localhost_2007/07/30_06:26:36	AutoSanity_2007/07/30_06:26:36: Basic_2007/07/30_06:26:36

Description	Displays information about SiteScope alerts generated during a specified period of time for the monitors in the selected container. **To access:** Open the **Monitors** context. In the monitor tree, right-click the SiteScope node, a monitor group, or a monitor container, and select **Reports** > **Alert**. Configure the report properties, and click **Generate Report**.
Included in Tasks	“Create a Report” on page 1653
Useful Links	“New SiteScope Alert Report Dialog Box” on page 1682

Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element	Description
<Report title>	The report title contains the name of the monitor group container or individual monitor for which the report was created, and the time period that the report covers.
Time	The time at which the alert was triggered.
Type	The type of alert action.
Message	The type of message in the alert (for example, Default, alarm).
Monitor	The name of the monitor on which the alert was triggered.
Group	The name of the group on which the alert was triggered.

Annotation Tool

Description	Enables you to annotate a snapshot of the report you are viewing, to highlight important areas. The Annotation Tool is available when viewing Baseline Monitor Measurements Graphs and Server-Centric Reports. The Annotation Options enable you to customize your snapshot. The Annotation Menu Bar contains elements that enable you to: ➤ Change the appearance of the snapshot. ➤ Save, print, or e-mail an annotation report. ➤ Customize the appearance of text annotated onto your snapshot. These elements are enabled only when the Text Tool button T is selected. **To access:** Click the **Annotate** button on the right side of the page.
Important Information	To use the Annotation Tool, the Sun JRE plug-in 1.6.0_x (latest version recommended) must be installed on your machine. If the plug-in is not installed on your machine, you are prompted to install it.
Useful Links	"Generating a Server-Centric Report" on page 1490 "Server-Centric Report" on page 1524 "Setting Status Thresholds Using a Baseline" on page 269

Annotation Options

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A–Z)	Description
	Click to navigate the snapshot.
	Click to select a specific area of the snapshot.

GUI Element (A–Z)	Description
	Click to add a shape to the snapshot. Clicking the shape tool button enables the following shape buttons: ➤  Click to mark an area of the snapshot with a rectangle. ➤  Click to mark an area of the snapshot with a filled rectangle. ➤  Click to mark an area of the snapshot with an oval. ➤  Click to mark an area of the snapshot with a filled oval. ➤  Click to mark an area of the snapshot with a round rectangle. ➤  Click to mark an area of the snapshot with a filled round rectangle. **Customization.** After selecting this button, you can customize your line appearance through the following parts of the interface: ➤ **Line Type.** Choose the type of line you want to add. Options include: ➤ Solid Line ➤ Jagged Line ➤ **Line Width.** Select the width of the line, in pixels, in the annotation.

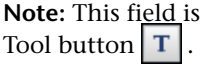
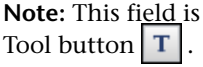
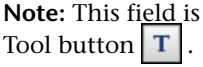
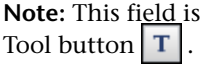
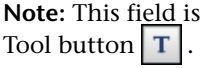
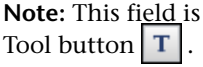
GUI Element (A–Z)	Description
	Click to enable the line tool, which marks the selected area of the snapshot with a line. **Customization.** After selecting this button, you can customize your line appearance through the following parts of the interface: ➤ **Line Style.** Choose the style of line you want to add. Options include: ➤ Regular line ➤ Line with endpoints ➤ Line with arrows ➤ **Line Type.** Choose the type of line you want to add. Options include: ➤ Solid Line ➤ Jagged Line ➤ **Line Width.** Select the width of the line, in pixels, in the annotation.
	Click to add text to the snapshot. **Example:** Add, This is the problematic transaction above a line marking an area of the report.

GUI Element (A–Z)	Description
Border and Fill Colors	Select the relevant square to choose the color of the border and fill of your annotations. The available squares are: ➤ **Upper Square.** Click to choose the color of lines, as generated by the line tool and displayed in unfilled shapes. ➤ **Lower Square.** Click to choose the color to fill shapes. Clicking either of the squares generates a dialog box with the following tabs where you choose the color: ➤ Swatches ➤ HSB ➤ RGB
Opacity	Slide the opacity bar to choose the darkness level of the selected shape line, text line, or shape color in the annotation. **Note:** ➤ A higher opacity percentage means that the selection appears darker. A lower opacity percentage means that the selection appears lighter. ➤ This field is enabled when either the shape tool, line tool, or text tool button is selected.

Annotation Menu Bar

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A–Z)	Description
	Click to save the snapshot on your local machine. **Note:** ➤ The snapshot is saved in .png format. ➤ You cannot select the **New Folder** icon  when saving in the **My Documents** directory or any of its subdirectories.
	Click to select all of the annotations added to your snapshot.
	Click to clear all annotations.
	Click to undo the most recent action performed on the snapshot.
	Click to redo the most recent action performed on the snapshot.
	Click to bring the snapshot view closer.
	Click to set the snapshot view further away.
	Click to restore the snapshot to its original size.
	Click to print the snapshot.
	Click to send the snapshot via email.

GUI Element (A–Z)	Description
	Click to upload the snapshot to the Report Repository. For details on the Report Repository, see “Report Manager Overview” on page 94. **Note:** This option is not available when accessing the Annotation Tool from the SiteScope feature.
	Click for help.
	Click to mark the text as bold. **Note:** This field is enabled only when selecting the Text Tool button  .
	Click to mark the text as italicized. **Note:** This field is enabled only when selecting the Text Tool button  .
	Click to mark the text as underlined. **Note:** This field is enabled only when selecting the Text Tool button  .
<Font Family>	Select the font for the text in the report. **Note:** This field is only enabled when selecting the Text Tool button  .
<Font Size>	Select the size of the font in the report. **Note:** This field is only enabled when selecting the Text Tool button  .
Anti-aliasing	Select to make adjust the pixel reading of text or annotation lines so that they appear smoother. **Note:** This field is only enabled when selecting the Text Tool button  .

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System Availability Management Reports

This chapter describes System Availability Management reports which are based on data collected by the SiteScope data collector.

Note: The System Availability Management reports are available only to HP Business Availability Center users.

This chapter includes:

Concepts

Tasks

Reference

System Availability Management Reports Overview

You use the System Availability Management application to view and analyze reports based on the performance data collected by the SiteScope data collector and stored in the HP Business Availability Center database.

In addition, using SiteScope Infrastructure Monitors, you can integrate data collected by enterprise management systems (such as BMC Patrol, Tivoli, Concord, and NetIQ) into HP Business Availability Center, and view the data in System Availability Management reports.

System Availability Management utilizes data collected by SiteScope and enables you to:

- monitor system availability across the entire enterprise infrastructure from a centralized, real-time perspective
- apply a business perspective to system management view data at the application level rather than viewing numerous low-level system metrics
- view information about events collected from external applications or software and SiteScope events

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Note:

- You access the System Availability Management reports from the System Availability Management application in the Applications menu.
- For details on working with HP Business Availability Center reports, see "Working in Reports" in *Reports*.

This section includes the following topics:

Report Access and Permissions

The availability of report data to a specific user is dependent on the profile access permissions granted to that user. Furthermore, access to specific data within a profile may also be filtered by using the group permission filters. For details on granting permissions, see "Permissions Overview" in *Platform Administration*. For details on defining group permission filters, see "System Availability Management Administration (SAM Admin)" in *Platform Administration*.

Data Aggregation

HP Business Availability Center uses data aggregation to make data handling and management more efficient and to improve the speed and performance of report generation. For information about data aggregation in HP Business Availability Center, see "Data Aggregation" in *Reference Information*.

Working with System Availability Management Reports

System Availability Management reports help you identify server resource usage trends, as well as bottlenecks and other server-related issues that may be contributing to application performance problems. You can continually monitor report data to identify poor server performance or to spot developing trends that may lead to server performance problems.

Alternatively, when you become aware of a performance problem with your application (for example, after analyzing End User Management reports or receiving an alert), you can use System Availability Management reports to help you identify, or rule out, infrastructure machine-related issues as the root cause of the problem. By analyzing the infrastructure machine resource usage data for the same time period during which the performance problem occurred, you can assess whether one or more infrastructure machine resource measurements are outside normal performance thresholds for that time period.

Improving Report Generation Times

Note to HP Software-as-a-Service customers: This section is not relevant for HP Software-as-a-Service customers.

To optimize the performance of System Availability Management report generation, we recommend that a database administrator perform an update statistics procedure to the database on a regular basis. The regularity of the update depends on the amount of data generated by the applications you are monitoring.

- **Microsoft SQL Server users.**
  - for a small site, you should update once every three to four days
  - for a medium site, you should update daily
  - for a large site, you should update every four hours

  For details on Microsoft SQL Server maintenance, see "Maintenance Plan" in the *HP Business Availability Center Database Guide* PDF.
- **Oracle Server users.** Analyze all tables according to database size.

  For details on optimizing performance in Oracle, see "Collecting Statistics for Databases" in the *HP Business Availability Center Database Guide* PDF.

SiteScope Over Time Reports

The SiteScope Over Time reports are the individual reports displayed in the System Availability Management application in HP Business Availability Center. You use the SiteScope Over Time reports to view and analyze infrastructure machine-related data collected by the SiteScope data collector and stored in the HP Business Availability Center database. You cross-reference this data with transaction performance problems, such as slow transaction response times and failed transactions, to understand the root cause of application performance issues.

The contents of SiteScope Over Time reports depend on the types of SiteScope monitors and measurements that are defined in System Availability Management Administration.

HP Business Availability Center users can use group permissions filters to control the data that System Availability Management reports display. This enables filtering data that may be irrelevant to a specific user, making reports more manageable and report generation faster. For details, see "System Availability Management Administration (SAM Admin)" in *Platform Administration*.

Note:

- For details on generating reports, see "Working in Reports" in *Reports*.
- Certain System Availability Management reports can be added to custom reports. For details, see "System Availability Management Data in Custom Reports" on page 1712.
- Data collected by the SiteScope data collector can also be viewed in trend reports. Trend reports enable you to compare multiple measurements from different data sources on the same graph. For details, see "Trend Reports Wizard" in *Reports*.
- To avoid affecting the correctness of system availability data during the Daylight Savings Time change (forward or backward), we recommend defining downtime or scheduling an event during the time change period. For more information on scheduling Downtime and Events, see "Downtime/Event Scheduling" in *Platform Administration*.
- If a SiteScope contains many measurements, report generation can take a few minutes.

The following System Availability Management reports are available (click the report name for details on the report):

Report	Description
Monitor Performance Report	Displays the best- or worst-performing SiteScope monitors across various SiteScope categories.
Cross-Performance Report	Displays data from more than one SiteScope server filtered by monitored servers, monitor types, and measurements.
Group Performance Report	Displays the infrastructure machine resource usage data for the monitors in the selected group and its subgroups.
Status Summary Report	Displays a quick snapshot of the performance of monitored infrastructure machines, organized by SiteScope group.
Warning Summary Report	Displays a list of the monitors, for the selected group and its subgroups, whose measurements fell within the minor threshold level during the selected time period.
Error Summary Report	Displays a list of the monitors, for the selected group and its subgroups, whose measurements fell within the critical threshold level during the selected time period.

Understanding the Cross-Performance Report Scale

Measurement values in the cross-performance report are displayed along the y-axis using a normalized scale. By default, HP Business Availability Center automatically sets the scale factor for each measurement. If required, you can manually modify the scale factor for any measurement in the Selected Measurements table, for example, to better view multiple measurements whose data values span a wide range. For details, see "Rescale a Cross-Performance Report" on page 1716.

When you manually modify the scale factor, HP Business Availability Center scales measurement values by dividing the actual value by the value chosen in the scale list. Thus, a value of 100 with a scale setting of 0.1 is shown as 1000 along the y-axis. A value of 100 with a scale setting of 10 is shown as 10 along the y-axis.

Rescaling a Cross-Performance Report

Cross-performance reports are generally scaled so that the lowest y-axis value is zero and the highest y-axis value is the highest result of the data.

You can rescale the report to make it more relevant to the measurement. For example, to measure CPU utilization, you can rescale the report so that the y-axis range is 0 to 100.

For details on rescaling a Cross-Performance report, see "Rescale a Cross-Performance Report" on page 1716.

Understanding the Group Performance Report

You create the Group Performance report and its subreports to view data that helps you spot trends in server performance that could lead to application performance problems. You can also analyze whether slow or failed transactions are being caused by server resource bottlenecks or other infrastructure machine-related problems.

The Group Performance table is the top level of the report. For each group, the table displays a color-coded quality level, the number of subgroups, and the number of included measurements. The quality-level indicators enable you to see how monitors in the defined groups are performing.

The Group Performance report contains the following sub-reports:

- "SiteScope Performance Report" on page 1711
- "SiteScope Data Over Time Report" on page 1711

SiteScope Performance Report

The SiteScope Performance subreport displays a list of measurements collected by SiteScope for the specified group, over the selected time range. If the specified group contains subgroups, these are displayed at the top of the page. For details, see "SiteScope Performance Report" on page 1728.

SiteScope Data Over Time Report

The SiteScope Data Over Time report displays specific measurement data over the selected time range. You can view this report for a single measurement, or for several measurements simultaneously. For details, see "SiteScope Data over Time Report" on page 1731.

System Availability Management Data in Custom Reports

You can add System Availability Management reports to custom reports from the Report Manager. For details, see "Custom Reports Wizard" in *Reports*.

The following table describes how to add System Availability Management reports to custom reports:

Report	To Add to a Custom Report
Monitor Performance Report	Select Applications > User Reports > Report Manager, click the **New** button, select **New Custom Report** and on the Report Components page, click the **Add New Component** button and Select **System Availability Management** > **SiteScope Monitor Performance** from the **Select Component Category** pane.
SiteScope Data over Time Report	Select Applications > User Reports > Report Manager, click the **New** button, select **New Custom Report** and on the Report Components page, click the **Add New Component** button and Select **System Availability Management** > **SiteScope Reports.** In the Select Component pane, select **SiteScope Data Over Time** in the Type list.

Report	To Add to a Custom Report
Group Performance Report	Select Applications > User Reports > Report Manager, click the **New** button  , select **New Custom Report** and on the Report Components page, click the **Add New Component** button  and Select **System Availability Management** > **SiteScope Reports.** In the Select Component pane, select **SiteScope Profile Summary** in the Type list.
Overall Performance Report	Select Applications > User Reports > Report Manager, click the **New** button  , select **New Custom Report** and on the Report Components page, click the **Add New Component** button  and Select **System Availability Management** > **SiteScope Reports.** In the Select Component pane, select **SiteScope Data Over Time** in the Type list.

Create a Monitor Performance Report – Workflow

This task describes how to specify the criteria on which you want the Monitor Performance Report to be based and create the report.

To create a Monitor Performance report:

1. Access the Monitor Performance report: Select **Applications** > **System Availability Management** > **SiteScope Over Time Reports** > **Monitor Performance**.
2. Click **Profile(s)** and select the SiteScope for which you want to view the report.
3. In the **Monitor title** and **Server name** boxes, specify the monitors (by their title, as defined in SiteScope) and servers on which you want the custom report data to be based.

   Leave a box empty to instruct HP Business Availability Center to base the report on all values.

   If required, you can use the wildcard asterisk symbol (*) to instruct HP Business Availability Center to base the report on a subset of all values. For example, if you are using the naming convention cpu_<servername> to name all CPU monitors in SiteScope, specify cpu* to instruct HP Business Availability Center to include all CPU monitors in the custom report.

   Note: Using the wildcard asterisk symbol (*) as the first character in the string slows report generation times, as HP Business Availability Center is unable to use the Index tables when querying the database.

   ---

4. From the **Monitor type** list, select the monitor on which you want the report data to be based. To base the report on all monitors, choose **All types**.
5. Specify whether you want HP Business Availability Center to display the worst- or best-performing monitors, and choose the number of monitors to be displayed in the report.
6. Click **Generate** to create the report.

Create a Cross-Performance Report – Workflow

This task describes how to create a Cross-Performance report.

This task includes the following steps:

1 Access the Cross-Performance Report

Access the Cross- Performance report: Select **Applications** > **System Availability Management** > **SiteScope Over Time Reports** > **Cross-Performance**.

2 Select the Time Range and Granularity

Select the time period and the granularity with which you want to run the report. For details on how to perform this task, see "Time Range and Granularity Bar" in *Reports*.

Note: In certain reports the selected time range is displayed along the x-axis. System Availability Management breaks down the time range according to segments, which differ depending on the selected time range. For details on how System Availability Management breaks down each time range in reports where time is displayed along the x-axis, see "Report Times" in *Reference Information*.

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3 Select Measurements for Monitoring

Click the Select Measurements link to choose the measurements you want the Cross-Performance report to monitor. For details on selecting measurements, see "Select Measurements Dialog Box" on page 1724.

4 Configure Scale Report Information

If required, enter scale information in the **Scale Min** and **Max** boxes. For details on performing this task, see "Rescale a Cross-Performance Report" on page 1716.

5 Generate and Format the Report

Click **Generate** to create the report. The filter area of the page closes and the report opens.

You can print the report, send it by e-mail, or open it in CSV or PDF format. For details on formatting a report, see "Format Options" in *Reports*.

Rescale a Cross-Performance Report

This task describes how to change the y-axis scale of a Cross-Performance report.

To rescale a Cross-Performance report:

1 Click the **Select Measurements** link on the Cross-Performance report page to open the Select Measurements dialog box.

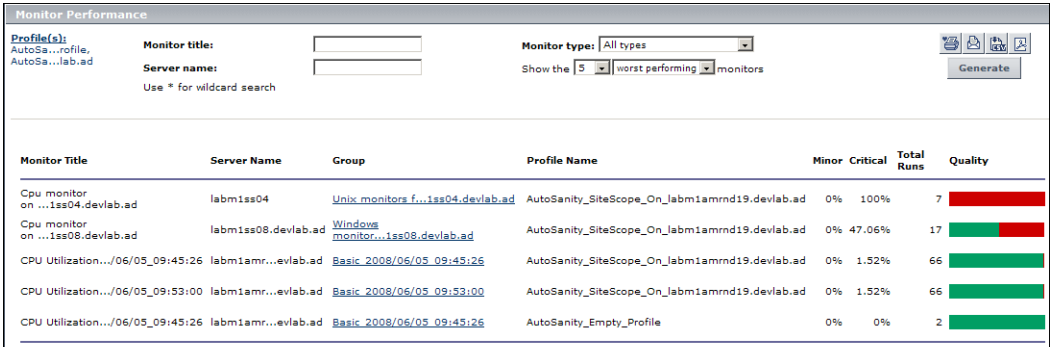
2 Specify a minimum, a maximum, or both a minimum and a maximum value in the **Scale Min** and **Max** boxes.

System Availability Management Reports User Interface

This section describes:

Monitor Performance Report

This is an example of a Monitor Performance report:



Description	Displays the best- or worst-performing SiteScope monitors across various SiteScope categories, such as monitor type, monitored server, or monitor title. You can create a Monitor Performance report for multiple SiteScope profiles. **To access:** Select **Applications** > **System Availability Management** > **SiteScope Over Time Reports** > **Monitor Performance**
Important Information	➤ Monitors are sorted in the report by quality, which is derived using a formula that takes into account the measurement values returned for the monitor during the specified time range relative to the measurement threshold ranges configured in SiteScope. The formula used is: **1-((0.35*W+0.5*E)/(G+W+E))**, where G, W, and E represent the number of measurements that occurred during the selected time range whose value was within the OK, Warning, and Error threshold range, respectively. The formula returns values from 0.5 to 1, inclusively. The better a monitor performs, the closer its value is to 1. For example, a monitor with 25% error and 75% OK values would be displayed as better than a monitor with 100% Warning values. ➤ All data in the report is based on aggregated data. The Monitor Performance report does not use raw data.
Included in Tasks	"Create a Monitor Performance Report – Workflow" on page 1714
Useful Links	"SiteScope Over Time Reports" on page 1707

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.
Monitor Title	Specify the monitors (by their title, as defined in SiteScope) on which you want the custom report data to be based.
Monitor Type	Select the monitor on which you want the report data to be based. To base the report on all monitors, choose **All types.**
Server Name	Specify the servers on which you want the custom report data to be based.
Show the <number and performance level> monitors	Specify whether you want HP Business Availability Center to display the worst- or best-performing monitors, and choose the number of monitors to be displayed in the report.

Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Critical	The percentage of measurement instances that return a critical-level threshold status.
Group	The group or subgroup in which the monitor is defined. Hover over the selected entry to view the path from the displayed group or subgroup to the root group. Click the group or subgroup name to open the management page for the group in SiteScope.
Minor	The percentage of measurement instances that return a minor-level threshold status.

GUI Element (A-Z)	Description
Monitor Title	The title of the SiteScope monitor. Hover over the entry to view a tooltip with the full monitor title.
Profile Name	The name of the SiteScope profile in which the monitor is defined.
Quality	A color-coded representation of quality. Hover over the color to view a tooltip with the exact percentage for each colored section of the bar. For an explanation of the indicated colors, see "Color Coding in Reports" on page 1720.
Server Name	The name of the monitored server. Hover over the selected entry to view a tooltip with the full server name.
Total Runs	The total number of measurement instances SiteScope ran for the selected time range.

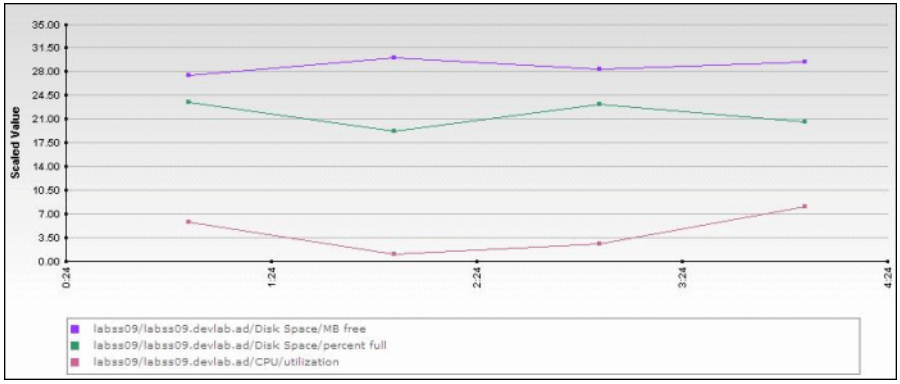
Color Coding in Reports

System Availability Management reports use the following colors when displaying color-coded performance levels:

Color	Description
Green	All measurements fell within the OK threshold range.
Yellow	At least one measurement fell within the minor threshold range, but no measurements fell within the critical threshold range.
Red	At least one measurement fell within the critical threshold range.
Gray	No measurement data reported.

Cross-Performance Report

This is an example of a Cross-Performance report:



Description	Displays data from more than one SiteScope server filtered by monitored servers, monitor types, and measurements. **To access:** Select **Applications** > **System Availability Management** > **SiteScope Over Time Reports** > **Cross-Performance**
Important Information	➤ Click the appropriate tab to choose how you want to view the Cross-Performance report: ➤ View as Graph ➤ View as Table ➤ You can choose to view data in separate graphs for each measurement, or in one graph for all measurements. For details, see "Select Measurements Dialog Box" on page 1724.
Included in Tasks	"Create a Cross-Performance Report – Workflow" on page 1715

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.
Select Measurements	Click to open the Select Measurements dialog box and filter the data you want to include in the report. For details, see "Select Measurements Dialog Box" on page 1724. **Note:** You cannot create a report if you have not selected at least one measurement.

Report Content as Graph

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<data points>	Indicate one of the following: ➤ A change in the data value or measurement frequency from the previous time point on the graph. ➤ One hour has passed since the last change in data value or measurement frequency.
<graph lines>	The value of the specified measurements, at the indicated time. A straight line indicates the following: ➤ There has been no change in the value of the incoming data from the previous time point on the graph. ➤ There has been no change in the frequency that the incoming data is measured in since the previous time point on the graph. **Note:** A gap in the graph indicates that no data has been retrieved for the specific time period.

GUI Element (A-Z)	Description
<x-axis>	Displays the date and time of the monitored measurements. **Note:** Depending on the time range you select, System Availability Management generates reports using either raw data or aggregated data. The text: **Note: Report uses aggregated data** is displayed in the report when aggregated data is used. For details on how System Availability Management determines when to use aggregated data, see "Data Aggregation" in *Reference Information*.
<y-axis>	Displays the measurement values and the monitor type or title, depending on whether you selected **Filter by Monitor Type** or **Filter by Monitor Title** in the Select Measurements dialog box.

Report Content as Table

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<date>	The date and time of the measurements' data. **Note:** Depending on the time range you select, System Availability Management generates reports using either raw data or aggregated data. The text: **Note: Report uses aggregated data** is displayed in the report when aggregated data is used. For details on how System Availability Management determines when to use aggregated data, see "Data Aggregation" in *Reference Information*.
<value>	The value of the specific measurement.
Measurement Name	The name of the measurement, including the server on which it is running. **Tootlip:** Displays the full path of the measurement name.

Select Measurements Dialog Box

Description	Enables you to filter the data you want to include in the Cross-Performance report. **To access:** Click the **Select Measurements** link on the Cross-Performance report page.
Important Information	If you select a measurement for which data exists from more than one group or profile for the same target server, the data is averaged together in the report. For example, if you have two SiteScope profiles each containing two groups, and in three of those groups the Ping monitor is set up to monitor the same server, if you select both profiles and the round trip time measurement, all round trip time data collected from all three groups in both profiles is displayed in the report as an average value.
Included in Tasks	"Create a Cross-Performance Report – Workflow" on page 1715

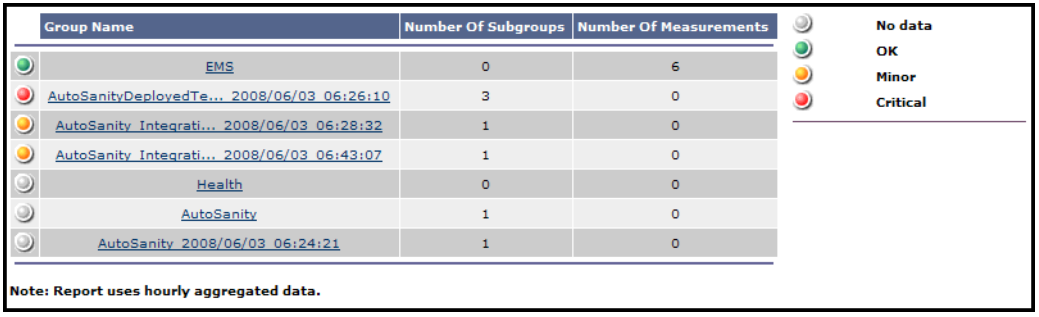
The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
	Click to list all the elements whose name includes the string entered in the **Contains** box.
Contains	Optionally, enter a string by which you want to filter elements in the selected column.
Disable auto-scale	Click to disable automatic rescaling of the report scale factor. For details on changing the report scale, see "Understanding the Cross-Performance Report Scale" on page 1710.
Filter by Monitor Title	Select to display the monitor title when choosing the component to add to the report. **Example:** myserver, CPU finance_server
Filter by Monitor Type	Select to display the monitor type when choosing the component to add to the report. **Example:** Ping, CPU

GUI Element (A-Z)	Description
Graph per measurement	Select to display a separate graph for each measurement. The graph legend displays the server on which the measurement is running. If de-selected, a new graph is created for each measurement with the title **<server_name> continued**. **Default Value:** Selected
Measurements	Select one or more measurements. The list includes the measurements that are associated with the selected profiles, servers, and monitor types, in alphabetical order.
Monitor Types/Monitor Measurements	Depending on whether you chose **Filter by Monitor Type** or **Filter by Monitor**, displays monitor types or monitor names, associated with the selected profiles and servers, in alphabetical order. Select one or more monitors.
Profiles	Select one or more SiteScope profiles to be included in the report. **Note:** The number of selected profiles are calculated after you click **Generate**. You can choose up to 10 profiles. If these numbers exceed the allowed limit, an error message is displayed.
Scale	Optionally, enter relevant values in the **Min** and **Max** boxes to rescale the y-axis for the report. For details, see "Rescale a Cross-Performance Report" on page 1716. **Note:** If the data values of a monitor are outside the minimum or maximum configured values of the graph, the data points are displayed outside the boundaries of the graph.
Servers	Select one or more servers. The list includes all monitored servers associated with the selected profiles, in alphabetical order.

Group Performance Report

This is an example of a Group Performance report:



Group Name	Number Of Subgroups	Number Of Measurements
EMS	0	6
AutoSanityDeployedTe... 2008/06/03 06:26:10	3	0
AutoSanity Integrati... 2008/06/03 06:28:32	1	0
AutoSanity Integrati... 2008/06/03 06:43:07	1	0
Health	0	0
AutoSanity	1	0
AutoSanity 2008/06/03 06:24:21	1	0

No data
OK
Minor
Critical

Note: Report uses hourly aggregated data.

Description	Displays the infrastructure machine resource usage data for the monitors in the selected group and its subgroups. You use this report to view data that helps you spot trends in server performance that could lead to application performance problems. **To access:** Select **Applications** > **System Availability Management** > **SiteScope Over Time Reports** > **Group Performance**
Important Information	➤ The Group Performance Report contains the following sub-reports: ➤ SiteScope Performance Report ➤ SiteScope Data Over Time Report ➤ You click the group name to open the SiteScope Performance report for the specified group.
Useful Links	“SiteScope Performance Report” on page 1728 “SiteScope Data over Time Report” on page 1731

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.

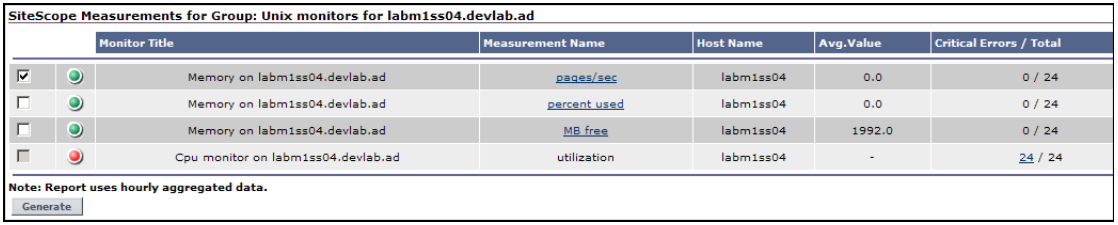
Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<quality level indicator>	A color-coded icon which enables you to see how monitors in the defined groups are performing. **Tooltip:** Indicates the group's quality level and number of critical errors.
<quality level legend>	Indicates the quality level that the colored icons in the Group Performance table represent.
Group Name	The name of the SiteScope monitor group. Click the group name to open the SiteScope Performance report for the specified group. For details on the SiteScope Performance report, see "SiteScope Performance Report" on page 1728. **Tooltip:** Displays the full group name.
Number of Measurements	The number of measurements contained in the specified group.
Number of Subgroups	The number of subgroups contained in the specified group.

SiteScope Performance Report

This is an example of a SiteScope Performance report:



SiteScope Measurements for Group: Unix monitors for labm1ss04.devlab.ad

		Monitor Title	Measurement Name	Host Name	Avg.Value	Critical Errors / Total
☑		Memory on labm1ss04.devlab.ad	pages/sec	labm1ss04	0.0	0 / 24
☐		Memory on labm1ss04.devlab.ad	percent used	labm1ss04	0.0	0 / 24
☐		Memory on labm1ss04.devlab.ad	MB free	labm1ss04	1992.0	0 / 24
☐		Cpu monitor on labm1ss04.devlab.ad	utilization	labm1ss04	-	24 / 24

Note: Report uses hourly aggregated data.

Generate

Description	Displays a list of measurements collected by SiteScope for the specified group, over the selected time range. **To access:** Click an entry in the Group Name field on the Group Performance table.
Important Information	The SiteScope Performance Report is divided into the following sections: ➤ **Subgroups for Group: <Group name>.** The elements displayed in this section are identical to those displayed on the Group Performance report main page. ➤ **SiteScope Measurements for Group: <Group name>.** Displays the measurements collected for the specified group.

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.
Generate	Click to generate the SiteScope Data Over Time report for the selected measurements. **Note:** This button is located underneath the SiteScope Performance report, and is enabled only if there are enabled check boxes in the **SiteScope Measurements for Group: <Group name>** section.

Report Content for Subgroups for Group: <Group Name> Table

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<quality level indicator>	A color-coded icon which enables you to see how monitors in the defined groups are performing. **Tooltip:** Indicates the group's quality level and number of critical errors.
<quality level legend>	Indicates the quality level that the colored icons in the Group Performance table represent.
Group Name	The name of the SiteScope monitor group. Click the group name to open the SiteScope Performance report for the specified group's measurements. For details, see "Report Content for SiteScope Measurements for Group: <Group Name> Table" on page 1730. **Tooltip:** Displays the full group name.

GUI Element (A-Z)	Description
Number of Measurements	The number of measurements contained in the specified group.
Number of Subgroups	The number of subgroups contained in the specified group.

Report Content for SiteScope Measurements for Group: <Group Name> Table

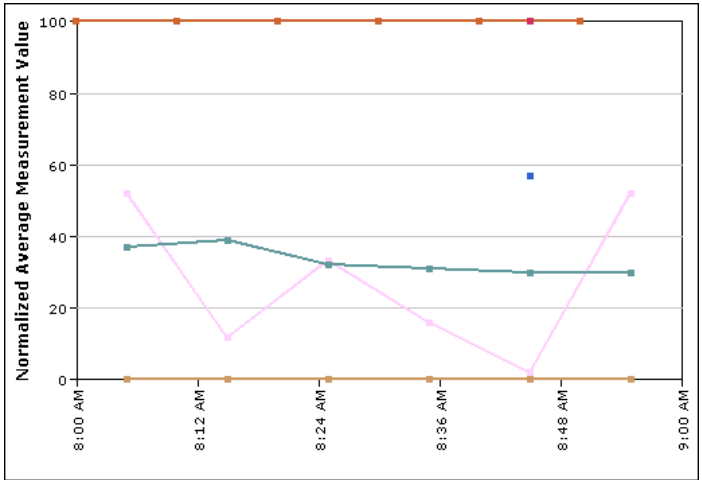
The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<check box>	An enabled check box indicates that there is monitor data that can be viewed in the SiteScope Data Over Time report. To view this data, select the checkbox corresponding to the measurement for which you want to view data, and click **Generate**. For details on the SiteScope Data Over Time report, see "SiteScope Data over Time Report" on page 1731.
<quality level indicator>	Displays measurement threshold colored icons, which indicate whether the average measurement is within the OK, Warning, or Error range, as reported by SiteScope. You define measurement thresholds for each measurement when you configure the monitor in the System Availability Management area in the Administration Console. For details, see "Setting Status Thresholds" on page 266.
Avg. Value	The average value of each listed measurement, or counter, for the specified time period.
Critical Errors/Total	The number of critical errors that occurred while collecting measurement data, out of the total number of measurements taken during the defined time period. Click the link to view a list of critical error messages. HP Business Availability Center displays the link only if errors occurred.

GUI Element (A-Z)	Description
Host Name	The name of the SiteScope host machine.
Measurement Name	The name of the measurement. If measurement data exists for the selected time range, the measurement name appears as a link. Click the measurement link to open the SiteScope Data Over Time report. For details on the SiteScope Data Over Time report, see “SiteScope Data over Time Report” on page 1731.
Monitor Title	The title of the monitor.

SiteScope Data over Time Report

This is an example of a SiteScope Data Over Time report:



Description	Displays specific measurement data over the selected time range. **To access:** From the SiteScope Performance Report, perform one of the following actions: ➤ Select the checkbox corresponding to the measurement you want to view data for and click **Generate**. ➤ Click the measurement link in the **Measurement Name** column. This column displays a link only if there is measurement data exists for the selected time range.
Important Information	➤ You can view this report for a single measurement, or for several measurements simultaneously. ➤ You can add the SiteScope Data over Time report to custom reports. For details, see "Custom Reports Wizard" in *Reports*. ➤ Click the appropriate tab to view the report either in graph or table format. When viewing in table format, the table displays actual measurement values, not normalized values.

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Format Buttons>	Click the appropriate button to print the report, send it by e-mail, or open it in CSV or PDF format. For details, see "Format Options" in *Reports*.

Report Content as Graph

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<color code legend>	Identifies the measurements in the graph, by color.
<data points>	**Tooltip:** Displays measurement details, including the measurement's original value.
<x-axis>	Displays the date and time of the monitored measurements.
<y-axis>	Displays a normalized scale of 0 - 100 for the monitored measurements. HP Business Availability Center uses the following formula to convert the original y-axis value to a value in the merged y-axis: [original y-axis value] x [scale value] = y-axis value in merged graph
View as Table	Click to view the SiteScope Data Over Time report in table format.

Report Content as Table

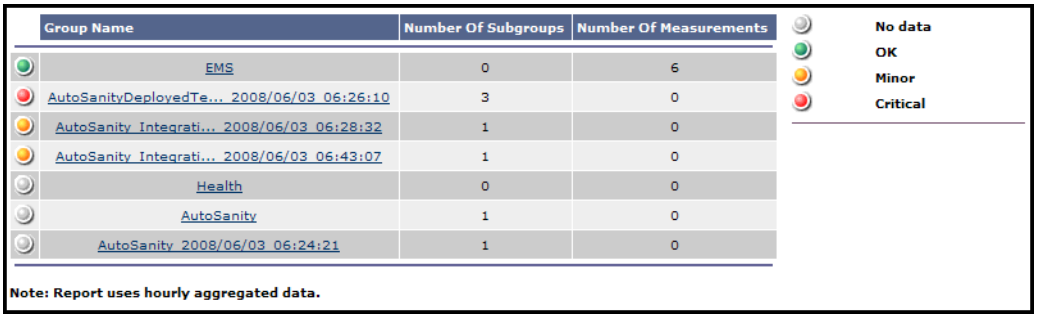
The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<date>	The date of the data output for the selected measurement.
<monitor title and measurement name>	**Tooltip:** Hover over the entry to view the title of the monitor being measured, and the name of the specific measurement. This element is located on the left side of the table.
<time>	The time of the data output for the selected measurement.

GUI Element (A-Z)	Description
<value>	The value of the measurement for the specified time.
View as Graph	Click to view the SiteScope Data Over Time report in graph format.

Status Summary Report

This is an example of a Status Summary report:



Group Name	Number Of Subgroups	Number Of Measurements
EMS	0	6
AutoSanityDeployedTe... 2008/06/03 06:26:10	3	0
AutoSanity Integrati... 2008/06/03 06:28:32	1	0
AutoSanity Integrati... 2008/06/03 06:43:07	1	0
Health	0	0
AutoSanity	1	0
AutoSanity 2008/06/03 06:24:21	1	0

No data
OK
Minor
Critical

Note: Report uses hourly aggregated data.

Description	Displays a quick snapshot of the performance of monitored infrastructure machines, organized by SiteScope group. You create the Status Summary report and its subreport to get an overall view of the performance of defined SiteScope groups and the monitors defined therein. **To access:** Select **Applications > System Availability Management > SiteScope Over Time Reports > Group Performance**

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.

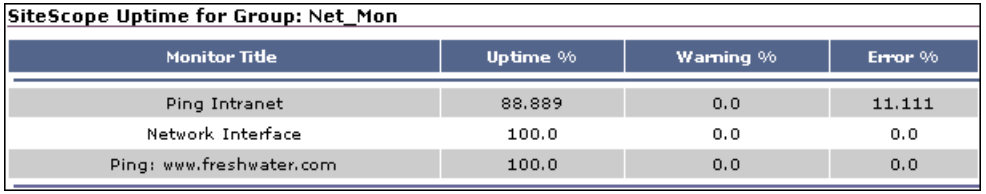
Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<quality level indicator>	A color-coded icon which enables you to see how monitors in the defined groups are performing. **Tooltip:** Indicates the group's quality level and number of critical errors.
<quality level legend>	Indicates the quality level that the colored icons in the Group Performance table represent.
Group Name	The name of the SiteScope monitor group. Click the group name to open the SiteScope Uptime Summary report for the specified group. For details on the SiteScope Uptime Summary report, see "SiteScope Uptime Summary Report" on page 1736. **Tooltip:** Displays the full group name.
Number of Measurements	The number of measurements contained in the specified group.
Number of Subgroups	The number of subgroups contained in the specified group.

SiteScope Uptime Summary Report

This is an example of the SiteScope Uptime Summary Report:



SiteScope Uptime for Group: Net_Mon

Monitor Title	Uptime %	Warning %	Error %
Ping Intranet	88.889	0.0	11.111
Network Interface	100.0	0.0	0.0
Ping: www.freshwater.com	100.0	0.0	0.0

Description	Displays OK, Minor, and Critical information for each monitor in the group, over the selected time range The SiteScope Uptime Summary report enables you to determine the overall performance trend of a given monitor. **To access:** Click a group name in the Status Summary report.
Important Information	➤ If the specified group contains subgroups, these are displayed at the top of the page. Click the subgroups to view their SiteScope Uptime Details subreports. ➤ This report cannot be opened in PDF format.

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.

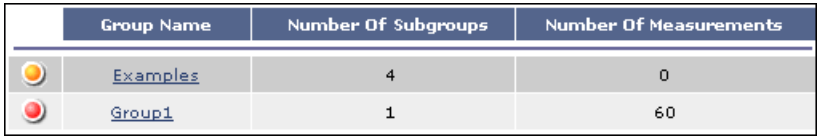
Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Critical %	The percentage of measurement instances whose values fell within the **Critical** threshold level.
Minor %	The percentage of measurement instances whose values fell within the **Minor** threshold level.
Monitor Title	The title of the monitor being measured.
OK %	The percentage of measurement instances that completed successfully.

Warning Summary Report

This is an example of the Warning Summary report:



	Group Name	Number Of Subgroups	Number Of Measurements
	Examples	4	0
	Group1	1	60

Description	Displays a list of the monitors, for the selected group and its subgroups, whose measurements fell within the minor threshold level during the selected time period. You create the Warning Summary report and its subreport to identify the SiteScope groups whose measurements fell within the minor threshold level during the selected time period. **To access:** Select **Applications** > **System Availability Management** > **SiteScope Over Time Reports** > **Warning Summary**

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.

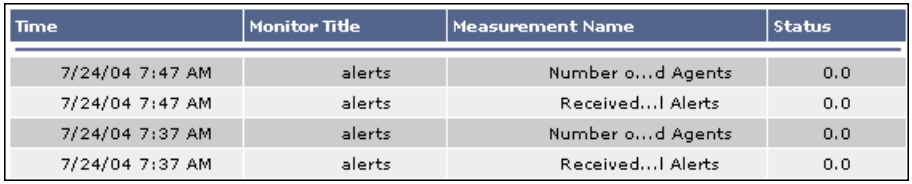
Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<quality level indicator>	A color-coded icon which enables you to see how monitors in the defined groups are performing. **Tooltip:** Indicates the group's quality level and number of critical errors.
<quality level legend>	Indicates the quality level that the colored icons in the Group Performance table represent.
Group Name	The name of the SiteScope monitor group. Click the group name to open the SiteScope Warning Details report for the specified group. For details on the SiteScope Warning Details report, see "SiteScope Warning Details Report" on page 1739. **Tooltip:** Displays the full group name.
Number of Measurements	The number of measurements contained in the specified group.
Number of Subgroups	The number of subgroups contained in the specified group.

SiteScope Warning Details Report

This is an example of the SiteScope Warning Details report:



Time	Monitor Title	Measurement Name	Status
7/24/04 7:47 AM	alerts	Number o...d Agents	0.0
7/24/04 7:47 AM	alerts	Received...l Alerts	0.0
7/24/04 7:37 AM	alerts	Number o...d Agents	0.0
7/24/04 7:37 AM	alerts	Received...l Alerts	0.0

Description	Displays minor status information for each measurement instance of each monitor in the group, over the selected time range. **To access:** Click a group name in the Warning Summary report.
Important Information	➤ System Availability Management displays only raw data in the SiteScope Warning Details report. Aggregated data is not used. Therefore, if raw historical data is removed from the profile database using the Purging Manager, you are unable to view data in the SiteScope Warning Details report for the time period for which the data was removed. ➤ This report cannot be opened in PDF format.

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.

Report Content for Subgroups for Group: <Group Name> Table

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<quality level indicator>	A color-coded icon which enables you to see how monitors in the defined groups are performing. **Tooltip:** Indicates the group's quality level and number of critical errors.
<quality level legend>	Indicates the quality level that the colored icons in the Group Performance table represent.
Group Name	The name of the SiteScope monitor group. Click the group name to open the SiteScope Warning Details report for the specified group and view the group's measurements. For details, see on the SiteScope Performance report, see "Report Content for SiteScope Warning Measurements for Group: <Group Name> Table" on page 1741. **Tooltip:** Displays the full group name.
Number of Measurements	The number of measurements contained in the specified group.
Number of Subgroups	The number of subgroups contained in the specified group.

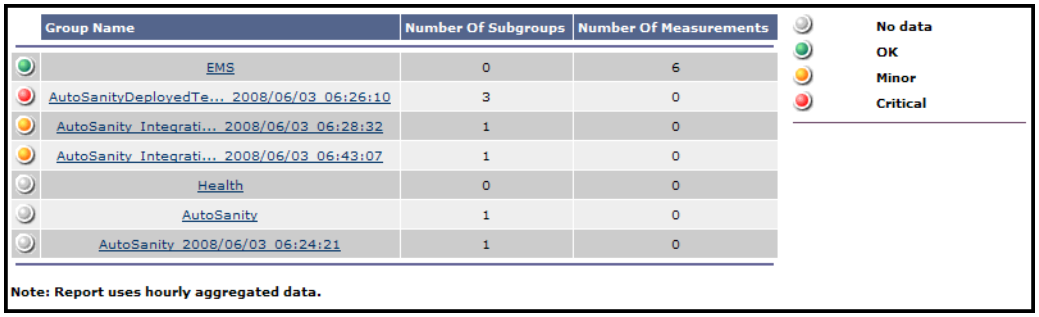
Report Content for SiteScope Warning Measurements for Group: <Group Name> Table

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Measurement Name	The measurement instance whose threshold fell within the Minor level.
Monitor Title	The monitor to which the measurement is associated.
Status	The value of the measurement.
Time	The date and time of the measurement instance.

Error Summary Report

This is an example of an Error Summary report:



Group Name	Number Of Subgroups	Number Of Measurements
EMS	0	6
AutoSanityDeployedTe... 2008/06/03 06:26:10	3	0
AutoSanity Integrati... 2008/06/03 06:28:32	1	0
AutoSanity Integrati... 2008/06/03 06:43:07	1	0
Health	0	0
AutoSanity	1	0
AutoSanity 2008/06/03 06:24:21	1	0

No data
OK
Minor
Critical

Note: Report uses hourly aggregated data.

Description	Displays a list of the monitors, for the selected group and its subgroups, whose measurements fell within the critical threshold level during the selected time period. You create the Error Summary report and its subreport to identify the SiteScope groups whose measurements fell within the critical threshold level during the selected time period. **To access:** Select **Applications** > **System Availability Management** > **SiteScope Over Time Reports** > **Error Summary**
Important Information	For each SiteScope group in the selected profile, the report displays a color-coded quality level, the number of subgroups, and the number of included measurements. The quality-level indicators enable you to get a quick snapshot of how monitors in the defined SiteScope groups are performing.

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.

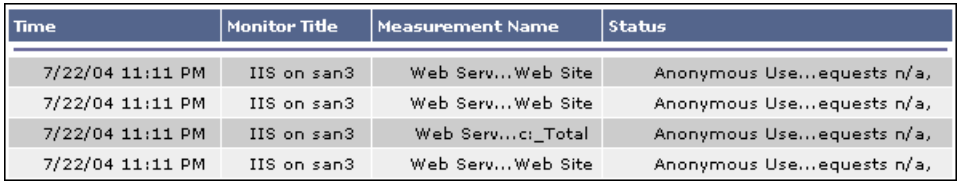
Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<quality level indicator>	A color-coded icon which enables you to see how monitors in the defined groups are performing. **Tooltip:** Indicates the group's quality level and number of critical errors.
<quality level legend>	Indicates the quality level that the colored icons in the Group Performance table represent.
Group Name	The name of the SiteScope monitor group. Click the group name to open the SiteScope Error Details report for the specified group. For details on the SiteScope Error Details report, see "SiteScope Error Details Report" on page 1744. **Tooltip:** Displays the full group name.
Number of Measurements	The number of measurements contained in the specified group.
Number of Subgroups	The number of subgroups contained in the specified group.

SiteScope Error Details Report

This is an example of a SiteScope Error Details report:



Time	Monitor Title	Measurement Name	Status
7/22/04 11:11 PM	IIS on san3	Web Serv...Web Site	Anonymous Use...equests n/a,
7/22/04 11:11 PM	IIS on san3	Web Serv...Web Site	Anonymous Use...equests n/a,
7/22/04 11:11 PM	IIS on san3	Web Serv...c:_Total	Anonymous Use...equests n/a,
7/22/04 11:11 PM	IIS on san3	Web Serv...Web Site	Anonymous Use...equests n/a,

Description	Displays error status information for each measurement instance of each monitor in the group, over the selected time range. **To access:** Click a group name in the Error Summary report.
Important Information	➤ System Availability Management displays only raw data in the SiteScope Error Details report. Aggregated data is not used. Therefore, if raw historical data was removed from the profile database using the Purging Manager, you are unable to view data in the SiteScope Error Details report for the time period for which the data was removed. ➤ This report cannot be opened in PDF format.

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.

Report Content for Subgroups for Group: <Group name> Table

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<quality level indicator>	A color-coded icon which enables you to see how monitors in the defined groups are performing. **Tooltip:** Indicates the group's quality level and number of critical errors.
<quality level legend>	Indicates the quality level that the colored icons in the Group Performance table represent.
Group Name	The name of the SiteScope monitor group. Click the group name to open the SiteScope Error Details report for the specified group's measurements. For details, see "Report Content for SiteScope Error Messages for Group: <Group name> Table" on page 1746. **Tooltip:** Displays the full group name.
Number of Measurements	The number of measurements contained in the specified group.
Number of Subgroups	The number of subgroups contained in the specified group.

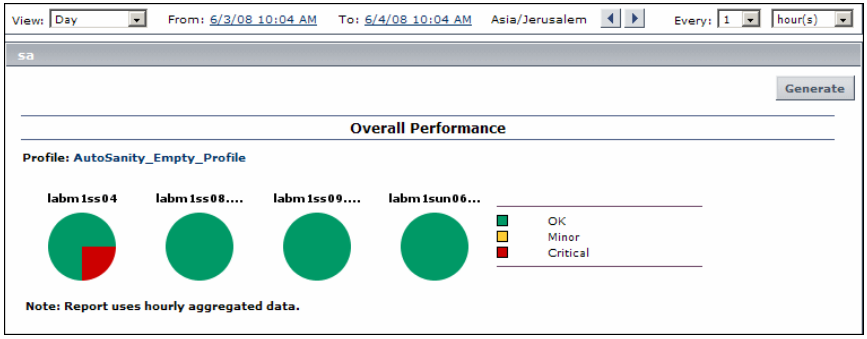
Report Content for SiteScope Error Messages for Group: <Group name> Table

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Measurement Name	The measurement instance whose threshold fell within the Error level.
Monitor Title	The monitor to which the measurement is associated.
Status	Error information as reported by SiteScope.
Time	The data and time of the measurement instance.

Overall Performance Report

This is an example of an Overall Performance report:



Description	Displays a quick snapshot of the performance of the monitored infrastructure machines in the selected SiteScope profiles. **To access:** Select **Applications** > **User Reports** > **Report Manager**, click the **New** button, select **New Custom Report** and on the Report Components page, click the **Add New Component** button and Select **System Availability Management** > **SiteScope Reports** from the **Select Component Category** pane. In the Select Component pane, select **Overall Performance** in the Type list. **To access an existing Overall Performance report:** Select the appropriate custom report in the Report Manager and click the **View** button.
Important Information	This report is available only in custom reports, and is not visible on the System Availability Management interface.
Useful Links	"Custom Reports" in *Reports*

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.

Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<color code legend>	Identifies the measurement statuses in the graph, by color.
<pie charts>	Represents the performance of each element of the infrastructure that SiteScope is monitoring. **Tooltip:** Describes the exact number and percentage of measurements for each segment of the chart.
Profile	The profile that is being monitored.

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Event Log

The HP System Availability Management event log displays SiteScope events, as well as events collected from external applications or software by enterprise management systems (EMS) using SiteScope.

Note: The Event Log is available only to HP Business Availability Center users.

This chapter includes:

Concepts

Tasks

Reference

Event Log Overview

The Event Log page displays the logs of events that are sent to the system. You can use filters (time frame, data source, severity, and target name) to display specific information. If you select the SiteScope data source, you can then select additional filters: SiteScope profile, groups, and monitor type

The event log enables you to diagnose specific issues in real time and to create trend reports. For details on creating trend reports, see "Trend Reports" in *Reports*.

The event log enables you to view event data over time, events that happened at a specific time, the details of a specific event, and (where possible) the event history.

The type of event that is collected depends on what is defined as an event in the external applications or software. Event types can be warnings, alerts, user logins, and so on.

When you create the event log, the Event Log page displays the events sorted by the time of their occurrence in descending order. It also shows columns that are common to all the data sources that can send events. The data of the SiteScope data source is filtered according to SiteScope Profile permissions (for details, see "Permissions Overview" in *Platform Administration*).

The event log displays event data that is common to all data sources, including:

- the severity of the event
- the application or software from which the event is collected
- the time the event occurred
- the hierarchy of the event source
- the name (or the IP address) of the host or device that caused the event
- the status or type of event
- the external system description of the event

You can filter the events for a specific time frame, data source, severity, and target name. For details, see "View the Event Log - Workflow" on page 1751.

Once the events are filtered, you can drill down to the common data to:

- display data that is specific to the data source where the event occurred. For details on this topic, see "Event Details Page" on page 1760.
- display the history of a specific event. For details on this topic, see "Event History Page" on page 1761.

View the Event Log - Workflow

This task describes how to view the logs of events sent to HP Business Availability Center.

This task includes the following steps:

- "Prerequisites" on page 1751
- "Select the Event Log Time Period" on page 1752
- "Edit Filters in the Active Filters Dialog Box" on page 1752
- "Format the Event Log" on page 1752

1 Prerequisites

Make sure that SiteScopes are configured to monitor the infrastructure of your HP Business Availability Center system. Select **Admin** > **System Availability Management** and verify that there are hosted SiteScopes in the <left pane> by hovering over the entries, and view the information presented on the resulting tooltip.

For details on configuring SiteScopes in HP Business Availability Center, see "Collect Data on the Performance of an IT Resource" on page 144.

2 Select the Event Log Time Period

Select **Applications** > **System Availability Management** > **Event Log** to display the Event Log page. In the **View** list, select the time period for which you want to gather information to display in the report.

For details on how to perform this task, see "Time Range and Granularity Bar" in *Reports*.

3 Edit Filters in the Active Filters Dialog Box

Optionally, you can click the **Active Filters** link to edit the filters for the events to be displayed on the Events Log page.

For details, see "Active Filters Dialog Box" on page 1759.

4 Format the Event Log

Optionally, click one of the action buttons to print, e-mail, or open a report in Excel or PDF format.

For details on how to perform this task, see "Format Options" in *Reports*.

Customize the Event Log

This task describes how to customize the Event Log.

This task includes the following steps:

- "Change the Maximum Number of Rows Displayed in a Page" on page 1753
- "Configure History View for Data Sources" on page 1753

1 Change the Maximum Number of Rows Displayed in a Page

When there are too many events to display in one page of a table, you may want to modify the number of rows permitted on a page.

a Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, click **Applications**, select **End User/System Availability Management**, and locate the **Max Table Rows** in the **Event Reports** table.

b Modify the value to the required number of rows per page.

2 Configure History View for Data Sources

You can enable the History button for selected data sources by configuring the relevant parameters in the Infrastructure Settings.

a Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, click **Applications**, select **End User/System Availability Management**, and in the **End User/System Availability Management - Data** table, locate the **Event Log Report Data Sources History** entry.

b In the **Value** box, set the property value by adding the data source names for which you want to enable the **History** button. Separate multiple data source names with commas.

The change takes effect after restart.

Set Additional Filters for SiteScope

If you select a SiteScope data source in the active filter, an additional filter is automatically provided to filter the data by SiteScope profile, group, and monitor type.

To work with additional filters for SiteScope data sources:

1 Click **SiteScope Filters**, to open the **SiteScope Filter** page.

2 Select the type of monitor in the **Monitor Type** list. The default is **All Monitor Types**.

3 Select the SiteScope profile in the **Profile** list. The default is **All Profiles**. To view events of interest regarding the profile or group permissions, select one of the profiles in the **Profile** list. The list of groups allowed for the selected profile is displayed. For details on profile or group permissions, see "Permissions Overview" in *Platform Administration*.

Note: If you select **All Profiles**, your profile or group permissions are not applied to the displayed events.

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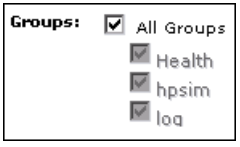
4 If available, select the required group in the group tree. Select **All Groups** if you want to select all the groups in the tree. When a tree CI changes its status (from selected to unselected or from unselected to selected) the status of the whole sub-tree changes.



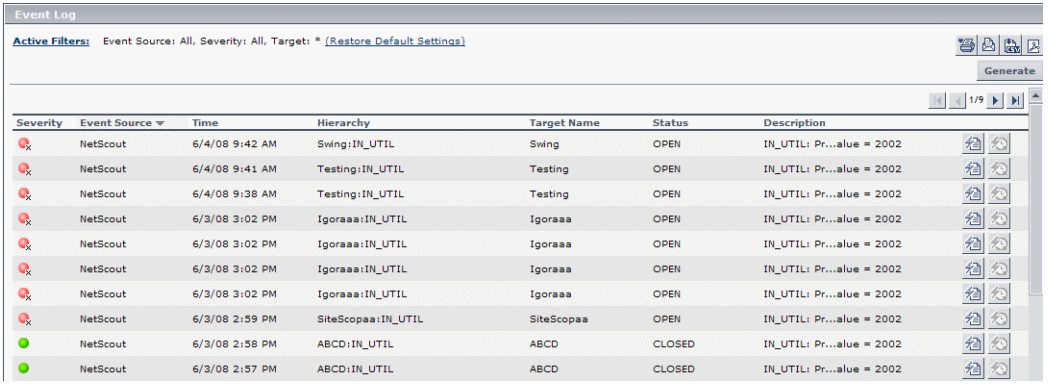
Event Log User Interface

This section describes:

➤ Event Log Page on page 1755

Event Log Page

This is an example of the Event Log:



Description	Displays the event data common to all event data sources. The Event Log displays SiteScope events, as well as events collected from external applications or software by enterprise management systems (EMS) using SiteScope. **To access:** Select **Applications** > **System Availability Management** > **Event Log**
Important Information	If the number of events that occur during the specified time frame is larger than the maximum number of events that can be displayed in the report, a message is displayed indicating this. To reduce the number of events, select a more specific time range. For example, to see events for the past week, select the individual days of the week.

Report Settings

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
<Common report settings>	For details on the user interface, see "Common Report Elements" in *Reports*.
Active Filters	Enables you to set filters on event log components, to pinpoint the specific events you most want to view. For details on Active Filters, see "Active Filters Dialog Box" on page 1759. **Note:** You can click a value in a specific row to add that value to the active filter.

Report Content

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
	Click to open the Event Details page and view additional data for the event. For details, see "Event Details Page" on page 1760.
	Click to open the Event History page and view details about the event history data. For details, see "Event History Page" on page 1761.
Description	The event description. If the description is very long, the value is shortened and the tooltip displays the full hierarchy.
Event Source	The application or software from which the event is collected. For a list of possible event sources, see "Event Sources" on page 1758.

GUI Element (A-Z)	Description
Hierarchy	The hierarchy description of the event source. It can include the path to where the event occurred in the area, sub area, or instance and/or the event depending on the application or software from which the event is collected. The hierarchy can have two to four branches, depending on the data source. If the hierarchy is very long, this field displays the shortened string and the tooltip displays the complete hierarchy.
Severity	A colored icon indicating the severity level of the event. ➤  . Unknown ➤  . Informational ➤  . Warning ➤  . Minor ➤  . Major ➤  . Critical **Tooltip:** Displays the severity of the event.
Status	The status or type of the event. If the hierarchy is very long, the value is shortened and the tooltip displays the full hierarchy.
Target Name	The name or the IP address of the host or device that caused the event.
Time	The time when the event occurred. By default, the data sorted in this column is in descending order.

Event Sources

Following are the applications and software from which events can be collected, depending on the external systems that sent the events to HP Business Availability Center:

- HP OVO
- Remedy ARs
- SitescopeAlert
- SitescopeAlertStatusChange
- Tivoli TEC
- BMC Patrol
- CA Unicenter
- HP SIM
- Compaq Insight Manager
- Whatsup
- Compaq Insight Manager

Active Filters Dialog Box

Description	Enables you to set filters on specific event log fields, to pinpoint the events you most want to view. **To access:** Click the **Active Filters** link in on the Event Log Page.

The Active Filters dialog box includes the following filter tabs and areas:

GUI Element (A-Z)	Description
Event Source	Enables you to filter the data displayed in the Event Log according to specific event sources. The Event Source tab includes the following options: ➤ **All.** Click to view all event sources in the Event Log page. ➤ **<Event Source Name>.** Click to view only the specified event source in the Event Log page.
Severity	Enables you to filter the data displayed in the Event Log according to event severity level.
Target	Enables you to filter the data displayed in the Event Log according to target location. **Note:** To view all targets, enter an asterisk in the **Targets** field.

Event Details Page

Description	Displays detailed information about the specified event as well as the fields and the field values from the event data. **To access:** Click the **Event Details** button  on the Event Log page next to the event from which you want to retrieve information.
Important Information	The type of information provided depends on the data source. Not all elements are displayed for all events.

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Acknowledged By	The operator who acknowledged the event.
Collector Host IP	The IP address of the machine that collected the data.
Collector Host Name	The name of the machine that collected the data.
Description	A description of the event.
Event Source	The application or software from which this event is collected.
Group	The additional logical level of event hierarchy.
Hierarchy	The hierarchy of the event source. It can include the path to where the event occurred in the area, sub area, or instance and/or the event depending on the application or software from which the event is collected. Depending on the data source, the hierarchy can have two to four branches. If the hierarchy is very long, this field displays the shortened string and the tooltip displays the complete hierarchy.
Original Severity	The original severity of the event.
Severity	The severity of the event.
Status	The event status or type.

GUI Element (A-Z)	Description
Target Name	The name of the host or device that caused the event.
Time	The time of the event.
Value	Any numeric values that are sent with the event.

Event History Page

Description	Displays detailed information about the specified event for different time periods. You use the event history report to receive a historical view of the event. **To access:** Click the **Event History** button  on the Event Log page.
Important Information	The elements displayed in the Event History page are identical to those displayed on the Event Log page. However, you cannot view the event details report from the Event History page, as the **Event Details** button  is not displayed.

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