HP SiteScope

For the Windows, Solaris and Linux operating systems

Software Version: 11.21

Deployment Guide

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Software Release Date: November 2012

Legal Notices

Warranty

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Acknowledgements

This product includes software developed by the Apache Software Foundation (http://www.apache.org/).

This product includes software developed by the JDOM Project (http://www.jdom.org/).

Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

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This document was last updated: Sunday, April 14, 2013

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Contents

Welcome to SiteScope

Welcome to the HP SiteScope Deployment Guide. This guide provides detailed instructions on how to deploy and configure HP SiteScope.

> **Note:** This guide contains instructions for installing SiteScope 11.20. For instructions for installing a service pack on top of SiteScope 11.20, refer to the Installation Notes section of the release notes provided with the service pack.

How This Guide Is Organized

This guide contains the following sections:

- "Introduction to SiteScope" on page 11

  Introduces SiteScope and provides a getting started roadmap. In addition, it provides information on deployment planning, agentless monitoring, and SiteScope licensing.

- "Before Installing SiteScope" on page 44

  Provides an overview of the installation, and describes the system requirements and recommended server configurations. It also describes how to upgrade existing SiteScope installations.

- "Installing SiteScope" on page 68

  Describes how to install and uninstall SiteScope on Windows or Linux, and Solaris platforms. It also describes how to configure SiteScope using the Configuration Tool, and size your operating system and SiteScope and to achieve optimum performance when monitoring many instances.

- "Running SiteScope Securely" on page 131

  Describes how to configure options to harden the SiteScope platform, set user permissions and credentials required to access the monitor, and configure SiteScope to use Secure Sockets Layer (SSL).

- "Getting Started and Accessing SiteScope" on page 169

  Describes how to start and stop the SiteScope service, and log on to SiteScope for the first time. It also describes the recommended administration steps you should perform following SiteScope installation.

- "Appendixes" on page 180

  Describes how to configure IIS and integrate SiteScope with SiteMinder policy-based authentication.

Part 1

Introduction to SiteScope

Chapter 1

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. With SiteScope, you gain the real-time information you need to verify infrastructure operations, stay apprised of problems, and solve bottlenecks before they become critical.

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 is licensed based on the number of metrics to be monitored rather than the number of servers on which it is run. A metric is a system resource value, performance parameter, URL, or similar system response. This means that you can flexibly scale a SiteScope deployment to meet the needs of your organization and the requirements of your infrastructure. You can install SiteScope using either a permanent license that you receive from HP or the evaluation license that is part of a new SiteScope installation. You can upgrade your licensing as needed to expand the monitoring capacity of your initial deployment or to expand the deployment within your infrastructure.

SiteScope also acts as a monitoring foundation for other HP offerings such as Business Service Management (BSM), Network Node Manager i (NNMi), HP Software-as-a-Service, and LoadRunner/Performance Center. By starting with SiteScope and adding other HP solutions such as BSM's Service Level Management, you can create a solid infrastructure monitoring that enables you to manage your IT infrastructure and service levels from a business point of view.

SiteScope can also work together with HP Operations Manager (HPOM) products to provide a powerful combination of agentless and agent-based infrastructure management. Serving as an agent of HPOM, SiteScope targets are automatically added to Operations Manager service view maps, which enables HPOM to seamlessly display SiteScope data and monitor status. For event integration, SiteScope alerts and monitor metric status changes are sent directly to HPOM. The combined functionality of agentless and agent-based monitoring provides a powerful and in-depth monitoring solution. For more details on using HPOM products, refer to the HPOM documentation.

Chapter 2

Getting Started Roadmap

This section provides a basic step-by-step roadmap for getting up and running with SiteScope.

1. **Register your copy of SiteScope.**

   Register your copy of SiteScope to gain access to technical support and information on all HP products. You are also eligible for updates and upgrades. You can register your copy of SiteScope on the HP Software Support Web site (http://www.hp.com/go/hpsoftwaresupport).

2. **Read about where to get help.**

   Learn about the sources of assistance, including HP Services and HP Software Support, as well as the SiteScope Help.

3. **Plan your SiteScope deployment.**

   Create a complete deployment plan prior to installing SiteScope software. Use "Deployment Methodology and Planning" on page 14 to assist you. For in-depth deployment planning best practices, consult your HP representative.

4. **Install SiteScope.**

   See "Installation Overview" on page 45 for a basic understanding of the steps involved in deploying the SiteScope application. For information on deploying SiteScope securely, see "Hardening the SiteScope Platform" on page 132.

5. **Log on to SiteScope and initiate system administration.**

   Log into the SiteScope Web interface using a Web browser. Use the checklist in "Post-Installation Administration" on page 170 to guide you through basic platform and monitor administration tasks to prepare SiteScope for operational deployment.

6. **Roll out SiteScope to business and systems users.**

   After the SiteScope system is up and running with defined users and incoming monitor data, begin the process of educating business and systems users on how to access and use SiteScope monitors, reporting and alerting functionality.

For complete details on using and administering SiteScope, see the SiteScope Help.

Chapter 3

Deployment Methodology and Planning

This chapter includes:

An Enterprise System Monitoring Methodology

Deploying SiteScope is a process that requires resource planning, system architecture design, and a well-planned deployment strategy. This chapter outlines the methodology and considerations you need to take for successful deployment and use of SiteScope.

> **Note:** Use the information below to assist you in your preparations before beginning the installation. For in-depth deployment planning best practices, consult your HP Professional Services representative.

Having a consistent methodology is essential for effective system monitoring. However, it is not always obvious how to approach, develop, and deploy an enterprise monitoring solution. The solution needs to consider the role of the IT infrastructure and how it contributes to the success of the organization. System monitoring is a tool you use to ensure the availability and function of services used by the organization to meet its key objectives. You can use the following as a guide to plan your system monitoring.

What to monitor

Effective enterprise system management uses a multi-tiered monitoring approach. SiteScope gives you the tools to implement this. At one level, you want to monitor individual hardware elements in the infrastructure to see that they are running and available. You want to add to this monitoring of key services and processes on these systems. This includes low level operating system processes as well as processes indicating the health and performance of key applications. On top of this, you want to create transactional monitoring of business processes to see that key applications and services are available and function as expected.

What threshold level represents an event

The availability and performance of information systems is critical to enterprise business success. The thresholds that you set for monitors is determined by the nature of the system or business process you are monitoring.

How often the system should be checked

How often you have a system checked can be as important as the event threshold you set. The availability of mission critical information systems should be checked regularly during the periods that there are to be accessible. In many cases, systems need to be available 24 hours a day, 7 days a week. You control how often SiteScope checks a system with the **Frequency** setting for each monitor. Too much time between checks may delay detection of problems. Too frequent checking may load an already busy system unnecessarily.

What action to take when an event is detected

As a monitoring application, SiteScope provides you with the tools to detect problems. You use SiteScope alerts to send timely notification when an event threshold has been triggered. An email notification is a commonly used alert action. SiteScope includes other alert types that can integrate with other systems.

You can develop an alert escalation scheme by defining multiple alert definitions with different alert trigger criteria. You use the **When** settings for alerts to customize the relation between detected events and alert actions.

Another event action may be to disable monitoring and alerting for systems that are dependent on a system that has become unavailable. SiteScope group and monitor dependency options can be used to avoid cascading series of alerts.

What automated response can be performed

When problems are detected, an automated response to resolve the problem is ideal. While this is not possible for all systems, the SiteScope Script Alert type does provide a flexible and powerful tool for automating corrective actions for a variety of situations. You should consider what problems that may arise in your environment could be addressed with an automated response.

Business System Infrastructure Assessment

1. Gather technical and business requirements before making architectural and deployment decisions. Actions for this stage include:

   - Develop a list of all business applications to be monitored. This should consider end-to-end services such as order processing, account access functions, data queries, updates and reporting.

   - Develop a list of servers that support the business applications. This must include servers supporting front-end Web interfaces, back-end databases, and applications servers.

- Develop a list of network devices supporting the business applications. This includes network appliances and authentication services.
- Identify heartbeat elements to be monitored. Heartbeat elements are services that act as foundational indicators of the availability of a particular business system or resource.
- Outline templates of monitors that represent the resources to be monitored for each system.

2. Identify stakeholders and key deliverables for the business system monitoring activity. Deliverables include:
   - What reports should be generated.
   - What alert actions should be taken when events are detected.
   - To whom should alerts be sent.
   - What users require access to view and manage SiteScope.
   - What SiteScope elements need to be accessible to which stakeholders.
   - What are the thresholds for any service level agreements (if applicable).
3. Understand the constraints within which the system monitoring function must operate. This includes restrictions on the protocols that can be used, user authentication requirements, access to systems with business sensitive data, and network traffic restrictions.

SiteScope Server Sizing

The foundation of successful monitoring deployment is proper sizing of the server where SiteScope is to run. Server sizing is determined by a number of factors including:

- The number of monitor instances to be run on the SiteScope installation.
- The average run frequency for the monitors.
- The types of protocols and applications to be monitored.
- How much monitor data need to be retained on the server for reporting.

Knowing the number of servers in the environment, their respective operating systems, and the application to be monitored is the starting point for estimating the number of monitors that may be needed.

See "Sizing SiteScope on Windows Platforms" on page 119 or "Sizing SiteScope on Solaris and Linux Platforms" on page 121 for a table of server sizing recommendations based on estimations of the number of monitors to be run.

Network Location and Environment

The majority of SiteScope monitoring is performed by emulating Web or network clients that make requests of servers and applications in the network environment. For this reason, SiteScope must be able to access servers, systems, and applications throughout the network. This helps determine where SiteScope should be installed.

The methods used by SiteScope for monitoring systems, servers, and applications can be divided into two categories:

- **Standards-based network protocols.** This includes HTTP, HTTPS, SMTP, FTP, and SNMP.
- **Platform-specific network services and commands.** This includes NetBIOS, telnet, rlogin, and Secure Shell (SSH).

Infrastructure monitoring relies on platform-specific services. As an agentless solution, monitoring requires that SiteScope log on and authenticate frequently to many servers in the infrastructure. For performance and security reasons, it is best to deploy SiteScope within the same domain and as close to the system elements to be monitored as possible. It is also best to have SiteScope in the same subnet as the applicable network authentication service (for example Active Directory, NIS, or LDAP). The SiteScope interface can be accessed and managed remotely as needed using HTTP or HTTPS.

Note: Try to avoid deploying SiteScope in a location where a significant amount of the monitoring activity requires communication across a Wide Area Network (WAN).

Tip: For security reasons, it is recommended not to use SiteScope to monitor servers through a firewall because of the different protocols and ports required for server availability monitoring. SiteScope licensing is not server-based and supports having separate SiteScope installations for both sides of a firewall. Two or more separate SiteScope installations can be accessed simultaneously from a single workstation using HTTP or HTTPS.

Considerations for Windows Environments

SiteScope must be installed using an account with administrator privileges. It is also recommended that the SiteScope service be run with a user account that has administrator privileges. A local system account can be used, but this affects the configuration of connection profiles to remote Windows servers.

Also, SiteScope uses the Windows performance registry on remote machines to monitor server resources and availability. To enable this monitoring capability, the Remote Registry Service for the remote machines must be activated.

Considerations for UNIX Environments

SiteScope must be installed on a Solaris or Linux environment by the root user. After SiteScope has been installed, you can create a non-root user account with permissions to run SiteScope (unless the SiteScope Web server is run on a privileged port, in which case it should be run by the root user). For details on configuring a non-root user with permissions to run SiteScope, see "Configuring a Non-Root User Account with Permissions to Run SiteScope" on next page.

The following is additional information relating to the setup of agentless monitoring of remote UNIX servers with SiteScope:

- **Remote Login Account Shells.** SiteScope as an application can run successfully under most popular UNIX shells. When SiteScope communicates with a remote UNIX server it prefers communicating with either Bourne shell (sh) or tsch shell. The relevant login account on each remote UNIX server should, therefore, have its shell set to use one of these shells.

> **Note:** Set a shell profile only for the login accounts used by SiteScope to communicate with the remote machine. Other applications and accounts on the remote machine can use their currently defined shells.

- **Account Permissions.** It may be necessary to resolve command permissions settings for monitoring remote UNIX servers. Most of the commands that SiteScope runs to get server information from a remote UNIX server are located in the **/usr/bin** directories on the remote server. Some commands, however, such as the command to get memory information, are located in **/usr/sbin**. The difference between these two locations is that **/usr/sbin** commands are usually reserved for the root user or other highly privileged users.

> **Note:** Although SiteScope requires highly privileged account permissions, for security reasons, it is recommended not to run SiteScope using the root account or to configure it to use root login accounts on remote servers.

If you have problems with permissions, you need to either have SiteScope log on as a different user that has permissions to run the command, or have the permissions changed for the user account that SiteScope is using.

Configuring a Non-Root User Account with Permissions to Run SiteScope

SiteScope must be installed on Linux or Solaris from a root user account. After SiteScope has been installed, you can create a non-root user account with permissions to run SiteScope.

> **Note:** While SiteScope requires highly privileged account permissions to enable the full range of server monitoring, it is recommended not to run SiteScope from the root account and not to configure SiteScope to use the root account to access remote servers.

To create a non-root user account with permissions to use SiteScope:

1. Add a new user: `useradd newuser`
2. Change permissions for the SiteScope installation folder: `chmod 755 /opt/HP/SiteScope/ -R`
3. Change ownership for the SiteScope installation folder: `chown newuser /opt/HP/SiteScope/ -R`
4. Login as the new user: `su newuser`
5. Go to the installation folder: `cd /opt/HP/SiteScope`
6. Run SiteScope: `./start`

> **Note:** To enable the HP Operations Manager event and metrics integration, the HP Operations agent on the SiteScope machine must run under the same user as in SiteScope, namely a non-root user. For details, see Configure an Agent to run Under an Alternative User on UNIX in the HP Operations Manager for UNIX - HTTPS Agent Concepts and Configuration Guide.

Chapter 4

Understanding Agentless Monitoring

This chapter includes:

SiteScope Monitoring Capabilities Overview

This section introduces SiteScope’s agentless monitoring concept. Agentless monitoring means that monitoring can be accomplished without the deployment of agent software onto the servers to be monitored. This makes deployment and maintenance of SiteScope relatively simple compared to other performance or operational monitoring solutions. Unlike agent-based monitoring approaches, SiteScope reduces total cost of ownership by:

- Gathering detailed performance data for infrastructure components.
- Eliminating the need for extra memory or CPU power on production systems to run a monitoring agent.
- Reducing the time and cost of maintenance by consolidating all monitoring components to a central server.
- Removing any requirement to take a production system offline to update its monitoring agent.
- Eliminating time needed to tune monitoring agents to coexist with other agents.
- Reducing installation time by eliminating the need to physically visit production servers or wait for software distribution operations.
- Reducing the possibility of an unstable agent causing system downtime on a production server.

SiteScope is a versatile operational monitoring solution that provides many different monitor types for monitoring systems and services at many levels. Many of the monitor types can be further customized for special environments.

Enterprises and organizations often need to deploy and maintain multiple solutions to monitor operations and availability at these different levels. Operational monitoring can be divided into several levels or layers as described in the following table:

Monitor Type	Description
Server Health	Monitors server machine resources such as CPU utilization, memory, storage space, as well as the status of key processes and services.
Web Process and Content	Monitors availability of key URLs, the function of key Web-based processes, and monitors key text content.
Application performance	Monitors performance statistics for mission critical applications such as Web servers, databases, and other application servers.

Monitor Type	Description
Network	Monitors connectivity and availability of services.

Understanding the Agentless Monitoring Environment

The majority of SiteScope monitoring is performed by emulating Web or network clients that make requests of servers and applications in the network environment. For this reason, SiteScope must be able to access servers, systems, and applications throughout the network.

This section contains the following topics:

- "SiteScope Monitoring Methods" below
- "Firewalls and SiteScope Deployment" on page 22

SiteScope Monitoring Methods

The methods used by SiteScope for monitoring systems, servers, and applications can be divided into two categories:

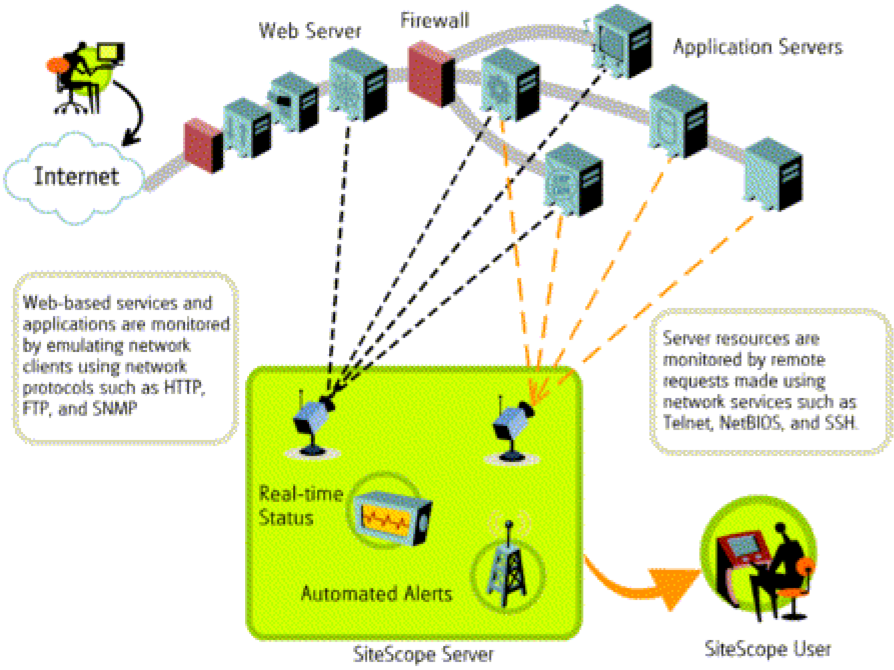
- **Standards-based network protocols.**

  This category includes monitoring using HTTP, HTTPS, FTP, SMTP, SNMP, and UDP. These types of monitors are generally independent of the platform or operating system on which SiteScope is running. For example, SiteScope installed on Linux can monitor Web pages, file downloads, email transmission, and SNMP data on servers running Windows, HP-UX, and Solaris.

- **Platform-specific network services and commands.**

  This category includes monitor types that log on as a client to a remote machine and request information. For example, SiteScope can use telnet or SSH to log into a remote server and request information regarding disk space, memory, or processes. On the Microsoft Windows platform, SiteScope also makes use of Windows performance counter libraries. Some limitations exist in monitoring across different operating systems for monitor types that rely on platform-specific services. For example, SiteScope for Windows includes the Microsoft Exchange 2007/2010 and Microsoft Windows Dial-up monitors, which are not included in SiteScope for Linux.

  The following diagram shows a general overview of agentless monitoring with SiteScope. SiteScope monitors make requests of services on remote machines to gather data on performance and availability.


Web Server
Firewall
Application Servers
Internet
Web-based services and applications are monitored by emulating network clients using network protocols such as HTTP, FTP, and SNMP
Server resources are monitored by remote requests made using network services such as Telnet, NetBIOS, and SSH.
Real-time Status
Automated Alerts
SiteScope Server
SiteScope User

SiteScope Server monitors (for example, CPU, Disk Space, Memory, Service) can be used to monitor server resources on the following platforms:

- Windows NT/2000/2003/2008/XP Pro/Vista/Windows 7
- Solaris (Sparc and x86)
- Linux
- AIX HP-UX (HP-UX 64-bit)
- Digital Unix
- SGI
- IRIX
- SCO
- FreeBSD

Note: An SSH connection is required to monitor server resources (for example, CPU utilization, memory) on Windows machines from a SiteScope running on Solaris or Linux. A Secure Shell server must be installed on each Windows machine that you want to monitor in this way. For more information on enabling this capability, see the SiteScope Monitoring Using Secure Shell (SSH) section in Using SiteScope in the SiteScope Help.

SiteScope includes an adapter configuration template that enables you to extend SiteScope capabilities to monitor other versions of the UNIX operating system. For more information, see UNIX Operating System Adapters in SiteScope Help.

You need to enable login accounts on each server for which you want SiteScope to access system data remotely. The login account on the monitored servers must be configured to match the account under which SiteScope is installed and running. For example, if SiteScope is running under an account with the username **sitescope**, remote login accounts on servers that are to be monitored by this SiteScope installation need to have user login accounts configured for the **sitescope** user.

Firewalls and SiteScope Deployment

For security reasons, it is recommended not to use SiteScope to monitor servers through a firewall because of the different protocols and ports required for server monitoring. SiteScope licensing supports separate SiteScope installations for both sides of a firewall. Two or more SiteScope installations can be accessed from a single workstation using HTTP or HTTPS.

The following table lists the ports commonly used by SiteScope for monitoring and alerting in a typical monitoring environment:

SiteScope Function	Default Port Used
SiteScope Web server	Port 8080
FTP Monitor	Port 21
Mail Monitor	Port 25 (SMTP), 110 (POP3), 143 (IMAP)
News Monitor	Port 119
Ping Monitor	ICMP packets
SNMP Monitor	Port 161 (UDP)
URL Monitor	Port 80,443
Remote Windows Monitoring	Port 139
Email Alert	Port 25
Post Alert	Port 80,443
SNMP Trap Alert	Port 162 (UDP)
Remote UNIX ssh	Port 22
Remote UNIX Telnet	Port 23
Remote UNIX rlogin	Port 513

Chapter 5

SiteScope Licenses

This chapter includes:

SiteScope Licensing Overview

SiteScope licensing controls the number of monitors that can be created simultaneously and, in some cases, the types of monitors that can be used. Unlike software that is sold based on the number of sites, seats, or users, SiteScope licensing is based on the monitoring requirements. This provides an efficient and flexible way to scale SiteScope to your environment.

Purchasing a SiteScope license and registering your copy of SiteScope gives you important rights and privileges. Registered users can access technical support and information on all HP products and are eligible for free updates and upgrades.

You are also given access to the HP Software Support Web site. You can use this access to search for technical information in the HP Software Self-solve knowledge base as well as downloading updates to the SiteScope documentation.

> **Note:** License keys from versions of SiteScope earlier than 11.00 are not compatible with this version. License key delivery can be fulfilled automatically through http://webware.hp.com.

Understanding SiteScope License Types

To use SiteScope, you must have a valid license. You can install SiteScope using a general license, or use the 60-day evaluation license that is available with each new installation or download of SiteScope. You can also purchase extension licenses to enable the use of SiteScope solution templates and optional monitors.

These are the different types of SiteScope license:

Type	Description	Duration	Points Displayed
Evaluation License	During the free evaluation period, the standard functionality of SiteScope is enabled with the following additional optional licenses: • Monitors: ▪ COM+ Server ▪ Web Script ▪ WebSphere MQ Status • Solution templates: ▪ Microsoft Exchange ▪ Microsoft Lync Server 2010 ▪ Microsoft SharePoint 2010 ▪ SAP ▪ Siebel ▪ VMware Host **Note:** After the evaluation period expires or the license is upgraded to a General license, the monitors and solution templates listed above are no longer available without the applicable SiteScope extension license (see "Extension License" on page 26.	Fixed trial period of up to 60 days. **Note:** The trial period terminates immediately once a permanent or time-based license is purchased.	500 points

Type	Description	Duration	Points Displayed
General License	Enables the standard functionality of SiteScope, based on the number of monitor points included as part of the license. It does not include monitors and solution templates that require an extension license (see "Extension License" on next page.	This license type can be temporary (time-based) or permanent.	Displays the total number of points purchased with the license.
OS Instance License	System monitors can be licensed by OS instance instead of points. For license details and the list of monitor types supported by this license, see "OS Instance Advanced License" on page 28.	This license type can be temporary (time-based) or permanent.	Displays the total number of OS/host licenses purchased.
Failover License	**SiteScope Failover:** A special license issued by HP enabling the SiteScope instance to act as a failover for another SiteScope installation. **SiteScope Failover Manager:** While SiteScope Failover Manager is freely available out-of-the-box, it still requires a separate Failover license in case the General license is node locked on the primary SiteScope server. This license is applied on the SiteScope Failover Manager when the primary SiteScope server is down.	This license type can be temporary (time-based) or permanent.	Displays the total number of points purchased with the primary SiteScope license.

Type	Description	Duration	Points Displayed
Extension License	Each extension license enables a specific solution template or a specific extension monitor type. **Solution templates:** • Active Directory • HP Quality Center • HP Service Manager • Microsoft Exchange • Microsoft IIS 6 • Microsoft Lync Server • Microsoft SharePoint • Microsoft SQL Server • JBoss • .NET • Oracle Database • Operating System (AIX Host, Linux Host, Solaris Host, Microsoft Windows Host) • SAP (R/3 or J2EE) • Siebel • VMware Host • WebLogic Application Server • WebSphere Application Server **Monitor types:** • COM+ Server • Web Script • WebSphere MQ Status	This license type can be temporary or permanent.	No points. Each monitor/ solution template has its own point consumption. For details, see "License Point Usage For Monitors" on page 29 and "License Point Usage For Solution Templates" on page 38.

The table below summarizes the differences between General and Extension licenses.

Topic	General License	Extension License
Monitor points	The license key includes a preset number of monitor points. The monitor points determine how many monitor instances can be created and how many metrics can be measured on an individual SiteScope server.	The extension license key enables extension monitor types for the SiteScope installation on which it is used. The extension license key does not increase the total number of monitor points governed by the general license key. The monitor points used for the creation of extension monitor types are deducted from total monitor points included in the general license key.
	For details on monitor point usage, see "Understanding Monitor Licensing" below.	

SiteScope automatically sends an email notification 7 days before your license is about to expire, and a pop-up message is displayed each time you open SiteScope once the license has expired.

If you need to upgrade or renew your SiteScope license, visit the HP Licensing for Software Portal (https://webware.hp.com/Welcome.asp).

Understanding Monitor Licensing

Licensing for SiteScope is based on a points system. The number of points consumed by SiteScope depends on the type of license that was purchased and the number and type of monitors being used.

This section includes:

- "Point System" below
- "OS Instance Advanced License" on next page
- "License Point Usage For Monitors" on page 29
- "License Point Usage For Solution Templates" on page 38

Note:

- SiteScope does not have user-based access licensing. There is no limit to the number of users that can access the SiteScope application server.
- Each license is node locked to avoid possible license confusion and abuse. This means that the license is only valid on a specific machine.

Point System

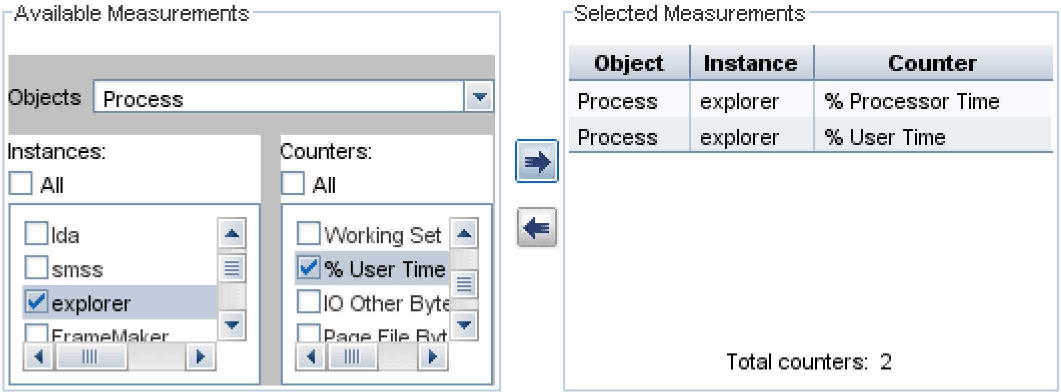
Licensing for monitor types is based on a point system. A permanent SiteScope license provides a number of points that you use to create a combination of monitor types.

The number of SiteScope monitors that you can create is based on two factors:

- Total number of monitor points you have purchased
- Types of SiteScope monitors you want to use

The monitor types are divided into categories based on how many points you need to create them. For example, to set up one URL Monitor for a Web page, you need one monitor point per monitor instance. To set up an Apache Server Monitor, you need one monitor point for each server performance metric you want to monitor.

To set up a Microsoft Windows Resources Monitor or UNIX Resources Monitor, you need one monitor point per object instance. When you set up these monitors, you first select an object, then the relevant instances for the object, and then the relevant counters for each instance. In the following example for a Microsoft Windows Resources Monitor, the object selected is `Process`, the instance selected is `explorer`, and the counters selected are `% Processor Time` and `% User Time`. This selection costs one point for the explorer instance. Had you selected an additional instance to monitor, it would cost two points, and so forth.



Available Measurements

Objects: Process

Instances:
□ All
□ lda
□ smss
☑ explorer
□ FrameMaker

Counters:
□ All
□ Working Set
☑ % User Time
□ IO Other Byte
□ Page File Byt

Selected Measurements

Object	Instance	Counter
Process	explorer	% Processor Time
Process	explorer	% User Time

Total counters: 2

OS Instance Advanced License

System monitors can be licensed per OS instance instead of per number of monitors used. For example, if you are using a CPU, a Disk Space, and a Memory monitor on the same operating system or host, a single OS instance point is deducted from the license, instead of three monitor points. For the list of supported monitors, see "OS Instance Advanced License - Supported Monitors" on next page.

SiteScope applies the available OS Instance Advanced licenses to the most monitored hosts/operating system instances (these are the concepts used above)—the ones with the highest number of points consumed by supported monitors monitoring the host/OS. Points consumed by those monitoring are freed, and can be used by other monitors that are not covered by the OS license.

You can view details of OS instance license consumption in **Preferences > General Preferences > Licenses**. The OS Instance License Usage table includes the OS instances covered by the license, license points used compared to the number of points required, and the number of points saved per host by using the OS Instance Advanced license.

When an OS Instance Advanced license expires or is removed, all monitors belonging to hosts that had used the OS Instance Advanced license, start consuming from the General License point pool. This may lead to a situation where the number of license points used by SiteScope monitors exceeds the number of points available. In this event, SiteScope sends a message that it will shut down within 7 days. To avoid a SiteScope shutdown, you should add more license points or reduce the number of monitors being used. To add more points, contact the HP License Key Delivery Service http://webware.hp.com), and request a new license.

Note:

The SAM license is not affected by the OS Instance Advanced license. SAM points are still counted for monitors reporting to BSM even if they are counted under the OS Instance Advanced license inside SiteScope. This information is displayed in the OS Instance License consumption report (total potential point usage and/or SAM point usage).

When ordering an OS Instance Advanced license in webware, the license name is **HP SiteScope <X> Pts or <Y> OS Instance included w/Operations OS Instance.**

OS Instance Advanced License - Supported Monitors

OS instance based licensing is used for the following monitor types.

- CPU
- Directory
- Disk Space (deprecated)
- Dynamic Disk Space
- File
- HP NonStop Event Log
- HP NonStop Resources
- Memory
- Microsoft Archiving Server
- Microsoft A/V Conferencing Server
- Microsoft Director Server
- Microsoft Edge Server
- Microsoft Front End Server
- Microsoft Hyper-V
- Microsoft Mediation Server
- Microsoft Monitoring and CDR Server
- Microsoft Windows Performance Counter
- Microsoft Windows Event Log
- Microsoft Registrar Server
- Microsoft Windows Resources
- Microsoft Windows Services State
- Ping
- Port
- Service
- Solaris Zones
- UNIX Resources
- VMware Host CPU
- VMware Host Memory
- VMware Host Network
- VMware Host State
- VMware Host Storage
- VMware Performance

License Point Usage For Monitors

The following lists the point usage for each instance of a SiteScope monitor type:

Monitor (A-Z)	Monitor Category	License Point Usage
Amazon Web Services	Virtualization and Cloud	1 point per metric
Apache Server	Application	1 point per metric
BroadVision Application Server	Application	1 point per metric
Check Point	Application	1 point per metric
Citrix	Application	1 point per metric
ColdFusion Server	Application	1 point per metric
COM+ Server	Application	1 point per metric **Note:** Additional licensing is required to enable this monitor type in the SiteScope interface after the free evaluation period expires.
Composite	Generic	Computed according to contained monitors **Note:** This monitor is set up at no additional cost in monitor points beyond that of the member monitors which it contains.
CPU	Server	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Custom	Customizable	1 point for every 10 metrics. For example, 41 metrics consume 5 points.
Custom Database	Customizable	1 point for every 10 metrics. For example, 41 metrics consume 5 points.
Custom Log File	Customizable	1 point for every 10 metrics. For example, 41 metrics consume 5 points.
Custom WMI	Customizable	1 point for every 10 metrics. For example, 41 metrics consume 5 points.
Database Counter	Database	1 point per metric
Database Query	Database	1 point per monitor
DB2 8.x and 9.x	Database	1 point per metric

Monitor (A-Z)	Monitor Category	License Point Usage
DHCP	Server	1 point per monitor
Directory	Generic	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Disk Space (Deprecated - replaced by Dynamic Disk Space monitor)	Server	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
DNS	Network	1 point per monitor
Dynamic Disk Space	Server	1 point per disk **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
e-Business Transaction	Web Transaction	1 point per monitor
F5 Big-IP	Application	1 point per metric
File	Generic	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Formula Composite	Network	1 point per monitor
FTP	Network	1 point per monitor
Generic Hypervisor	Virtualization and Cloud	1 point per host and 1 point per guest
HAProxy	Application	1 point per metric
HP iLO (Integrated Lights-Out)	Server	1 point per metric
HP NonStop Event Log	Server	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.

Monitor (A-Z)	Monitor Category	License Point Usage
HP NonStop Resources	Server	1 point per object instance **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
IPMI	Server	1 point per metric (Maximum: 120)
JMX	Generic	1 point per metric
KVM	Virtualization and Cloud	1 point per host and 1 point per guest
LDAP	Generic	1 point per monitor
Link Check	Web Transaction	1 point per monitor
Log File	Generic	1 point per monitor
Mail	Network	1 point per monitor
MAPI	Network	1 point per monitor
Memory	Server	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Memcached Statistics	Application	1 point per metric
Microsoft Archiving Server	Media	1 point per metric **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Microsoft A/V Conferencing Server	Media	1 point per metric **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Microsoft ASP Server	Application	1 point per metric
Microsoft Director Server	Media	1 point per metric **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.

Monitor (A-Z)	Monitor Category	License Point Usage
Microsoft Edge Server	Media	1 point per metric **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Microsoft Exchange 2007/2010	Application	1 point per metric
Microsoft Exchange 2003 Mailbox	Application	3 points per monitor
Microsoft Exchange 2000/2003/2007 Message Traffic	Application	5 points per monitor
Microsoft Exchange 5.5 Message Traffic	Application	5 points per monitor
Microsoft Exchange 2003 Public Folder	Application	5 points per monitor
Microsoft Front End Server	Media	1 point per metric **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Microsoft Hyper-V	Virtualization and Cloud	1 point per metric **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Microsoft IIS Server	Application	1 point per metric
Microsoft Mediation Server	Media	1 point per metric **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.

Monitor (A-Z)	Monitor Category	License Point Usage
Microsoft Monitoring and CDR Server	Media	1 point per metric **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Microsoft Registrar Server	Media	1 point per metric **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Microsoft SQL Server	Database	1 point per metric
Microsoft Windows Dial-up	Network	1 point per monitor
Microsoft Windows Event Log	Server	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Microsoft Windows Media Player	Media	1 point per metric
Microsoft Windows Media Server	Media	1 point per metric
Microsoft Windows Performance Counter	Server	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Microsoft Windows Resources	Server	1 point per object instance **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Microsoft Windows Services State	Server	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.

Monitor (A-Z)	Monitor Category	License Point Usage
Network Bandwidth	Network	1 point per metric
News	Application	1 point per monitor
Oracle 10g Application Server	Application	1 point per metric
Oracle 9i Application Server	Application	1 point per metric (maximum: 7)
Oracle Database	Database	1 point per metric
Ping	Network	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Port	Network	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Radius	Application	1 point per metric
Real Media Player	Media	1 point per metric
Real Media Server	Media	1 point per metric
SAP CCMS	Application	1 point per metric
SAP CCMS Alert	Application	1 point per metric
SAP Java Web Application Server	Application	1 point per metric
SAP Performance	Application	1 point per metric
SAP Work Processes	Application	1 point per metric

Monitor (A-Z)	Monitor Category	License Point Usage
Script	Generic	1 point per monitor up to 4 pattern match metrics; above this, 1 point per additional pattern match metric, that is, #OfMatchValueMetrics-3.
Service	Server	1 point per monitor **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Siebel Application Server	Application	1 point per metric
Siebel Log	Application	1 point per monitor
Siebel Web Server	Application	1 point per metric
SNMP	Network	1 point per monitor
SNMP by MIB	Network	1 point per metric
SNMP Trap	Network	1 point per monitor
Solaris Zones	Virtualization and Cloud	1 point for each monitored zone (global or non-global) or physical server. **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
SunONE Web Server	Application	1 point per metric
Sybase	Database	1 point per metric
Syslog	Generic	1 point per monitor
Tuxedo	Application	1 point per metric
UDDI Server	Application	1 point per monitor
UNIX Resources	Server	1 point per instance **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
	Web Transaction	1 point per monitor

Monitor (A-Z)	Monitor Category	License Point Usage
URL Content	Web Transaction	1 point per monitor
URL List	Web Transaction	1 point per URL
URL Sequence	Web Transaction	1 point per URL (Step)
VMware Datastore	Virtualization and Cloud	1 point per datastore
VMware Host CPU / Memory / Network / State / Storage	Virtualization and Cloud	1 point for each monitored VM or physical server. **Note:** While VMware Host monitors are supported by the OS Instance Advanced license, the license does not cover the ESX host and all VMs being monitored—it can be applied to one ESX host or VM (a separate OS license is required to cover each ESX host or VM). No points are consumed by each host or VM that is covered by the OS license. For details, see "OS Instance Advanced License" on page 28.
VMware Performance	Virtualization and Cloud	1 point for each monitored VM or physical server. **Note:** No points are consumed by this monitor if it is running on a host covered by the OS Instance Advanced license. For details, see "OS Instance Advanced License" on page 28.
Web Script	Web Transaction	4 points per transaction run by the monitor. A transaction can include as many URLs as needed. The monitor can include up to 12 measurements per transaction. **Note:** A Web Script monitor can consume more than 4 points if a script run by the monitor has more than 1 transaction.
Web Server	Server	1 point per monitor
Web Service	Generic	1 point per monitor
WebLogic Application Server	Application	1 point per metric
WebSphere Application Server	Application	1 point per metric
WebSphere MQ Status	Application	1 point per instance (that is, channel or queue)

Monitor (A-Z)	Monitor Category	License Point Usage
WebSphere Performance Servlet	Application	1 point per metric
XML Metrics	Generic	1 point per metric

License Point Usage For Solution Templates

Solution templates are optimized monitor templates that include both extension and standard monitor types. Access to the template and the template-specific monitor types requires an extension license. Purchase of the extension license also includes access to best practices documentation for the specific solution template.

License point usage is based on the solution template cost, which is based on the number of points consumed by the monitors deployed by the template (each monitor has its own point consumption).

The table below displays the license points cost for solution templates that were configured on HP test environments. Note that license point consumption varies from one environment to another, depending on the size of the environment being monitored and the number of counters selected.

Solution Template	Typical License Point Usage
Active Directory with Global Catalog	34
Active Directory with no Global Catalog	33
AIX Host	13
ASP.NET	20
ASP.NET Applications	1
HP Quality Center Application Server for UNIX	11
HP Quality Center Application Server for Windows	11
HP Quality Center 10.0 License Status	12
HP Quality Center 9.2 License Status	6
HP QuickTest Professional License Server	3
HP Service Manager for UNIX	48
HP Service Manager for Windows	12
JBoss Application Server 4.x	3
Linux Host	13
Microsoft Exchange 2000	40

Solution Template	Typical License Point Usage
Microsoft Exchange 2003	49
Microsoft Exchange 2007	83
Microsoft Exchange 2010	83
Microsoft Exchange 5.5	39
Microsoft IIS 6	98
Microsoft IIS 7.x	79
Microsoft Lync Server 2010	106 points for one instance of each Lync Server role. (Additional points are used when deploying subtemplates for different machines with the same role.)
Microsoft SharePoint 2010	74
Microsoft SQL Server	18
Microsoft SQL Server 2008 R2	43
Microsoft Windows Host	13
.NET CLR Data	1
Oracle Database 9i and 10g	202
SAP NetWeaver Application Server	13
SAP R/3 Application Server	13
Siebel Application Server 6.x-7.x for UNIX	93
Siebel Application Server 6.x-7.x for Windows	91
Siebel Application Server 8.x for UNIX	98
Siebel Application Server 8.x for Windows	101
Siebel Gateway Server for UNIX	6
Siebel Gateway Server for Windows	6
Siebel Web Server for UNIX	19
Siebel Web Server for Windows	19
Solaris Host	13

Solution Template	Typical License Point Usage
VMware Datastore - Each monitor deployed by the	template consumes an amount of points equal to the number of distinct datastores and VM disks currently monitered by it. **Example:** If you monitor 6 Datastores in the first monitor and 3 Virtual disks in the second monitor = 9 points consumed
VMware Host	Each monitor deployed by the template consumes an amount of points equal to the number of distinct hosts and VMs monitored by it (there are 5 monitors in the template). **Example:**If you monitor a total of 100 hosts and 400 VMs across the 5 monitors:500 points consumed
WebLogic 6.x, 7.x, 8.x Application Server	51
WebLogic 9.x-10.x Application Server	63
WebSphere 5.x Application Server	20
WebSphere 6.x Application Server	24

Estimating the Number of License Points

The number of license points that you purchase depends on how you plan to deploy SiteScope and what level of systems and services you want to monitor. The following are some guidelines for estimating the number of license points you need.

This section includes the following topics:

- "Server Health Monitoring" below
- "Web Process and Content Monitoring" on next page
- "Application Performance Monitoring " on next page
- "Network Monitoring" on next page

Server Health Monitoring

The number of points for Server Health Monitoring is based primarily on the number of server machines you want to monitor. Each server to be monitored requires one point for each of the following:

- CPU monitoring
- each hard disk or key disk partition
- memory
- each key server process or service
- each key file, log, or directory

Web Process and Content Monitoring

The number of points for Web process and content monitoring is based on the number of Web-based processes and pages you want to monitor. Web-based processes include any sequence of Web pages. For example, logging into a secure server to verify account balances and then logging out. In many cases, the sequences of URLs include the same path with different destination pages. For online services, it may also be necessary to check back-end databases to confirm that data modified using the Web interface is being updated correctly. Other processes may include downloading files, and sending and receiving automated email messages.

- For monitoring each Web-based URL sequence, you need one sequence monitor instance for each Web-based process to be monitored, with one point for each URL or step in the sequence.
- For monitoring other Internet pages or processes, you need one point for each file download, email verification, or individual Web page content to be monitored.

Application Performance Monitoring

Monitoring application performance is an important tool in assuring the availability of network-based services and detecting performance problems. Because of the complexity of many applications and systems, it is also the most difficult in terms of estimating the number of monitor points needed. SiteScope’s flexible licensing model makes it easy to modify your monitoring capacity to fit your needs.

The number of points for Application Performance Monitoring is based on:

- The number of applications deployed
- The types of applications
- The number of performance metrics that are to be monitored

The performance metrics for some applications, such as some Web servers, may be available with a single monitor instance and with a metric count of less than 10 metric points. For example, an Apache Web server presents its performance metrics on a single URL that includes the total number of accesses, the server uptime, and requests per second. Other applications and systems may involve multiple server addresses, modules, and metrics that require multiple monitor instances. Some applications may also be integrated with a database application to be monitored.

The following are guidelines for estimating points for application monitoring depending on how the data is accessed:

- One application monitor instance for each application, with one point for each performance metric to be monitored
- One monitor instance for each application status URL, with one point for each performance metric to be monitored

Network Monitoring

Network monitoring includes checking both connectivity and the availability of network services that permit users to access and use the network. This includes monitoring services like DNS, DHCP, LDAP, and Radius. Depending on your network hardware and configuration, you may also be able to access network performance statistics by querying network infrastructure using SNMP using the SiteScope SNMP monitor type.

The following are guidelines for estimating the number of points for network monitoring:

- One point for each key network destination
- One point for each key network service (for example, DNS or LDAP)
- One point for each metric to be monitored over SNMP

Purchasing Monitor Points

SiteScope Monitor points are sold in sets of 50, 100, 500, and 2000 point blocks to provide flexibility in deployment of monitors.

For example, a block of 100 points enables you to set up many monitoring options:

- 10 application monitors to watch five performance metrics each (10 x 5 = 50 points)
- A combination of two URL sequence monitors that traverse 10 transaction steps each (2 x 10 = 20 points)
- 30 1-point network service or server monitors (30 x 1 = 30 points)

You could also use the same block of 100 points to set up:

- 10 application monitors watching one metric each (10 x 1 = 10 points)
- One URL Sequence monitor with five steps (5 points)
- 85 Network Service or Server monitors (85 points)

When you install SiteScope, it includes a free evaluation license. To use SiteScope beyond the evaluation period, you must request and activate a general license key for your copy of SiteScope. For more information on purchasing monitor points, visit the HP Licensing for Software Portal (https://webware.hp.com/Welcome.asp).

Adding SiteScope Licenses

After you install SiteScope, you can add to your licensing at any time. For information on how to obtain a new or additional monitoring licenses, visit the HP Licensing for Software Portal (https://webware.hp.com/Welcome.asp).

When you receive your license file from HP, import the license keys into SiteScope using the SiteScope user interface.

To add a license in SiteScope:

1. From a Web browser, open the SiteScope instance you want to modify. The SiteScope service or process must be running.
2. Select **Preferences > General Preferences**, and expand the **Licenses** panel.
3. Enter the path to your SiteScope license file in the **License file** box, or click the **Select** button, and select the license file.
4. Click **Import**. After licenses have been successfully imported, information about the imported

licenses is displayed in the licenses table. This includes the license type, description, expiration date, and the total number of monitor points permitted by the license.

Part 2

Before Installing SiteScope

Chapter 6

Before You Install SiteScope

This chapter includes:

Installation Overview

There are several planning steps and actions you should consider before you install SiteScope to facilitate the deployment and management of your monitoring environment.

The following is an overview of the steps involved in deploying the SiteScope application.

1. **Prepare a server where the SiteScope application is to be installed and run.**

   > **Note:**
   >
   > - It is recommended not to install more that one SiteScope on a single machine.
   > - If you plan to use SiteScope Failover Manager to provide backup monitoring availability in case of a SiteScope server failure, you must install SiteScope on a shared resource. For details, see the the HP SiteScope Failover Guide located in **<SiteScope root directory>\sisdocs\pdfs\FailoverManager.pdf**.

2. **Obtain the SiteScope installation executable.**
3. **Create a directory where the application is installed and set user permissions as necessary.**

   > **Note:** You must create a new directory for installation of SiteScope 11.20. Do not install version 11.20 into a directory used for a previous version of SiteScope.

4. **Run the SiteScope installation executable or installation script, directing the script to install the application into the location you have prepared.**

   For more information, see "Installing SiteScope" on page 69.

5. **Restart the server if necessary (Windows installations only).**
6. **Confirm that SiteScope is running by connecting to it using a compatible Web browser.**

   For more information, see "Getting Started and Accessing SiteScope" on page 169.

7. **Perform post-installation steps to prepare SiteScope for production use.**

   For more information, see "Post-Installation Administration" on page 170.

System Requirements

This section describes the minimum system requirements and recommendations for running SiteScope on the supported operating systems.

Note:

- Before beginning the installation, review the information in the SiteScope Release Notes file for any last minute notes and limitations regarding the installation process.
- When using the standard installation programs (**HPSiteScope_11.20_setup.exe or HPSiteScope_11.20_setup.bin**), SiteScope is automatically installed as a 32-bit application on 32-bit operating systems or as a 64-bit application on 64-bit operating systems. The **HPSiteScope32on64_11.20_setup.exe** installs SiteScope as a 32-bit application in a 64-bit Windows operating system.
- Running SiteScope on a Solaris platform is now deprecated. The next release is not planned to include a Solaris Installer.
- For troubleshooting and limitations for installing SiteScope on different environments, see "Troubleshooting and Limitations" on page 97.

This section includes the following topics:

- "Server System Requirements for Windows" below
- "Server System Requirements for Solaris" on next page
- "Server System Requirements for Linux" on page 48
- "Server System Requirements for VMware" on page 49
- "Monitors Not Supported by 64-Bit SiteScope" on page 50
- "Client System Requirements" on page 50

Server System Requirements for Windows

Use these system requirements when installing SiteScope on Windows platforms:

Computer/Processor	800 MHz or higher

Operating System	**32-bit Support:** • Microsoft Windows 2003 SP2 Standard/Enterprise Edition • Microsoft Windows Server 2003 R2 SP2 Enterprise Edition • Microsoft Windows Server 2008 SP1, SP2 Standard/Enterprise Edition • Microsoft Windows Server 2008 SP2 Standard/Enterprise Edition Hyper-V guest (32 or 64-bit) hosted on Windows Server 2008 R2 **64-bit Support:** • Microsoft Windows Server 2003 SP2 Standard/Enterprise Edition • Microsoft Windows Server 2003 R2 SP2 Enterprise Edition • Microsoft Windows Server 2008 SP1, SP2 Standard/Enterprise Edition • Microsoft Windows Server 2008 R2 SP1 Standard/Enterprise/Datacenter Edition without Hyper-V • Microsoft Windows Server 2008 R2 Standard/Enterprise Edition with Hyper-V Enabled • Microsoft Windows Server 2008 R2 Hyper-V guests (64-bit) hosted on Windows Server 2008 R2 Standard/Enterprise Edition • Microsoft Windows Server 2008 SP2 Standard/Enterprise Edition Hyper-V guest (64-bit) hosted on Windows Server 2008 R2 Standard/Enterprise Edition
Memory	1 GB minimum (2 GB or more is recommended)
Free Hard Disk Space	2 GB or more (10 GB or more is recommended)

Server System Requirements for Solaris

Note: Running SiteScope on a Solaris platform is now deprecated. The next release is not planned to include a Solaris Installer.

Use these system requirements when installing SiteScope on Solaris platforms:

Computer/Processor	Sun 400 MHz UltraSparc II Processor or higher
Operating System	• Solaris 9 (32-bit) with latest recommended patch cluster • Solaris 10 (32 or 64-bit) with latest recommended patch cluster
Memory	1 GB minimum (2 GB or more is recommended)
Free Hard Disk Space	2 GB or more (10 GB or more is recommended)

> **Note:** To view SiteScope Management Reports on Solaris platforms, an X Window system must be running on the SiteScope server.

Server System Requirements for Linux

Use these system requirements when installing SiteScope on Linux platforms:

Computer/Processor	800 MHz or higher
Operating System	• Oracle Enterprise Linux 6.0, 6.1 (64-bit) **Note:** The environment must be manually configured before installing SiteScope. For details, see "Installing SiteScope on an Oracle Enterprise Linux Environment" on page 71. • CentOS 6.2 (64-bit) **Note:** The CentOS 6.2 server must be manually configured before installing SiteScope. For details, see "Installing SiteScope on a CentOS 6.2 Environment" on page 72. • Red Hat ES/AS Linux 5.2, 5.4 (32-bit) • Red Hat ES/AS Linux 5.5, 5.6, 5.7, 5.8 (32 or 64-bit) • Red Hat ES/AS Linux 6.0, 6.2 (64-bit) **Note:** ▪ The Red Hat ES/AS Linux 6.0 server must be manually configured before installing the HP Operations agent. For details, see "Installing Dependencies Required by the HP Operations Agent" on page 74. ▪ When SiteScope is installed on Red Hat Linux, the SiteScope Server Health monitor requires valid output of sar -W and sar -B commands for the SwapIns/sec, SwapOuts/sec, PageIns/sec, and PageOuts/sec counters. If these commands do not work, no errors are thrown and these counters are shown as **n/a**. To enable them to run, edit the crontab by adding the command "**/usr/local/lib/sa/sadc -**" to run once a day. ▪ To be able to monitor CPU and memory usage on SiteScope or a remote server running on a Red Hat Linux environment, the **sysstat** package must be installed on the SiteScope server and on all remote servers being monitored (it is not included out-of-the-box). ▪ Red Hat Linux 9 with Native POSIX Threading Library (NPTL) is not supported.
Memory	1 GB minimum (2 GB or more is recommended)
Free Hard Disk Space	2 GB or more (10 GB or more is recommended)

Server System Requirements for VMware

The following VMware environments are supported in SiteScope according to the configurations tested below:

Supported and Tested Environments	• VMware ESX 3.0 • VMware VirtualCenter 3.0 • vSphere 4.1, 5.0
Supported Environments Only	• VMware VirtualCenter 2.x • VMware ESX 2.5 via VirtualCenter 2.x • VMware ESX 3.x, 4.0, 4.1 • VMware ESX 3.x via VirtualCenter 3.x • VMware ESXi 4.0, 4.1, 5.0, 5.1 • VMware vCenter Server 4.0, 4.1, 5.0, 5.1 • vSphere 5.1
VMware Configuration Tested	• 4 VMware Virtual Machines (VM) on one physical server • Each VM with 2 CPUs at 2.39GHz, 8 GB memory, and 40 GB disk space • Storage used is HP EVA 8400/22G • Physical server: ESX host is HP BL490c G6 with 8x Intel Xeon x5570 CPU, 72GB RAM with VMware ESX 4.0 U1 • No other VMs resident on this physical server • VMTools installed The resources allocated to the SiteScope VM should not be shared with other VMs.
SiteScope Configuration Tested	• 750 remote servers • 9000 monitors • 900 monitor runs per minute

Use these minimum system requirements when installing SiteScope on VMware environments (note that these are recommendations based on a tested environment, and are not support limitations):

Computer/Processor	4 Intel Xeon physical processors, 2 GHz each
Operating System	Microsoft Windows 2003 Standard/Enterprise SP2 (all operating systems supported on the physical server are of course supported on the VM server)

Memory (RAM)	4 GB
Free Hard Disk Space	20 GB (Hard Disk speed: 7200 rpm)
Network Card	1 physical gigabit Network Interface Card
Other Software	VMTools must be installed

Note: Monitor capacity and velocity can be significantly impacted by numerous factors including, but not limited to the following: SiteScope server hardware, operating system, patches, third-party software, network configuration and architecture, location of the SiteScope server in relation to the servers being monitored, monitor types and distribution by type, monitor frequency, monitor execution time, Business Service Management integration, and Database Logging. The published maximums should not be assumed to be possible in every environment.

Monitors Not Supported by 64-Bit SiteScope

The following monitors are not supported by the 64-bit version of SiteScope and require the 32-bit version of SiteScope. To install the 32-bit version of SiteScope in a 64-bit environment use the **HPSiteScope32on64_11.20_setup.exe** installation file.

- Microsoft Exchange 2003 Mailbox Monitor
- Microsoft Exchange 2003 Public Folder Monitor
- Microsoft Windows Media Player Monitor
- Real Media Player Monitor
- Sybase Monitor
- Tuxedo Monitor
- Web Script Monitor

Client System Requirements

SiteScope client is supported on all Microsoft Windows operating systems using the following:

Supported Browsers	• Microsoft Internet Explorer 7.0 • Microsoft Internet Explorer 8.0 • Microsoft Internet Explorer 9.0 • Mozilla Firefox ESR 10 (certified on clients running on Windows environments only)
Java Plug-in (to view applets)	• **Supported:** JRE version 6 or 7 (JRE 7 update 9 is the latest certified version) • **Recommended:** JRE 7 update 9

Certified Configurations

The following configuration has been certified in a high load environment for an installation of SiteScope that was integrated with BSM.

Operating System	Microsoft Windows Server 2003 SP2 Enterprise Edition (32-bit)	Microsoft Windows Server 2003 SP2 Enterprise Edition (64-bit)
System Type	x86-based PC	ACPI Multiprocessor x64-based PC
CPU	4 Intel® Xeon® 5160 physical processors, 3 GHz each	4 Intel® Xeon® 5160 physical processors, 3 GHz each
Total Physical Memory (RAM)	16 GB	16 GB
Java Heap Memory	1024 MB	2048 - 3072 MB
Total Number of Monitors	16,000	24,000
Total Number of Remote Servers	1,250	2,500
Monitor Runs per Minute	2,000	3,500

Note:

- Negative Topaz ID errors in the log should be ignored.
- When working under high load, you should suspend all monitors before connecting to BSM for the first time.

SiteScope Capacity Limitations

When SiteScope is integrated with BSM, performing very high load operations might cause problems in SiteScope. Use the following guidelines:

- Do not run the Publish Template Changes Wizard for over 3,000 monitors at once.
- Do not run the Monitor Deployment Wizard to create over 3,000 monitors at once.
- Do not copy/paste over 3,000 monitors in a single action.
- Do not perform a Global Search and Replace to modify Business Service Management integration properties for over 2,500 monitors at one time.

SiteScope includes a tool that helps you predict system behavior and perform capacity planning for SiteScope. For details, see "SiteScope Capacity Calculator" on page 116.

SiteScope Support Matrices

For the HP Business Service Management, HP Operations Manager, HP Operations agent, HP Performance Center and HP LoadRunner, and HP Network Node Manager i versions supported in this release, refer to the HP SiteScope Support Matrices section in the SiteScope Release Notes (in SiteScope, select **Help > What's New?**).

Chapter 7

Upgrading SiteScope

This chapter includes:

Before Performing the Upgrade

This section describes how to upgrade existing SiteScope installations to SiteScope 11.20 with the minimum possible interruption to your system and operations.

SiteScope is designed for backward compatibility. This means you can install newer versions of SiteScope and transfer monitor configurations from an existing SiteScope installation with a minimum of disruption to your monitoring environment.

Before upgrading SiteScope, you should consider the following:

- Before beginning the upgrade, review the information in the SiteScope Release Notes file for any last minute notes and limitations regarding the upgrade process. Failure to follow procedures listed in the Release Notes could result in unexpected data loss or failure of the upgrade process.
- You can upgrade to SiteScope 11.20 directly from SiteScope 10.x or later versions by exporting SiteScope configuration data using the Configuration Tool. For versions of SiteScope earlier than 10.00, you must first upgrade to SiteScope 10.x. For versions of SiteScope earlier than 9.00, you must first upgrade to SiteScope 9.x. For upgrade instructions, see the upgrade instructions for the relevant version.
- Since SiteScope version 10.10, the HTTP method for connecting to a UNIX remote server is no longer supported. If during an upgrade, SiteScope finds a UNIX remote server that uses the HTTP method, the upgrade process fails. To avoid this, change the method property in the

version to be upgraded to one of the other valid options (ssh, telnet, or rlogin). For a list of affected UNIX remote servers, see the **<SiteScope root directory>\logs\upgrade.log** file.

- The custom properties mechanism for adding custom property settings to SiteScope monitors was removed from SiteScope version 10.00, and the filtering functionality was replaced by the Tags mechanism. When upgrading from versions of SiteScope earlier than 10.00, you can convert custom properties to Search/Filter Tags. For details, see "Converting Custom Properties to Search/Filter Tags" on next page.

Upgrading an Existing SiteScope Installation

It is recommended that you perform the following steps for upgrading:

1. **Make a backup copy of SiteScope monitor configuration data using the Configuration Tool from your current version of SiteScope.**

   For more information, see "Backing Up SiteScope Configuration Data" below.

2. **Uninstall the current version of SiteScope.**

3. **Install new version of SiteScope in a clean directory structure.**

   For information on naming the directory, see "Naming the SiteScope Directory" below.

   For information on installing SiteScope, see "Installing SiteScope" on page 69.

4. **After installation, import the monitor configuration data from Step 1.**

   For more information, see "Importing Configuration Data" on next page.

5. **After importing data from earlier versions of SiteScope, start SiteScope by running the batch file/start command shell script.**

   To avoid SiteScope restarting itself after an upgrade if it takes longer than 15 minutes for the monitors to run, start SiteScope by running the **go.bat** file from the **<SiteScope root directory>\bin** directory (on Windows platforms), or by running the start command shell script using the syntax `<installpath>/SiteScope/start` (on Solaris or Linux platforms).

6. **If using SiteScope Failover, upgrade the Failover server with the corresponding SiteScope Failover version.**

   After upgrading the primary server, upgrade the Failover server with the corresponding SiteScope Failover version, and connect the Failover server to the upgraded primary server.

Naming the SiteScope Directory

The new directory you create for installing SiteScope must be named `SiteScope` and be located in a different directory path. For example, if the original SiteScope directory was `C:\SiteScope`, the new directory could be `C:\11.20\SiteScope`.

Backing Up SiteScope Configuration Data

The simplest way to prepare for a SiteScopeupgrade is to use the Configuration Tool to make a backup of your current SiteScope installation directory and all of the subdirectories within the directory. Using the Configuration Tool, you can export SiteScope data such as templates, logs, monitor configuration files, server certificates, scripts, and so forth from your current SiteScope for later import into SiteScope. The user data is exported to a **.zip** file.

Alternatively, you can manually back up your SiteScope installation. For details, see "Backing up and recovering a SiteScope installation if unable to start SiteScope" on page 178.

> **Note:** You should make a backup of the **<SiteScope>\htdocs** directory and copy it to the SiteScope 11.20 directory after an upgrade so that you can see old reports, since this directory is not copied when you export SiteScope data.

For details on exporting SiteScope data using the Configuration Tool, see "Using the SiteScope Configuration Tool" on page 102.

Alternatively, you can have SiteScope export SiteScope data as part of the installation process. For details, see "Installing SiteScope" on page 69.

Importing Configuration Data

After upgrading SiteScope, monitor configuration data can be copied from earlier versions of SiteScope using the Configuration Tool. For details, see "Using the SiteScope Configuration Tool" on page 102.

Alternatively, if you manually created a back up, you must delete from the new installation directory all the folders and files that you backed up, and then copy the backed up folders and files to the installation directory. For details, see "Backing up and recovering a SiteScope installation if unable to start SiteScope" on page 178.

Converting Custom Properties to Search/Filter Tags

Custom properties are no longer supported in SiteScope. When upgrading from SiteScope versions earlier than 10.00, you can convert custom properties to Search/Filter Tags by creating a mapping file, and then running the custom properties conversion tool.

To convert custom properties to search/filter tags:

1. In a text editor, create a mapping file by mapping custom properties to search/filter tags using the following format:

   ```
   <Custom Property Name>,<Custom Property Value>-><Tag Name>,<Tag
   Value>
   ```

   Where:

   `<Custom Property Name>` is the custom property configured in the **master.config** file.

   `<Custom Property Value>` is the value of the given custom property name above.

   `<Tag Name>` is the name of the tag to add to the monitor (the tag must already exist as a Search/Filter Tag in your system).

`<Tag Value>` is the value of the tag name above that corresponds to the custom property value.

For example:

```
_custPropSeverity,MINOR->Severity,MINOR
_custPropServiceGroup,Sales->Notification Group,Sales
```

> **Note:** You must not leave empty spaces between the , < > -> characters in the mapping file.

2. Save the file.
3. Open a command line, and enter the following:
   - For Windows environments:

     ```
     <SiteScope root directory>\tools\CustomPropertyToTagTool.bat
     <path to mapping file> <path to SiteScope persistency folder>
     ```

   - For Linux or Solaris environments:

     ```
     <SiteScope root directory>\tools\CustomPropertyToTagTool.sh
     <path to mapping file> <path to SiteScope persistency folder>
     ```

   For example (on a Windows platform):

   ```
   C:\SiteScope\tools\CustomPropertyToTagTool.bat
   C:\Desktop\configFile2.txt
   C:\SiteScope\persistency
   ```

Upgrading SiteScope 8.9 to SiteScope 9.5.4

It is recommended that you perform the following steps for upgrading from SiteScope 8.9 to SiteScope 9.5.4:

To perform the upgrade:

1. Check the "_version" value in the **master.config** file and persistency. It should be in the format `8.9 17:20:04 2006-11-05 build 257`. If the version looks like "`_version=750`" it should be corrected.
2. Suspend all monitors.
3. Make a backup of the configuration from the SiteScope 8.9 or full SiteScope folder.
4. Install SiteScope 9.5.0.
5. Install SiteScope 9.5.4.
6. Import the configuration.

7. Before starting SiteScope, open **<SiteScope root>\groups\master.config** and perform the following:

   - Add the **_disableHostDNSResolution=true** property.

   - Check that the **_sendRemoteServerDisplayNameToBAC** property is not in the file.

8. Start SiteScope 9.5.4 and wait.

9. Restart SiteScope. Open the SiteScope user interface and check the BAC integration (confirm that you can see the BAC integration settings in **Preferences > Integration Preferences**).

10. Export the configuration with **topazIDs.bat**. Check that targets are the same as in SiteScope 8.9 and no "-1" appears.

Upgrading SiteScope 9.5.4 to SiteScope 10.14

It is recommended that you perform the following steps for upgrading from SiteScope 9.5.4 to SiteScope10.14:

To perform the upgrade:

1. Stop the SiteScope service.

2. Backup the SiteScope 9.5.4 folder (copy it to a temp folder on your system).

3. Export SiteScope configuration from SiteScope 9.5.4:

   - Launch the SiteScope Configuration Tool (**Start > Programs > HP SiteScope > Configuration Tool**) and click **Next**.

   - Select **Export/Import User Data** and click **Next**.

   - Select **Export User data** and click **Next**.

   - Select the location of the SiteScope 9.5.4 installation directory, and a target directory where you want to save exported data. Enter a backup file name. Leave **Include log files** unchecked.

   - After the export is completed, click **Next/Finish**.

   - Copy the third-party libraries and jars that are used for various monitors (for example, SAP client, JDBC drivers) to the temp directory, since these files are not included in the export.

4. Uninstall SiteScope 9.5.4 (**Start > Settings > Control panel > Add or Remove Programs**):

   - Uninstall Window launches. Click **Next** twice and uninstall begins.

   - After uninstall is complete, click **Finish**.

   - Delete any remaining files under the SiteScope directory.

   - Confirm that the **SiteScope** service was removed with the uninstall from the Windows services. If the SiteScope service is still displayed, it can be removed manually by running "`sc delete SiteScope`" from command prompt.

5. Reboot the server.

6. Install SiteScope 10.10:

   - Run the SiteScope 10.10 installer and click **Next**.
   - Accept the license agreement and click **Next**.
   - Select a directory for SiteScope 10.10 and click Next (we recommend using the same directory that was used for 9.5.4).
   - Select **HP SiteScope** installation type and click **Next**.
   - Leave the default port and enter admin email, and then click **Next**.
   - Enter the SiteScope 10.10 license, and then click **Next**.
   - The summary screen is displayed. Click **Next**.
   - After installation is complete, click **Next** (the installer windows closes).

7. Stop the SiteScope service.
8. Set the SiteScope service to run under a monitoring account (local or domain administrator). This step can be skipped, depending on how it was configured for 9.5.4.
9. Install the SiteScope 10.14 patch:
   - Run the SiteScope 10.14 installer, and click **Next**.
   - Verify the SiteScope service is not running and click **Next**.
   - Click **Next** in the License Agreement screen.
   - Click **Next** in the Summary screen and 10.14 installation begins.
   - After installation is completed, click Next and then click **Finish**.
10. Install hotfixes for SiteScope 10.14.
11. Import data into SiteScope:
    - Run the Configuration Tool (**Start > Programs > HP SiteScope > Configuration Tool**) and click **Next**.
    - Select **Export/Import User Data** and click **Next**.
    - Select **Import User Data** and click **Next**.
    - Select the **.zip** file previously exported from the 9.5.4 configuration. Verify the target directory is correct and then click **Next**.
    - After import is completed, click **Finish** (the configuration tool closes).
    - Restore the third-party libraries and jars that were copied to the temp folder (in step 3).
12. Change data reduction and other parameters in the **master.config** file:
    - Open **<SiteScope root>\groups\master.config**.
    - Change the line:

      _topazEnforceUseDataReduction=

      to

      _topazEnforceUseDataReduction=false

> **Note:** If the parameter does not exist, add it so it is set to false.

- Change the line:

  _suspendMonitors=

  to

  _suspendMonitors=true

- Add the parameter:

  _disableHostDNSResolution=true

  > **Note:** All parameters should be added so they are in alphabetical order.

- Save and close the **master.config** file.

13. Launch the SiteScope with your configuration (it will be upgraded during the first run):

    - Start SiteScope 10.14.
    - Check that all entities that were in the previous configuration are stored in the new SiteScope.
    - Check the BAC integration:

      Wait for SiteScope to be started and logged in with the new user interface. Check in SiteScope **Preferences > Integration Preferences** to confirm that you can see the BAC integration settings (for example, the BAC server). If you do not see the integration information on this screen then the data is most likely corrupted. You can confirm this by looking at the BAC integration log (**<SiteScope root>\logs\bac_integration\ bac_integration.log**). You will see many entries like this:

      ```
      ERROR - Error: TopologyReporterSender Topology Reporter failed to
      report, exception in main loop: Host of origin may not be blank
      ```

    - Make sure that you can see your configuration in the user interface, and SiteScope is working fine, and then stop SiteScope.

14. Open the **master.config** file and perform the following:

    - Unsuspend monitors by changing:

      _suspendMonitors=true

      to

      _suspendMonitors=

    - Enable data reduction by changing:

      _topazEnforceUseDataReduction= false

      to

      _topazEnforceUseDataReduction=

- Save and close the **master.config** file and then start SiteScope again. Log in through the user interface, and check that it is working correctly.

Upgrading SiteScope 10.14 to SiteScope 11.20

It is recommended that you perform the following steps for upgrading from SiteScope 10.14 to SiteScope 11.20:

To perform the upgrade:

1. Stop the SiteScope service.
2. Backup the SiteScope 10.14 folder (copy it to a temp folder on your system).
3. Export SiteScope configuration from SiteScope 10.14:
   - Launch the SiteScope Configuration Tool (**Start > Programs > HP SiteScope > Configuration Tool**) and click **Next**.
   - Select **Export/Import User Data** and click **Next**.
   - Select **Export User data** and click **Next**.
   - Select the location of the SiteScope 10.14 installation directory, and a target directory where you want to save exported data. Enter a backup file name. Leave **Include log files** unchecked.
   - After the export is completed, click **Next/Finish**.
   - Copy the third-party libraries and jars that are used for various monitors (for example, SAP client, JDBC drivers) to the temp directory, since these files are not included in the export.
4. Uninstall SiteScope 10.14 (**Start > Settings > Control panel > Add or Remove Programs**):
   - Uninstall Window launches. Click **Next** twice and uninstall begins.
   - After uninstall is complete, click **Finish**.
   - Delete any remaining files under the SiteScope directory.
   - Confirm that the **SiteScope** service was removed with the uninstall from the Windows services. If the SiteScope service is still displayed, it can be removed manually by running "`sc delete SiteScope`" from command prompt.
5. Reboot the server.
6. Install SiteScope 11.20:
   - Run the SiteScope11.20 installer and click **Next**.
   - Accept the license agreement and click **Next**.
   - Select a directory for SiteScope 11.20 and click **Next** (we recommend using the same directory that was used for 10.14).
   - Select **HP SiteScope** installation type and click **Next**.
   - Leave the default port and enter admin email, and then click **Next**. If the default port is taken, enter 8088 instead.

- Leave license blank and click **Next**.
- In the summary screen click **Next**.
- After installation is complete, click **Next** (the installer windows closes).
- Restore third-party libraries and jars that were copied to the temp folder (in step 3).

7. Stop the SiteScope service.
8. Install the required hotfixes for SiteScope 11.20.
9. Set the SiteScope service to run under a monitoring account. This step can be skipped for module SiteScopes.
10. Import data into SiteScope:
    - Run the Configuration Tool (**Start > Programs > HP SiteScope > Configuration Tool**) and click **Next**.
    - Select **Export/Import User Data** and click **Next**.
    - Select **Import User Data** and click **Next**.
    - Click **Next**.
    - Select the **.zip** file previously exported from the 10.14 installation, verify the target directory is correct, and then click **Next**.
    - After import is completed, click **Finish** (the configuration tool closes).

    Note: Run the Configuration Tool a second time and select the **Sizing** option.

11. Change data reduction and other parameters in the **master.config** file:
    - Open the **<SiteScope root>\groups\master.config** file.
    - Change the line:

      _topazEnforceUseDataReduction=

      to

      _topazEnforceUseDataReduction=false

      Note: If the parameter does not exist, add it so it is set to false.

    - Change the line:

      _suspendMonitors=

      to

      _suspendMonitors=true

    - Add the parameter:

      _disableHostDNSResolution=true

> **Note:** All parameters should be added so they are in alphabetical order.

- Save and close the **master.config** file.

12. Enable SiteScope alerts to BSM.

    - Go to the **<SiteScope root>\bin** folder and run the **PersistencyViewer.bat** file.
    - Click the **Select Persistency Path** button, and in the persistency folder, click the **Open** button.
    - In the Filter by type drop-down, look for the class `com.mercury.sitescope.platform.configmanager.MasterConfig`.

      This displays the same list of properties that you can see in the **master.config** file. Look for **_topazAlertEnabled** and verify that it is set to **=1**. Add the property if it is not there.
    - After making changes, click the commit button.

13. Start the SiteScope service. SiteScope upgrades the configuration and then restarts itself. Log in using the user interface and verify the integration to BSM is correct under **Preferences > Integration Settings**.

14. Stop SiteScope.

15. Open the **master.config** file and perform the following:

    - Unsuspend monitors by changing:

      _suspendMonitors=true

      to

      _suspendMonitors=
    - Enable data reduction by changing:

      _topazEnforceUseDataReduction= false

      to

      _topazEnforceUseDataReduction=
    - Change the parameter:

      _disableHostDNSResolution=false
    - Save and close the **master.config** file and then start SiteScope.

Upgrading SiteScope 11.x to SiteScope 11.20

It is recommended that you perform the following steps for upgrading from SiteScope 11.x to SiteScope 11.20:

To perform the upgrade:

1. Stop the SiteScope service.
2. Backup the SiteScope 11.x folder (copy it to a temp folder on your system).

3. Export SiteScope configuration from SiteScope 11.x:
   - Launch the SiteScope Configuration Tool (**Start > Programs > HP SiteScope > Configuration Tool**) and click **Next**.
   - Select **Export configuration** and click **Next**.
   - In the Export Configuration screen, select the location of the SiteScope 11.x installation directory, and a target directory where you want to save exported data. Enter a backup file name. Leave **Include log files** unchecked.
   - After the export is completed, click **Next/Finish**.
   - Copy the third-party libraries and jars that are used for various monitors (for example, SAP client, JDBC drivers) to the temp directory, since these files are not included in the export.
4. Uninstall SiteScope 11.x (**Start > Settings > Control panel > Add or Remove Programs**):
   - Uninstall Window launches. Click **Next** twice and uninstall begins.
   - After uninstall is complete, click **Finish**.
   - Delete any remaining files under the SiteScope directory.
   - Confirm that the **SiteScope** service was removed with the uninstall from the Windows services. If the SiteScope service is still displayed, it can be removed manually by running "`sc delete SiteScope`" from command prompt.
5. Reboot the server.
6. Install SiteScope 11.20:
   - Run the SiteScope 11.20 installer and click **Next**.
   - Accept the license agreement and click **Next**.
   - Select a directory for SiteScope 11.20 and click **Next** (we recommend using the same directory that was used for 11.x).
   - Select **HP SiteScope** installation type and click **Next**.
   - Leave the default port and enter admin email, and then click **Next**. If the default port is taken, enter 8088 instead.
   - Leave license blank and click **Next**.
   - In the summary screen click **Next**.
   - After installation is complete, click **Next** (the installer windows closes).
   - Restore third-party libraries and jars that were copied to the temp folder (in step 3).
7. Stop the SiteScope service.
8. Install the required hotfixes for SiteScope 11.20.
9. Set the SiteScope service to run under a monitoring account. This step can be skipped for module SiteScopes.
10. Import data into SiteScope:

- Run the Configuration Tool (**Start > Programs > HP SiteScope > Configuration Tool**) and click **Next**.
- Select **Import configuration** and click **Next**.
- In the Import Configuration screen, select the zip file previously exported from the 11.x installation, verify the target directory is correct, and then click **Next**.
- After import is completed, click **Finish** (the configuration tool closes).

  Note: Run the Configuration Tool a second time and select the **Sizing** option.

11. Change data reduction and other parameters in the **master.config** file:
    - Open the **<SiteScope root>\groups\master.config** file.
    - Change the line:

      _topazEnforceUseDataReduction=

      to

      _topazEnforceUseDataReduction=false

      Note: If the parameter does not exist, add it so it is set to false.

    - Change the line:

      _suspendMonitors=

      to

      _suspendMonitors=true

    - Add the parameter:

      _disableHostDNSResolution=true

      Note: All parameters should be added so they are in alphabetical order.

    - Save and close the **master.config** file.
12. Enable SiteScope alerts to BSM.
    - Go to the **<SiteScope root>\bin** folder and run the **PersistencyViewer.bat** file.
    - Click the **Select Persistency Path** button, and in the persistency folder, click the **Open** button.
    - In the Filter by type drop-down, look for the class `com.mercury.sitescope.platform.configmanager.MasterConfig`.

      This displays the same list of properties that you can see in the **master.config** file. Look for **_topazAlertEnabled** and verify that it is set to **=1**. Add the property if it is not there.

    - After making changes, click the commit button.
13. Start the SiteScope service. SiteScope upgrades the configuration and then restarts itself. Log

in using the user interface and verify the integration to BSM is correct under **Preferences > Integration Settings**.

14. Stop SiteScope.
15. Open the **master.config** file and perform the following:
    - Unsuspend monitors by changing:

      _suspendMonitors=true

      to

      _suspendMonitors=
    - Enable data reduction by changing:

      _topazEnforceUseDataReduction= false

      to

      _topazEnforceUseDataReduction=
    - Change the parameter:

      _disableHostDNSResolution=false
    - Save and close the **master.config** file and then start SiteScope.

Troubleshooting and Limitations

This section describes troubleshooting and limitations for SiteScope upgrades.

This section includes:

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

First SiteScope Restart After Upgrade Can Take a Long Time

Problem: The first SiteScope restart after an upgrade might take a long time (more than 15 minutes). If the monitors have not started to run after 15 minutes, SiteScope restarts itself.

Possible Solution:

To avoid SiteScope restarting itself if it takes longer than 15 minutes for the monitors to run, start SiteScope by running the **go.bat** file from the **<SiteScope root directory>\bin** directory (on Windows platforms), or by running the start command shell script using the syntax **<installpath>/SiteScope/start** (on Solaris or Linux platforms).

Disable any monitors that are targeting environments that are not running. This saves time waiting for the system to reply.

SiteScope Fails to Get the Customer ID

Problem: In versions of SiteScope earlier than 9.0, when SiteScope is connected to BSM, SiteScope stores the customer ID in a settings file under **<SiteScope root directory>\cache\persistent\TopazConfiguration**.

When loading SiteScope for the first time after upgrading to 9.x, SiteScope attempts to read the settings file and retrieve the BSM connection details. If this file is corrupt (this could be caused by in correctly performing the export configuration), SiteScope might not be able to get the customer ID and tries to retrieve it from BSM. If BSM is down during the restart, SiteScope is unable to retrieve the customer ID, and SiteScope restarts itself again.

Possible Solution: Make sure that any BSM that is connected to SiteScope is up and running before starting SiteScope after an upgrade.

Default Alert Action Is Named According to Action Type

Problem: Alert actions were added to SiteScope 9.0. When upgrading to any version of SiteScope 9.0 or later, a default alert action is created that is named according to the action type (for example, Email, Pager, or SMS). This might be a problem if you want the default name to be concatenated with the alert holding the action.

Possible Solution: Before upgrading, open the **master.config** file located in **<SiteScope root directory>\groups** and change the **_AlertActionCompositeNameDelimiter** key to contain the delimiter you want to have in the concatenation.

BSM/ServiceCenter or Service Manager Integration

This note is relevant if you are upgrading SiteScope from a pre-10.00 version and are working with the BSM/ServiceCenter or Service Manager integration. When setting up the ServiceCenter monitor in SiteScope, a file called **peregrine.jar** is created and placed in the **WEB-INF\lib** directory on the SiteScope machine. This file must be backed up before upgrading SiteScope or it will be deleted during the upgrade. After the upgrade is complete, copy the backed up **peregrine.jar** file back to the **WEB-INF\lib** directory.

Moving SiteScope to a Different Server When Integrated with BSM

This process is relevant if you are moving your SiteScope server to new hardware (with a new host name and IP address) and you are working with the BSM integration. Perform the following steps to minimize the impact on the integration:

1. Make a backup of your current SiteScope installation. For details, see "Backing Up SiteScope Configuration Data" on page 54.
2. Install SiteScope on the new hardware, and import the SiteScope configuration data to the SiteScope installation directory. For details, see "Importing Configuration Data" on page 55.
3. Configure the SiteScope server with the same port number that was used on the old hardware.
4. If you are working with SiteScope versions earlier than 10.10, perform the following in Business Service Management:
   - Update the relevant fields for the SiteScope profile in the New SiteScope page.
   - Update the information about the SiteScope machine in the HOSTS table.

SiteScope Fails to Upgrade

If the upgrade process fails, check the **upgrade.log** file located in the <**SiteScope root directory>\logs** directory for reasons for the upgrade failure.

If the upgrade process fails when installing SiteScope on a Windows environment, SiteScope keeps trying to perform a restart.

Possible Solution: Perform the SiteScope installation again.

Part 3

Installing SiteScope

Chapter 8

Installing SiteScope

This chapter includes:

- "Installation Flow" below
- "Preparing for a 64-Bit SiteScope Installation" on next page
- "Preparing for Solaris or Linux Installation" on page 71
- "Installing SiteScope on an Oracle Enterprise Linux Environment" on page 71
- "Installing SiteScope on a CentOS 6.2 Environment" on page 72
- "Installing SiteScope on an HP Cloud Services Instance Running on CentOS 6.2" on page 72
- "Installing Dependencies Required by the HP Operations Agent" on page 74
- "Installing Using the Installation Wizard" on page 75
- "Installing on Solaris or Linux Using Console Mode" on page 91
- "Troubleshooting and Limitations" on page 97

Installation Flow

> **Note:** This guide contains instructions for installing SiteScope 11.20. For instructions for installing a service pack on top of SiteScope 11.20, refer to the Installation Notes section of the release notes provided with the service pack.

SiteScope is available as a self-extracting executable file and packages folder that can be downloaded from the HP Web site and is also available on DVD. SiteScope is installed on a single server, and runs as a single application on Windows platforms, or as a single application or various processes on Solaris or Linux platforms.

1. **Prepare for the SiteScope 11.20 installation (for installations on Solaris or Linux only).**

   a. Select a suitable installation location and set account permissions. For details, see "Preparing for Solaris or Linux Installation" on page 71.

   b. If you are installing SiteScope on one of the following platforms, you need to manually configure the environment before installing SiteScope:

      - **Oracle Enterprise Linux 6.0, 6.1**. For details, see "Installing SiteScope on an Oracle Enterprise Linux Environment" on page 71.
      - **CentOS 6.2**. For details, see "Installing SiteScope on a CentOS 6.2 Environment" on page 72.
      - **HP Cloud Services (HPCS) instance running on a CentOS 6.2 operating system**. For details, see "Installing SiteScope on an HP Cloud Services Instance Running on

CentOS 6.2" on page 72.

   - **Red Hat ES/AS Linux 6.0**. For details, see "Installing Dependencies Required by the HP Operations Agent" on page 74.

2. **Install SiteScope 11.20.**

   - For details on installing on Windows, see "Installing Using the Installation Wizard" on page 75.

   - SiteScope for Solaris and SiteScope for Linux have the following installation options:

     - User interface executable (installation wizard). For details, see "Installing Using the Installation Wizard" on page 75.

     - Console mode installation script using command line input. For details, see "Installing on Solaris or Linux Using Console Mode" on page 91.

   - You can also install SiteScope using a silent installation. For details, see "Installing SiteScope in Silent Mode" on page 100.

   > **Note:**
   >
   > - If there is an existing version of SiteScope installed, you must uninstall it before installing SiteScope 11.20.
   >
   > - If you previously exported SiteScope data using the Configuration Tool (for details, see "Using the SiteScope Configuration Tool" on page 102), you can import the user data **.zip** file.
   >
   > - If you have third-party middleware and drivers, you must copy or install them manually.

3. **Connect to SiteScope.**

   For details, see "Connecting to SiteScope" on page 173.

Preparing for a 64-Bit SiteScope Installation

SiteScope can execute as a 32-bit or 64-bit application. SiteScope is installed and run as a 64-bit application in the following scenarios:

- Running **HPSiteScope_11.20_setup.exe** on a 64-bit Windows system.

- Running **HPSiteScope_11.20_setup.bin** on a 64-bit Linux or Solaris system.

> **Note:** The **HPSiteScope32on64_11.20_setup.exe** installer installs SiteScope as a 32-bit application on a Windows 64-bit system. You can use this version to overcome the limitations of 64-bit SiteScope.

Before you install SiteScope be aware that:

- Some monitors do not support working with the 64-bit version of SiteScope, so if you plan to work with any one of these monitors, it is recommended to install the SiteScope 32-bit version.

- The 32-bit processes can only access 4 GB of virtual memory, while 64-bit processes can access 8 TB of virtual memory address space and increase the monitoring capacity of SiteScope.
- The SiteScope 64-bit version consumes up to 3 times more memory than the SiteScope 32-bit version. Accordingly, if you are using a SiteScope 64-bit version you should manually increase the JVM heap size on the server, as described in "Using the SiteScope Configuration Tool" on page 102.

Preparing for Solaris or Linux Installation

Depending on your environment, preparation for installation of SiteScope on Solaris or Linux involves selecting a suitable installation location and setting account permissions.

To prepare for installation of SiteScope on Solaris or Linux:

1. Verify that the installation location for the SiteScope application (`/opt/HP/SiteScope`) has access to sufficient disk space for the installation and operation of SiteScope.
2. Create a non-root user account that runs the SiteScope application, and set account permissions to `/opt/HP/SiteScope` for this user. Set the default shell for the account. For details, see "Configuring a Non-Root User Account with Permissions to Run SiteScope" on page 18.

Note:

- The Solaris and Linux installation directory cannot be changed during installation, and it is not recommended to change it after installation is complete.
- While SiteScope requires highly privileged account permissions to enable the full range of server monitoring, it is recommended not to run SiteScope from the root account and not to configure SiteScope to use the root account to access remote servers.
- You can also install SiteScope using a silent installation. For details, see "Installing SiteScope in Silent Mode" on page 100.

Installing SiteScope on an Oracle Enterprise Linux Environment

Before SiteScope can be installed on Oracle Enterprise Linux 6.0 or 6.1 (64-bit), the following dependencies must be installed on the environment:

- glibc-2.12-1.25.el6.i686.rpm
- glibc-common-2.12-1.25.el6.i686.rpm
- nss-softokn-freebl-3.12.9-3.el6.i686.rpm
- libXau-1.0.5-1.el6.i686.rpm
- libxcb-1.5-1.el6.i686.rpm
- libX11-1.3-2.el6.i686.rpm

You can install the dependencies, using the `yum` package manager provided in Oracle Enterprise Linux, by running the command:

```
yum install -y glibc glibc-common nss-softokn-freebl libXau libxcb
libX11 libXext
```

These dependencies can be found in the default repositories (**/etc/yum.repos.d**) for all Red Hat-based systems.

Installing SiteScope on a CentOS 6.2 Environment

Before installing SiteScope on CentOS 6.2 (64-bit), make sure that one of the following additional libraries is installed on the Linux environment (we recommend using the first option):

- Install glibc.i686 library by executing the command:

  ```
  [root@centos ~]# yum install glibc.i686
  ```

- Check that any JRE is installed and that paths to it are written correctly:

  ```
  [root@centos ~]# java -version
  java version "1.6.0_22"
  OpenJDK Runtime Environment (IcedTea6 1.10.6) (rhel-1.43.1.10.6.el6_
  2-x86_64)
  OpenJDK 64-Bit Server VM (build 20.0-b11, mixed mode)
  ```

  If you get a "command not found" error, a JRE should be installed. Use the following command for this:

  ```
  root@centos ~]# yum install java-1.6.0-openjdk
  ```

Installing SiteScope on an HP Cloud Services Instance Running on CentOS 6.2

SiteScope is supported on an HP Cloud Services (HPCS) instance running on a CentOS 6.2 operating system.

Tips for installing SiteScope on HPCS:

- **Check the hostname of the HP Cloud Services server and make sure that the host is resolved.**

  a. Get your hostname by running the hostname command.

  b. Run ping `<your_hostname>`. If the ping request is successful, the host is already resolvable.

  c. If that failed, then find your IP using `ifconfig`.

  d. Run echo "`<your_ip> <your_hostname>" >> /etc/hosts` to add a string with an IP corresponding to your hostname to the hosts file.

  e. Run `ping <your_hostname>` again and make sure that the host is resolved.

- **Check the swap size.**

a. Run the free command and make sure that the swap is created.

b. If you see that the swap is absent:

```
[root@centos ~]# free | grep Swap
Swap: 0 0 0
```

run the following commands:

Create a 2 GB file:

```
[root@centos ~]# dd if=/dev/zero of=/swapfile bs=1M count=2048
```

Initialize it as the swap:

```
[root@centos ~]# mkswap /swapfile
```

Enable it:

```
[root@centos ~]# swapon /swapfile
```

c. Check the swap again:

```
root@centos ~]# free | grep Swap
Swap: 2097144 0 2097144
```

- **Install additional libraries.**

  For details, see "Installing SiteScope on a CentOS 6.2 Environment" on previous page.

Security Group Configuration

IP Protocol	From Port	To Port	Type	CIDR IPS
tcp	8080	8080	IPs	0.0.0.0/0
tcp	22	22	IPs	0.0.0.0/0
tcp	8888	8888	IPs	0.0.0.0/0
icmp	-1	-1	IPs	0.0.0.0/0

Installing SiteScope on HPCS

To install SiteScope on HPCS:

1. Change the current directory to the location where the SiteScope installer is located, and run the SiteScope installer:

   ```
   [root@centos ~]# sh ./HPSiteScope_11.20_setup.bin -i console
   ```

2. Install SiteScope using the console mode. For details, see "Installing on Solaris or Linux Using Console Mode" on page 91.

3. After installation is finished run SiteScope:

   ```
   [root@centos ~]# /opt/HP/SiteScope/start
   ```

4. Wait for a couple of minutes until the SiteScope service is started, and then check that the

necessary processes are running:

```
[root@centos ~]# ps -ef | grep SiteScope | grep -v grep |awk '
{print $3}'84758477
```

The last command shows the process IDs of the SiteScope processes. If there are two processes, the SiteScope server has started successfully.

Notes and limitations

The Operations Manager integration is currently not supported in SiteScope 11.20 installed on a CentOS 6.2 server.

Installing Dependencies Required by the HP Operations Agent

When installing the HP Operations agent on the SiteScope server, you should perform the following:

1. Before the HP Operations agent can be installed, you should install the following dependencies on the environment:

   On Red Hat ES Linux 6.0 (64-bit):

   - Install **compat-libstdc++-33-3.2.3-69.el6.i686.rpm** on the Red Hat Enterprise Linux 6 x64 node.
   - Install **compat-libstdc++-33-3.2.3-69.el6.ppc64.rpm** on the Red Hat Enterprise Linux 6 PPC node.

   You can install the dependencies, using the yum package manager provided in Red Hat Enterprise Linux, by running the command:

   `yum install compat-libstdc++-33-3.2.3-69.el6.i686.rpm` or

   `yum install compat-libstdc++-33-3.2.3-69.el6.ppc64.rpm`

   On SunOS:

   - Install SunOS **patch 119254-43** or **119255-43**.
   - Make sure that the IP address of the system is mapped to the system's host name.

   > **Note:** For additional requirements for installing and using the HP Operations agent, see the Operations Agent Installation Guide on the HP Software Support Web site (http://support.openview.hp.com/selfsolve/manuals).

2. After installing the HP Operations agent, you should check the installation status in the log files.

   - SiteScope log. This just shows whether the installation passed successfully or not.

     Log file name: **HPSiteScope_config_tool.log**

     Log file location:

  - **win- %temp%** on Windows platforms
  - **/temp** or **/var/temp** on UNIX/Linux platforms

    (search for results of "installOATask")

- HP Operations agent log files.

  Log file name: **oainstall.log**, **oapatch.log**

  Log file location:

  - **%ovdatadir%\log** on Windows platforms
  - **/var/opt/OV/log/** on UNIX/Linux platforms

Installing Using the Installation Wizard

Use the following steps to install SiteScope on supported Windows, Solaris, or Linux environments using the installation wizard. For the list of supported environments, see "System Requirements" on page 46.

The installation wizard automatically executes if X11 libraries have already been installed on the server. If these libraries are not installed, you can either:

- Install SiteScope in graphic mode on a machine without an X11 server. For details, see "Installing SiteScope Using the Installation Wizard on a Machine Without X11 Server" on page 90.
- Install SiteScope on Solaris or Linux platforms in console mode. For details, see "Installing on Solaris or Linux Using Console Mode" on page 91.

> **Note:** You can also install SiteScope using a silent installation. For details, see "Installing SiteScope in Silent Mode" on page 100.

To install SiteScope:

1. Obtain the SiteScope installation program. The SiteScope installation program file can be accessed from one of the following locations:

   - The SiteScope release media.
   - The Software Patches page on the HP Software Support Online web site at http://support.openview.hp.com/selfsolve/patches. Go to **Software Support Online > Downloads > Software Patches** and select **SiteScope** as the product.

     > **Note:** The most recent versions of SiteScope are posted here.

   - The Downloads page in the BSM Platform Administration Guide.

2. Run the SiteScope installation according to your operating system.

   For Windows:

a. Determine which executable you need to use. For details, see "Preparing for a 64-Bit SiteScope Installation" on page 70

- **HPSiteScope_11.20_setup.exe**

  This installer automatically determine which SiteScope version to install. On a 32-bit operating system, SiteScope is installed as a 32-bit application. On a 64-bit operating system, SiteScope is installed as a 64-bit application.

- **HPSiteScope32on64_11.20_setup.exe**

  This installer is for 64-bit Windows operating systems only. SiteScope is installed as 32-bit application. This installation allows monitors that are not supported on the 64-bit Windows operating system to be supported. See "Monitors Not Supported by 64-Bit SiteScope" on page 50.

b. Enter the location from which you are installing SiteScope according to your operating system and architecture, followed by the executable name.

For example:

```
<DVD_ROOT>\Windows_Setup\SiteScope\
HPSiteScope_11.20_setup.exe
```

or

```
<DVD_ROOT>\Windows_Setup\SiteScope\
HPSiteScope32on64_11.20_setup.exe
```

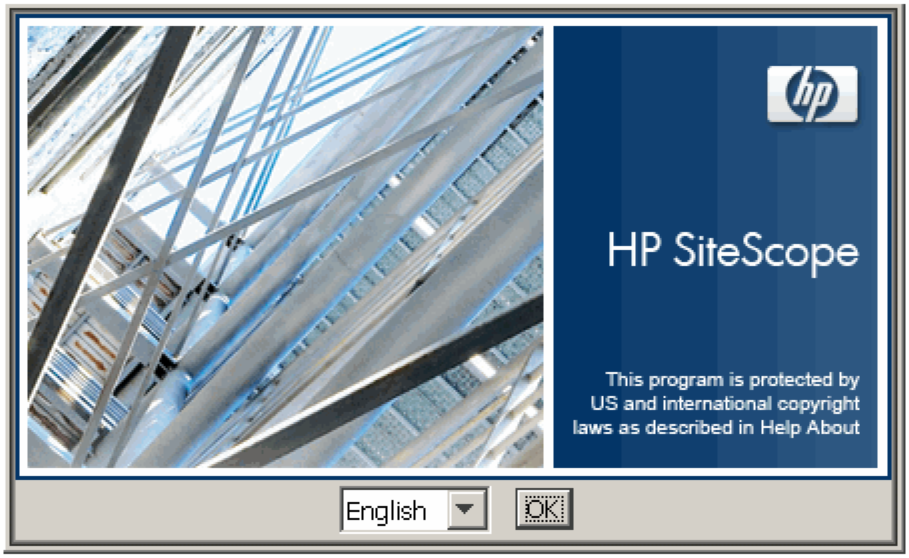
For Linux or Solaris:

a. Log in to the server as user **root**.

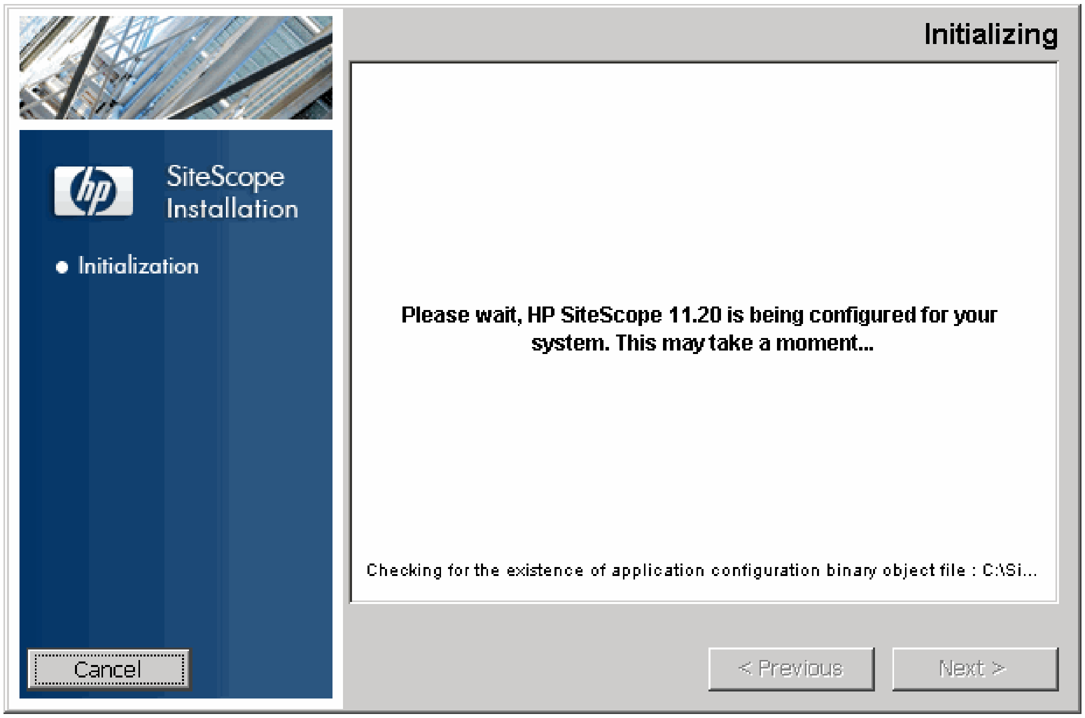
b. Run the installer by typing: **./HPSiteScope_11.20_setup.bin**.

> **Note:** If your server has Microsoft Terminal Server service running, the service must be in Install Mode when you install SiteScope. If the service is not in the correct mode, the wizard gives you an error message and then exits the installation. Change to install mode using the **change user** command. For details, refer to the Microsoft support site (http://support.microsoft.com/kb/320185).

3. The Choose Locale screen is displayed.


HP SiteScope
This program is protected by US and international copyright laws as described in Help About
English
OK

Click **OK** to continue with the installation. The Initialization screen is displayed.



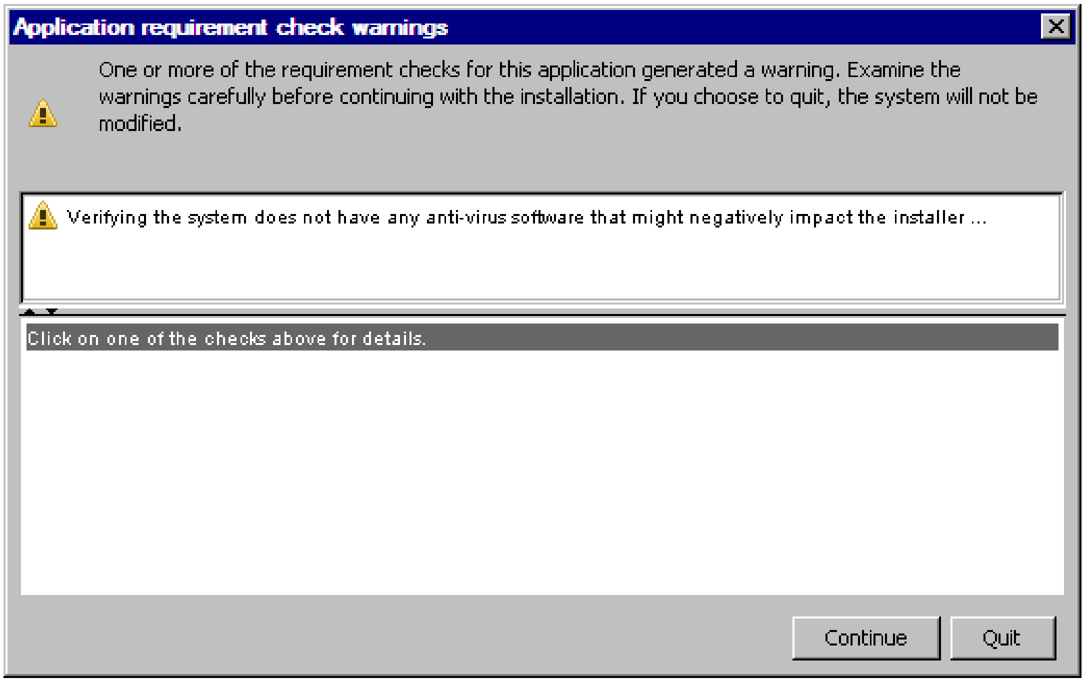
Please wait, HP SiteScope 11.20 is being configured for your system. This may take a moment...

Checking for the existence of application configuration binary object file : C:\Si...

If the Installer detects any anti-virus program running on your system, it prompts you to examine the warnings before you continue with the installation.

4. Read the warnings, if any, that appear in the **Application requirement** check warnings screen and follow the instructions as described in the screen.

   If the installer detects an anti-virus program you can try installing SiteScope without disabling the anti-virus program.



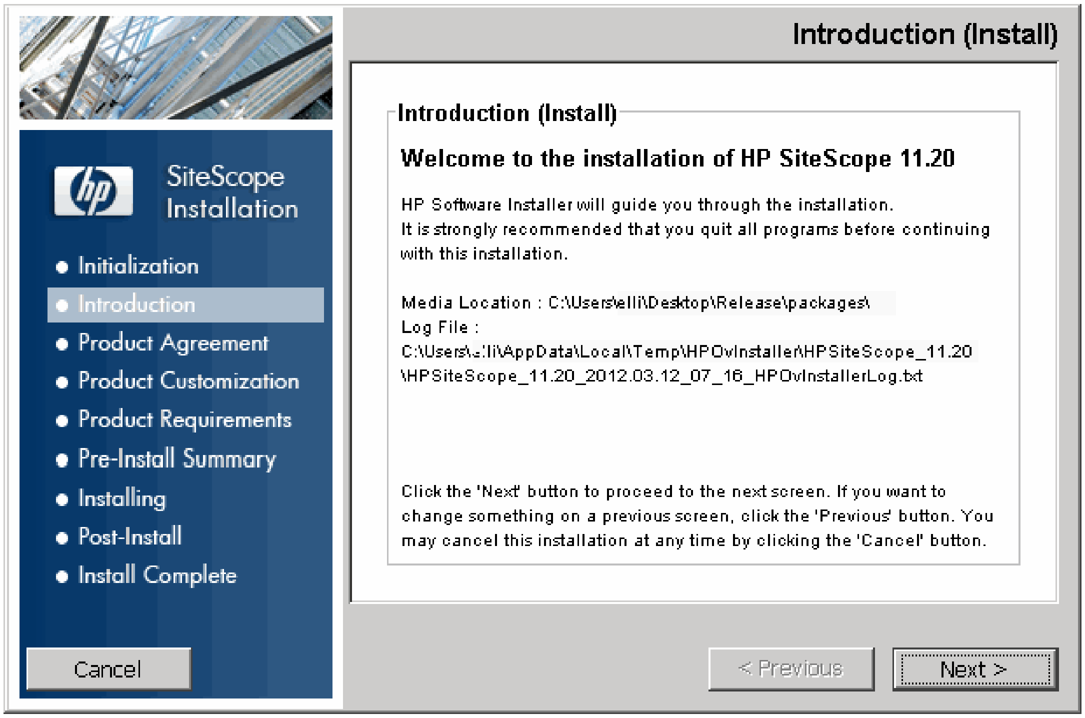
One or more of the requirement checks for this application generated a warning. Examine the warnings carefully before continuing with the installation. If you choose to quit, the system will not be modified.

Verifying the system does not have any anti-virus software that might negatively impact the installer ...

Click on one of the checks above for details.

Click **Continue** to continue with the installation.

5. In the Introduction (Install) screen that opens, click **Next**.



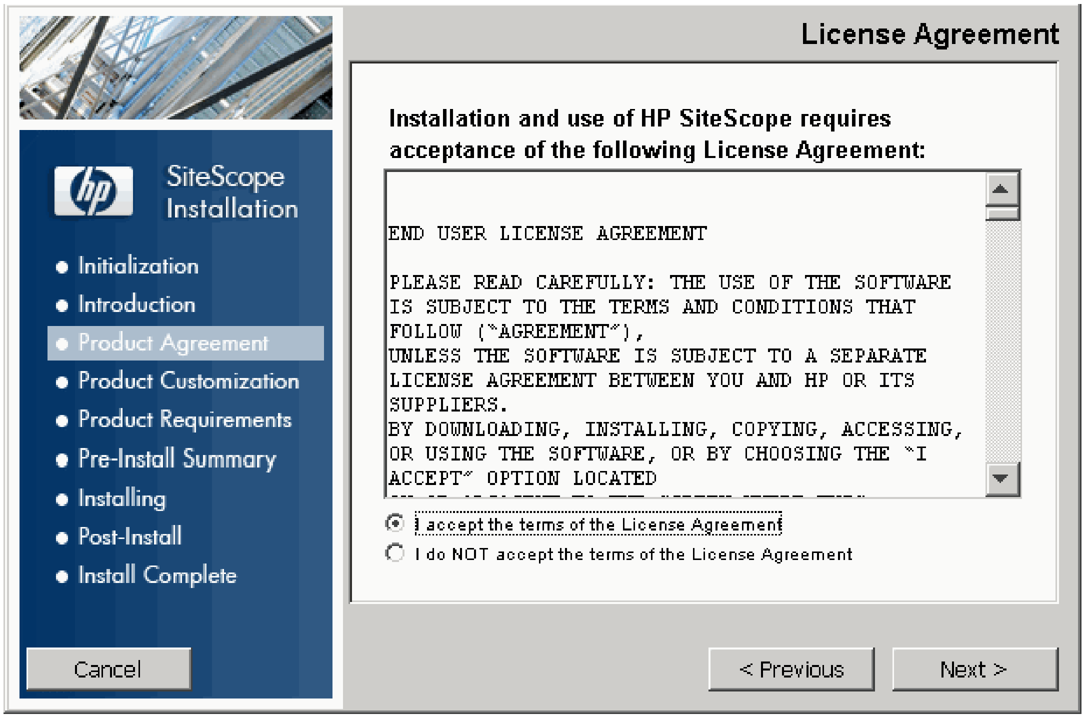
Welcome to the installation of HP SiteScope 11.20

HP Software Installer will guide you through the installation.
It is strongly recommended that you quit all programs before continuing with this installation.

Media Location : C:\Users\elli\Desktop\Release\packages\
Log File :
C:\Users\elli\AppData\Local\Temp\HPOvInstaller\HPSiteScope_11.20
\HPSiteScope_11.20_2012.03.12_07_16_HPOvInstallerLog.txt

Click the 'Next' button to proceed to the next screen. If you want to change something on a previous screen, click the 'Previous' button. You may cancel this installation at any time by clicking the 'Cancel' button.

6. The License Agreement screen opens.



License Agreement

Installation and use of HP SiteScope requires acceptance of the following License Agreement:

```
END USER LICENSE AGREEMENT

PLEASE READ CAREFULLY: THE USE OF THE SOFTWARE
IS SUBJECT TO THE TERMS AND CONDITIONS THAT
FOLLOW ("AGREEMENT"),
UNLESS THE SOFTWARE IS SUBJECT TO A SEPARATE
LICENSE AGREEMENT BETWEEN YOU AND HP OR ITS
SUPPLIERS.
BY DOWNLOADING, INSTALLING, COPYING, ACCESSING,
OR USING THE SOFTWARE, OR BY CHOOSING THE "I
ACCEPT" OPTION LOCATED
```

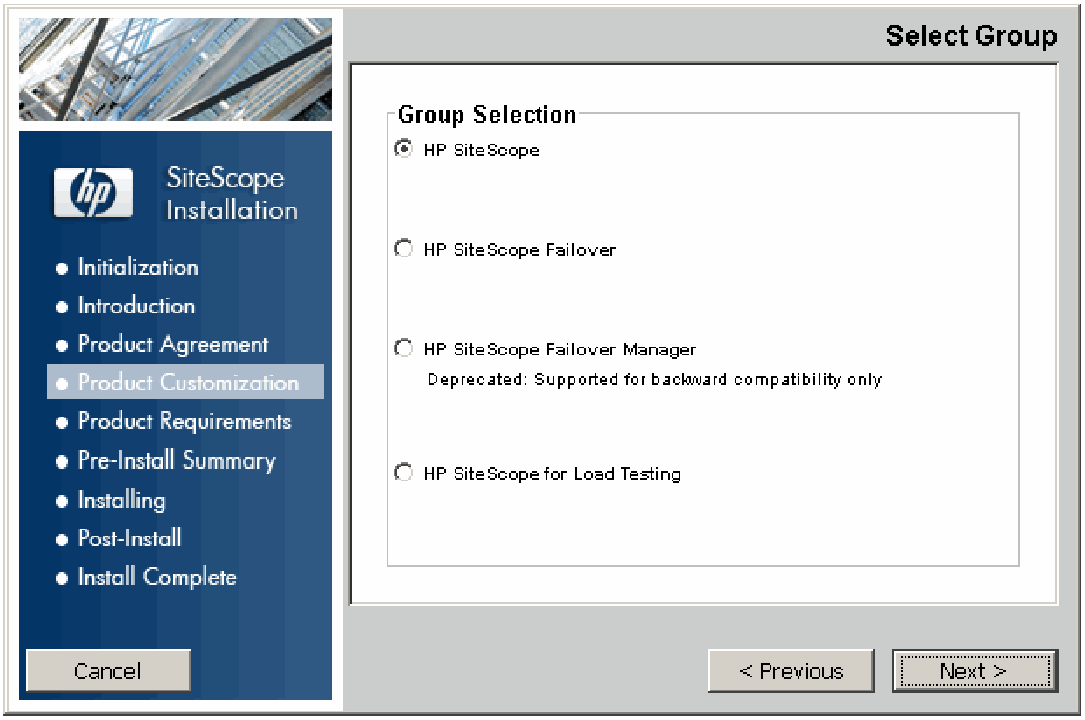
● I accept the terms of the License Agreement

○ I do NOT accept the terms of the License Agreement

Read the SiteScope License Agreement.

To install SiteScope, select **I accept the terms of the License Agreement**, and then click **Next**.

7. In the Product Customization screen, select the SiteScope setup type.



Select Group

Group Selection

● HP SiteScope

○ HP SiteScope Failover

○ HP SiteScope Failover Manager

Deprecated: Supported for backward compatibility only

○ HP SiteScope for Load Testing

- **HP SiteScope.** This is the standard SiteScope installation.
- **HP SiteScope Failover.** This installation provides a backup for monitoring infrastructure availability if a primary SiteScope server fails. This is the classic SiteScope Failover (automated mirroring) solution that was reinstated as a replacement for SiteScope Failover Manager.
- **HP SiteScope Failover Manager.** This installation enables you to use the SiteScope Failover Manager (shared drive architecture) solution as a backup for monitoring infrastructure availability if a primary SiteScope server fails.

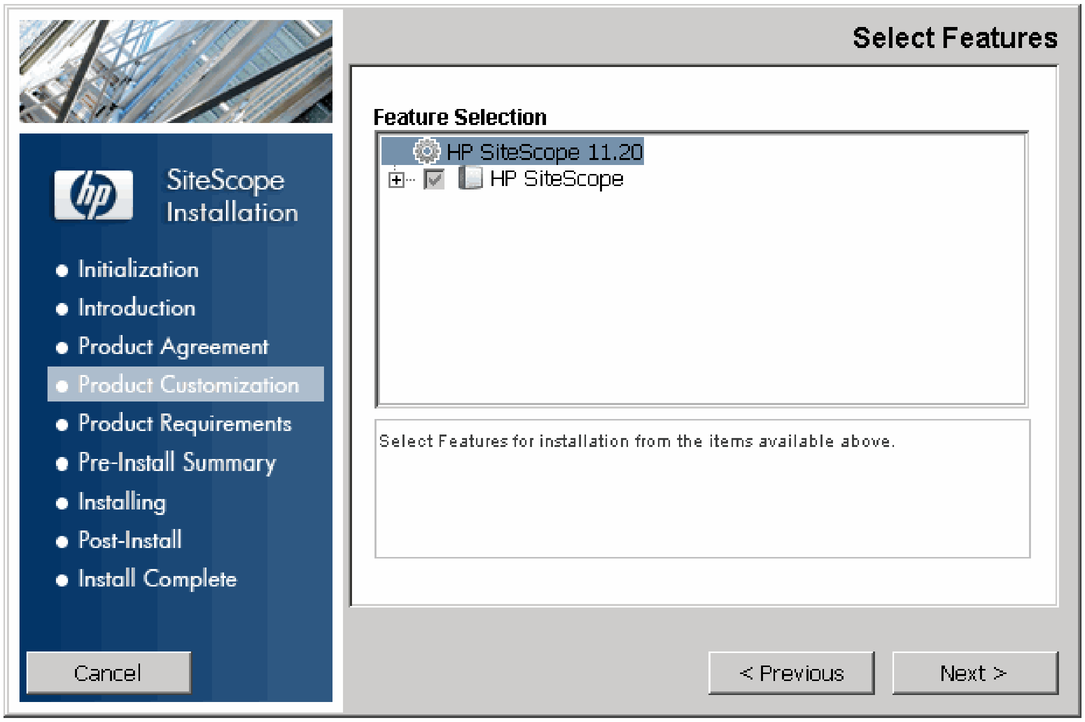
  > **Note:** This option is deprecated and is available for backward compatibility only. While SiteScope Failover is still supported, HP plans to stop supporting it in the future, and recommends that you evaluate the SiteScope Failover solution instead.

- **HP SiteScope for Load Testing.** This setup type is used with an HP LoadRunner or HP Performance Center installation only. It enables users to define and use SiteScope monitors on a LoadRunner or Performance Center application. SiteScope provides additional monitoring that complements the native LoadRunner and Performance Center monitors. For more details, see the relevant LoadRunner or Performance Center documentation.

  > **Note:** This installation option is not available when installing on Solaris or Linux platforms.

Click **Next** to continue.

8. The Select Features screen opens, displaying the HP SiteScope folder.

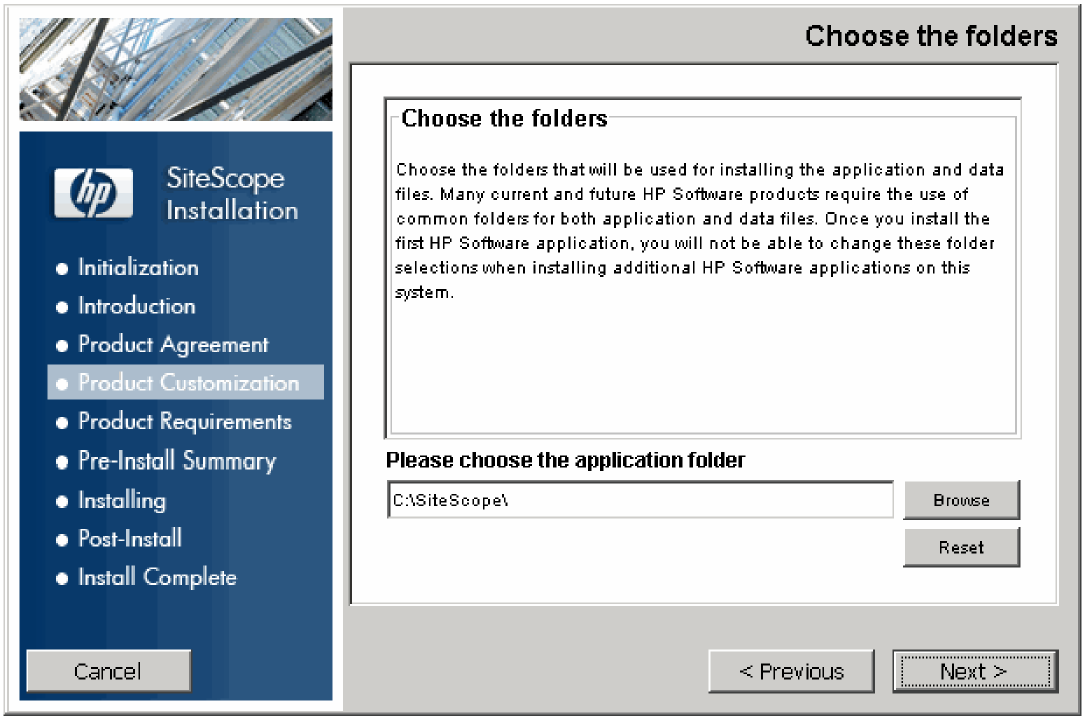


Select Features for installation from the items available above.

Click **Next** to continue.

9. If installing on Solaris or Linux platforms, SiteScope is automatically installed in the **/opt/HP/SiteScope/** folder. Skip to step 10.

   The Choose the folders screen opens.



Choose the folders

Choose the folders

Choose the folders that will be used for installing the application and data files. Many current and future HP Software products require the use of common folders for both application and data files. Once you install the first HP Software application, you will not be able to change these folder selections when installing additional HP Software applications on this system.

Please choose the application folder

C:\SiteScope\

   Accept the default directory location, or click **Browse** to select another directory. If you select another directory, the installation path must not contain spaces or non-Latin characters in its name, and must end with a folder named **SiteScope** (the folder name is case sensitive). To restore the default installation path, click **Reset**.

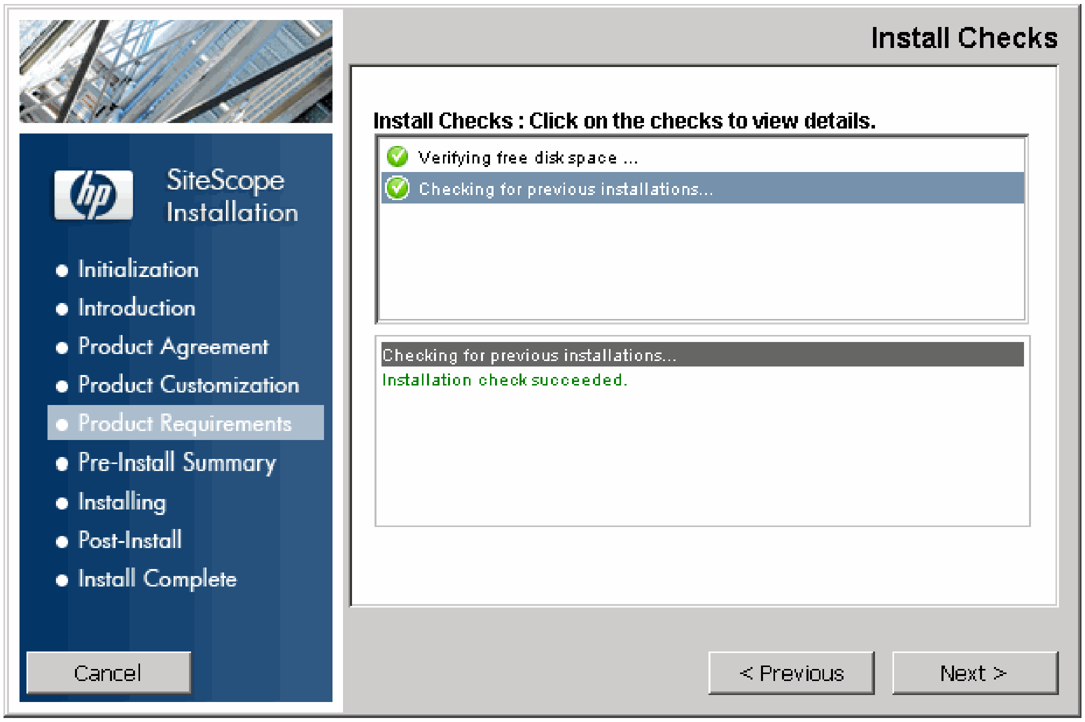
   Note for SiteScope Failover Manager users: The SiteScope Failover Manager option is deprecated and is available for backward compatibility only.

   If you plan to use SiteScope Failover Manager to provide a backup monitoring availability, you must install SiteScope as a shared resource.

   - On Windows, you must install SiteScope using the UNC path of the SiteScope installation folder. For example, `\\lab1\users\SiteScopes\Version_11.20\Build_2000\SiteScope`
   - On Linux or Solaris, you must mount the shared resource to the **/opt/HP/SiteScope** folder.

   Click **Next** to continue.

10. The Install Checks screen opens and runs verification checks.



Install Checks : Click on the checks to view details.

✓ Verifying free disk space ...
✓ Checking for previous installations...

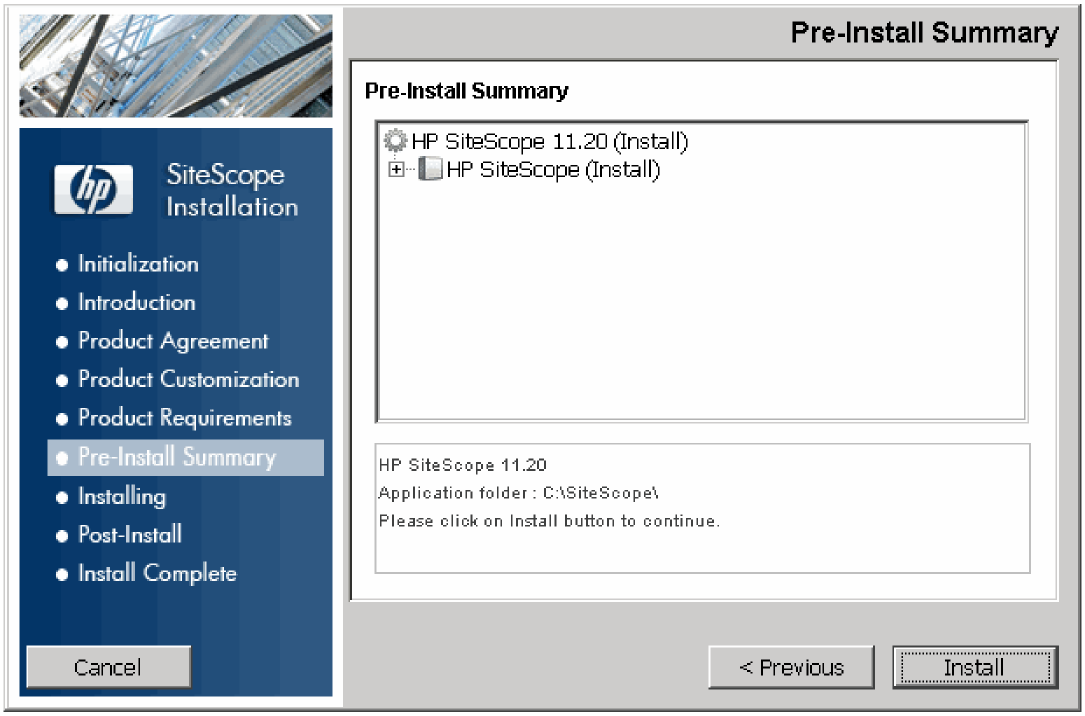
```
Checking for previous installations...
Installation check succeeded.
```

Click **Next** after the free disk space verification completes successfully.

If the free disk space verification is not successful, do the following:

- Free disk space, for example by using the Windows Disk Cleanup utility.
- Repeat steps 9 and 10.

11. In the Pre-Install Summary screen, click **Install**.



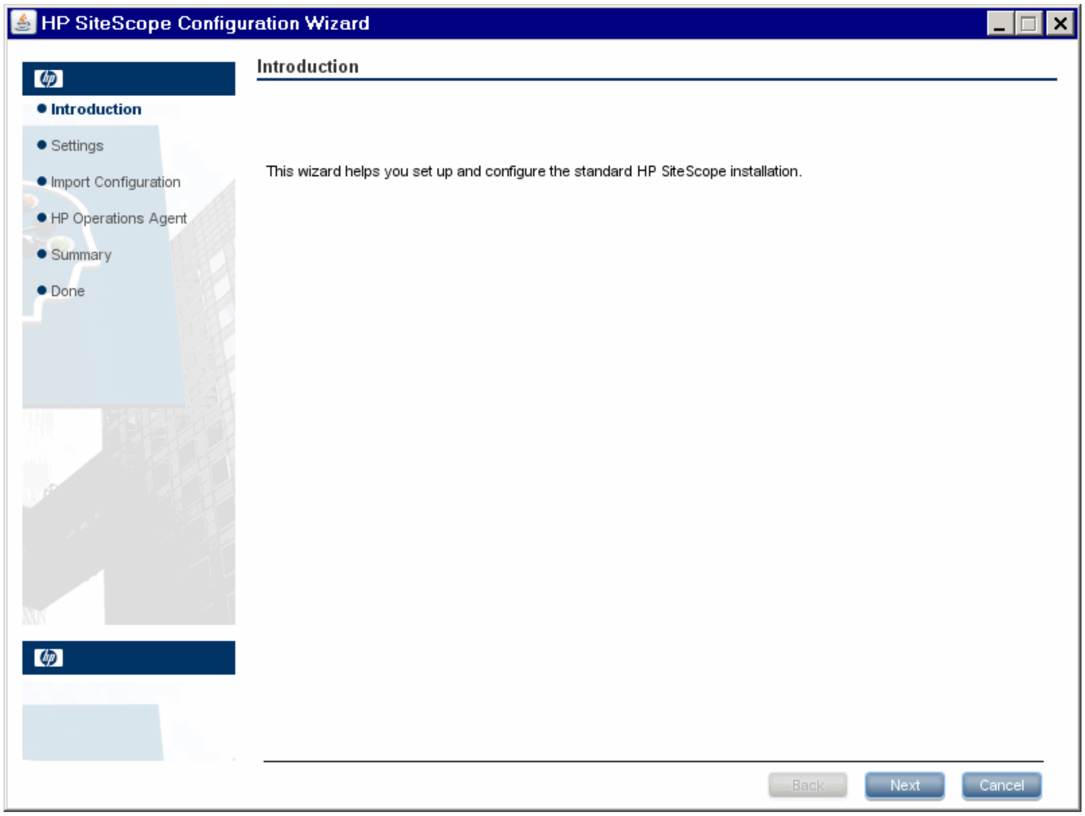
Pre-Install Summary

HP SiteScope 11.20 (Install)
⊞ HP SiteScope (Install)

```
HP SiteScope 11.20
Application folder : C:\SiteScope\
Please click on Install button to continue.
```

12. The Installing screen opens and the installer selects and installs the required SiteScope software components. Each software component and its installation progress is displayed on your screen during installation.

13. After installing the SiteScope components, the Introduction screen of the SiteScope Configuration Wizard opens.

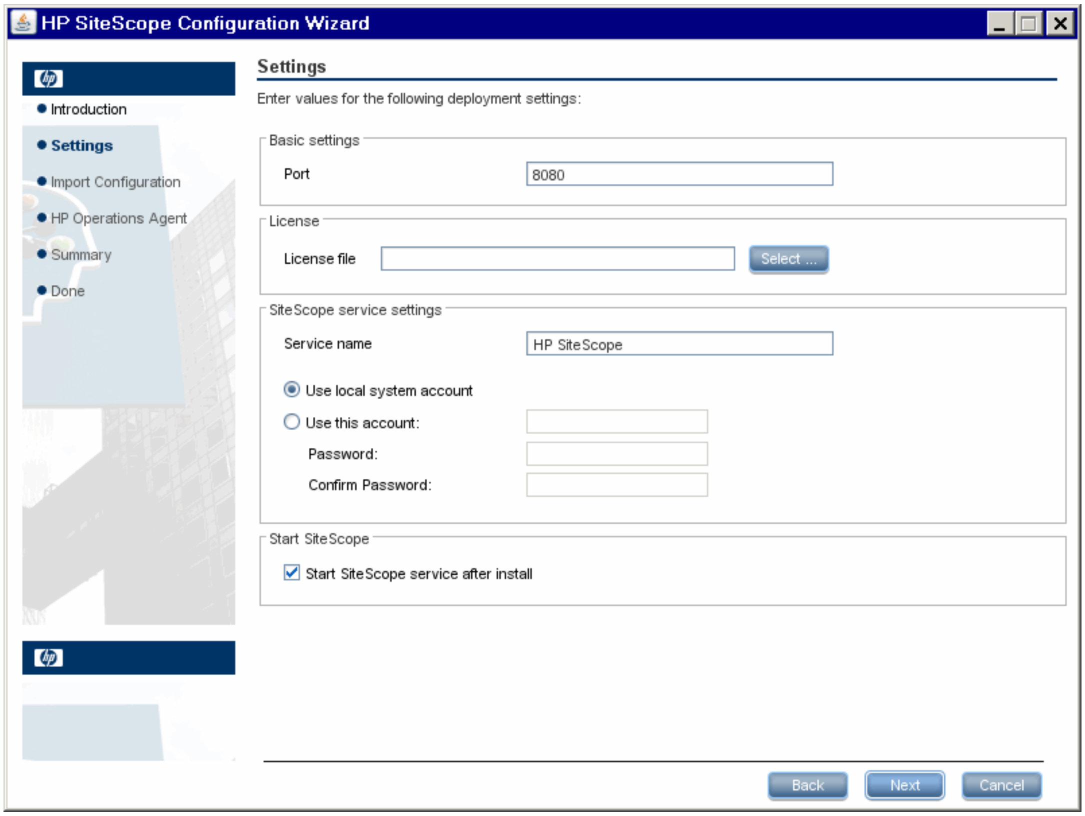


Introduction

This wizard helps you set up and configure the standard HP SiteScope installation.

Click **Next**.

14. The Settings screen of the SiteScope Configuration Wizard opens.



Settings

Enter values for the following deployment settings:

Basic settings

Port: 8080

License

License file:

SiteScope service settings

Service name: HP SiteScope

● Use local system account

○ Use this account:

Password:

Confirm Password:

Start SiteScope

☑ Start SiteScope service after install

Enter the required configuration information and click **Next**:

- **Port.** The SiteScope port number. If the port number is already in use (an error message is displayed), enter a different port. If necessary, you can change the port later using the Configuration Tool. The default port is `8080`.

  > **Note:** If you plan to use SiteScope Failover Manager to monitor more than one primary SiteScope from a single Failover machine, each primary SiteScope installation must be configured to answer on a unique port number. You can check the ports used by the SiteScope server using the SiteScope Configuration Wizard. For details, see "Running the Configuration Tool on Windows Platforms" on page 102.

- **License file.** Enter the path to the license file, or click **Select** and select the SiteScope license key file. A license must be purchased if intending to use SiteScope beyond the 60-day trial period. It is not necessary to enter license information at this point to use SiteScope during the free evaluation period.

  > **Note:** License keys from versions of SiteScope earlier than 11.00 are not compatible with this version. License key delivery can be fulfilled automatically through http://webware.hp.com.

- **Use local system account** (not applicable for Solaris or Linux installations). By default, SiteScope is installed to run as a Local System account. This account has extensive privileges on the local computer, and has access to most system objects. When SiteScope is running under a Local Systems account, it attempts to connect to remote servers using credentials of the server as configured in SiteScope.

- **Use this account** (not applicable for Solaris or Linux installations). Select to change the user account of the SiteScope service. 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. Enter an account and password (and confirm the password) that can access the remote servers.

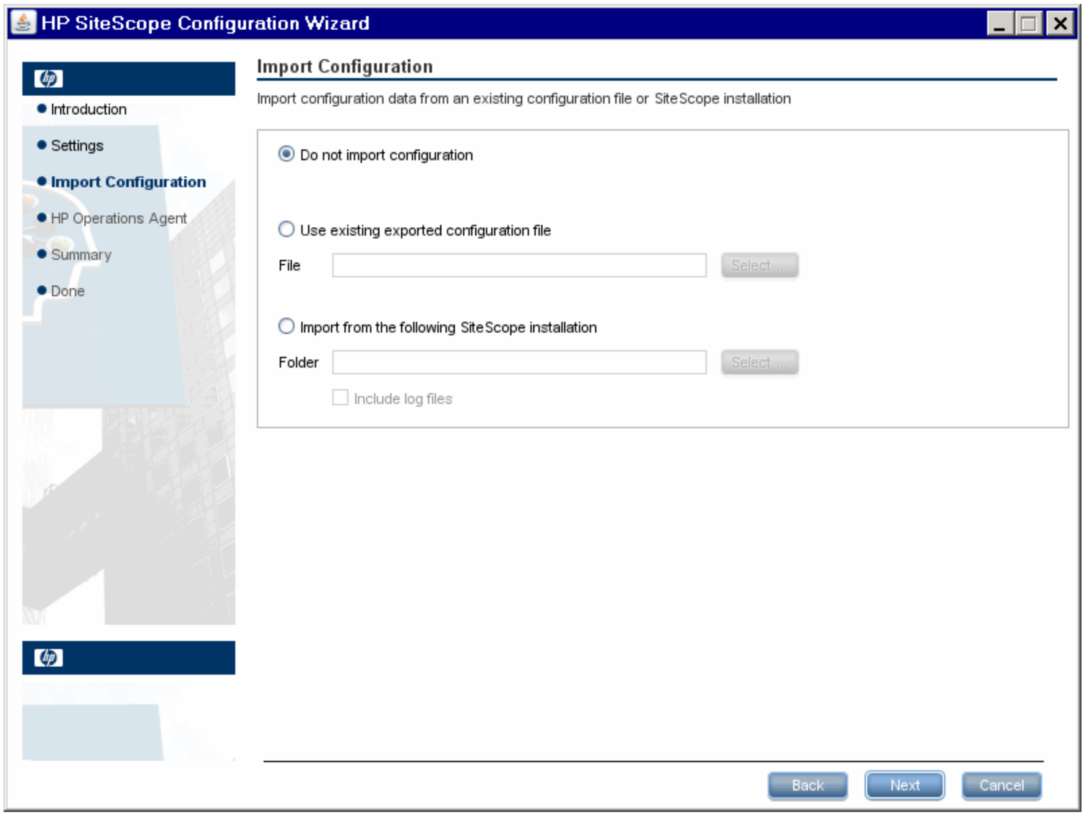
  Note:
  When SiteScope is installed to run as a custom user account, the account used must have **Log on as a service** rights. To grant a user logon service access:

  i. In Windows Control Panel, double-click **Administrative Tools**.
  ii. Double-click Local Security Policy, and select **Local Policies > User Rights Assignment > Log On as a Service**.
  iii. Click **Add User or Group**, and select the user you want to grant logon service access to, and click **OK**.
  iv. Click **OK** to save the updated policy.

- **Service name** (not applicable for Solaris or Linux installations). The name of the SiteScope service. If the machine has a previous version of SiteScope installed, enter another name for the SiteScope service. The default service name is `SiteScope`.

- **Start SiteScope service after install** (not applicable for Solaris or Linux installations). Automatically starts the SiteScope service after the installation is complete.

15. The Import Configuration screen opens, enabling you to import existing SiteScope configuration data to the new SiteScope installation.



Import Configuration

Import configuration data from an existing configuration file or SiteScope installation

● Do not import configuration

○ Use existing exported configuration file

File

○ Import from the following SiteScope installation

Folder

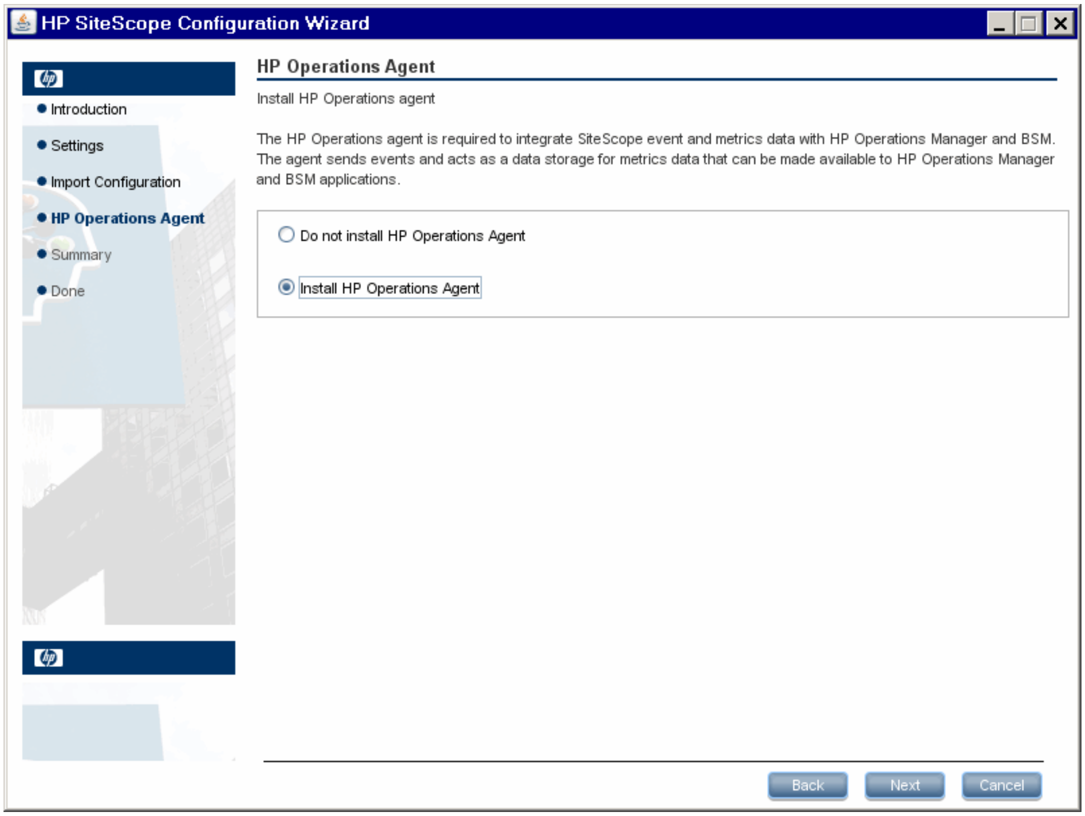
□ Include log files

Select one of the following options and click **Next**:

- **Do not import configuration data.**
- **Use existing exported configuration file.** Enables you to use SiteScope data such as templates, logs, monitor configuration files, and so forth, from an existing exported configuration file. SiteScope data is exported using the Configuration Tool, and is saved in **.zip** format. Click the **Select** button and navigate to the user data file that you want to import.
- **Import from the following SiteScope installation.** Click the **Select** button and navigate to the SiteScope installation folder from which you want to import configuration data.
  - **Include log files.** Enables you to import log files from the selected SiteScope installation folder.

> **Note:** When moving configuration data from one SiteScope installation to another, make sure that SiteScope server from which you are taking configuration data is in the same time zone as the SiteScope server to which the data is being imported.

16. The HP Operations Agent screen opens. The HP Operations agent is required if SiteScope is integrated to send events and metrics to an HP Operations Manager or BSM Gateway server.



HP Operations Agent

Install HP Operations agent

The HP Operations agent is required to integrate SiteScope event and metrics data with HP Operations Manager and BSM. The agent sends events and acts as a data storage for metrics data that can be made available to HP Operations Manager and BSM applications.

○ Do not install HP Operations Agent

● Install HP Operations Agent

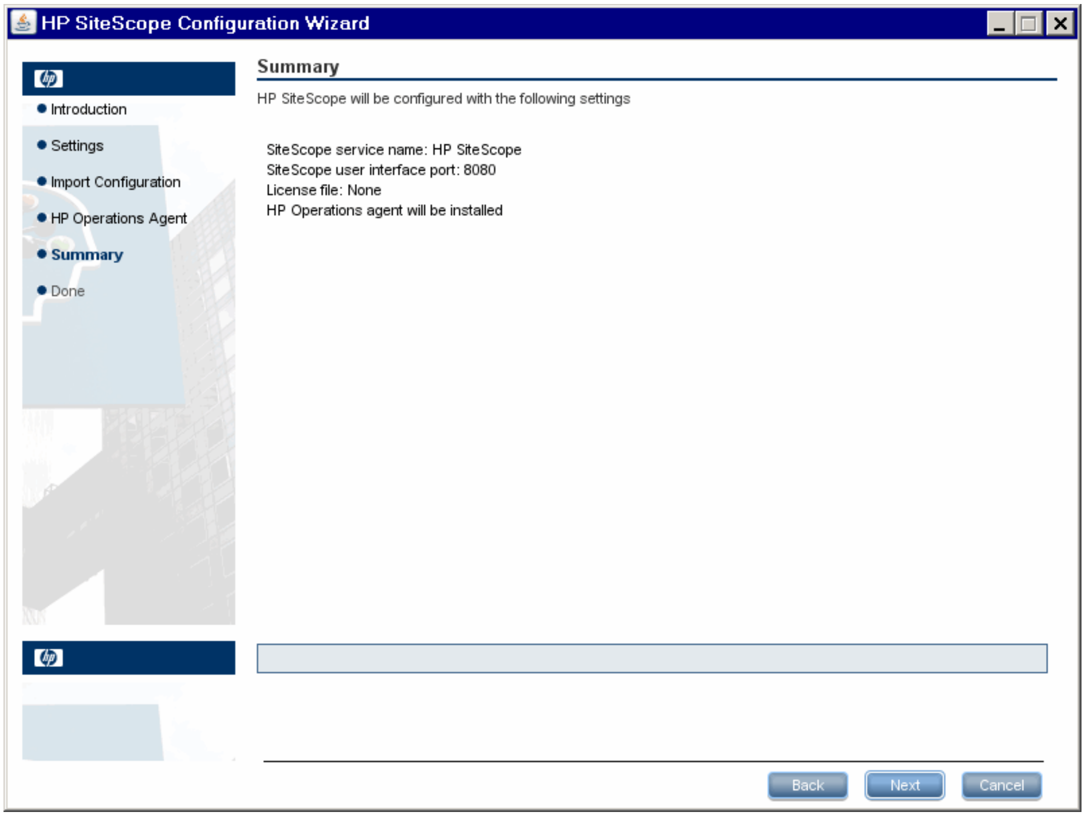
Select one of the following options and click Next:

- **Do not install HP Operations Agent.** The HP Operations agent is not installed.
- **Install HP Operations Agent.** Select to install the HP Operations agent on the SiteScope server. The agent enables SiteScope to send events and act as a data storage for metrics data when In Windows Control Panel is integrated with an HP Operations Manager or BSM Gateway server.

  Note:

  - If you install SiteScope and the HP Operations agent on a machine that already has the agent installed, SiteScope overrides it and upgrades the current agent.
  - The HP Operations agent is supported on SiteScopes running on the environments listed in the HP SiteScope Support Matrices section in the release notes (in SiteScope, select **Help > What's New?**). Consequently, the SiteScope integration with HPOM and BSM is only supported on these environments.
  - If you encounter problems installing the HP Operations agent on a 32-bit Windows machine, see "Troubleshooting and Limitations" on page 97.

17. The Summary screen opens.



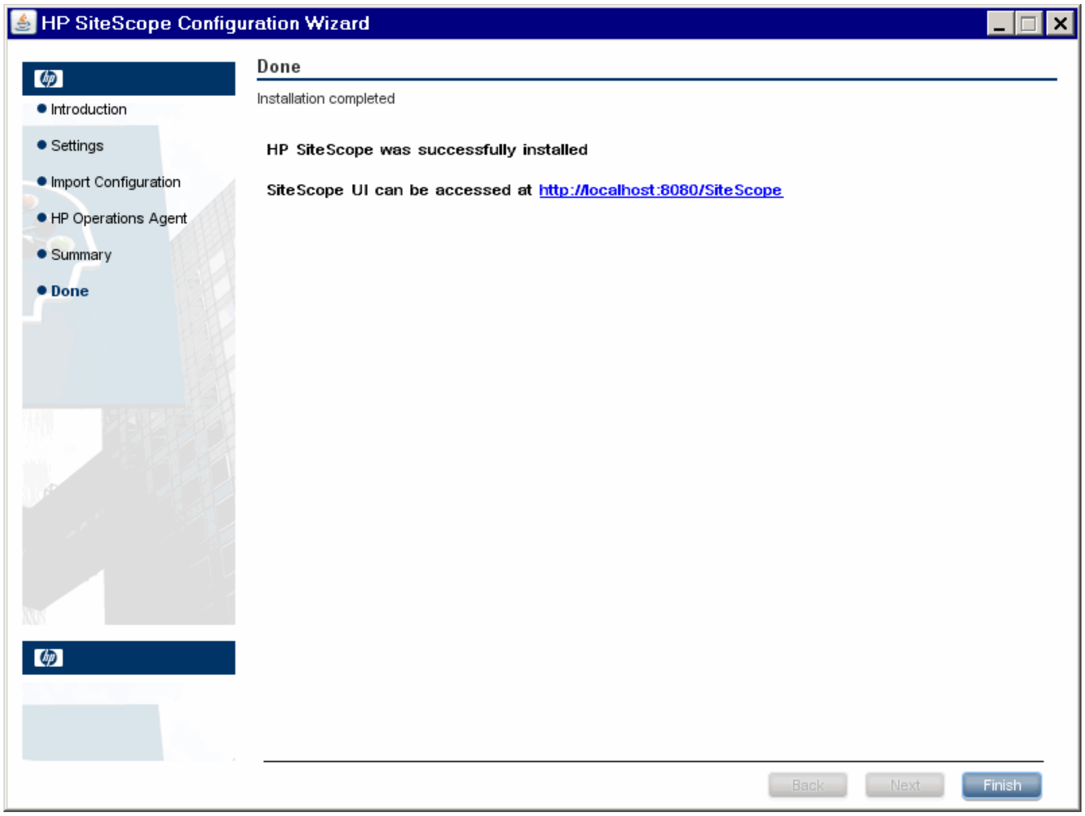
Summary

HP SiteScope will be configured with the following settings

SiteScope service name: HP SiteScope
SiteScope user interface port: 8080
License file: None
HP Operations agent will be installed

Check that the information is correct and click **Next** to continue, or **Back** to return to previous screens to change your selections.

18. The Done screen opens.



Done

Installation completed

HP SiteScope was successfully installed

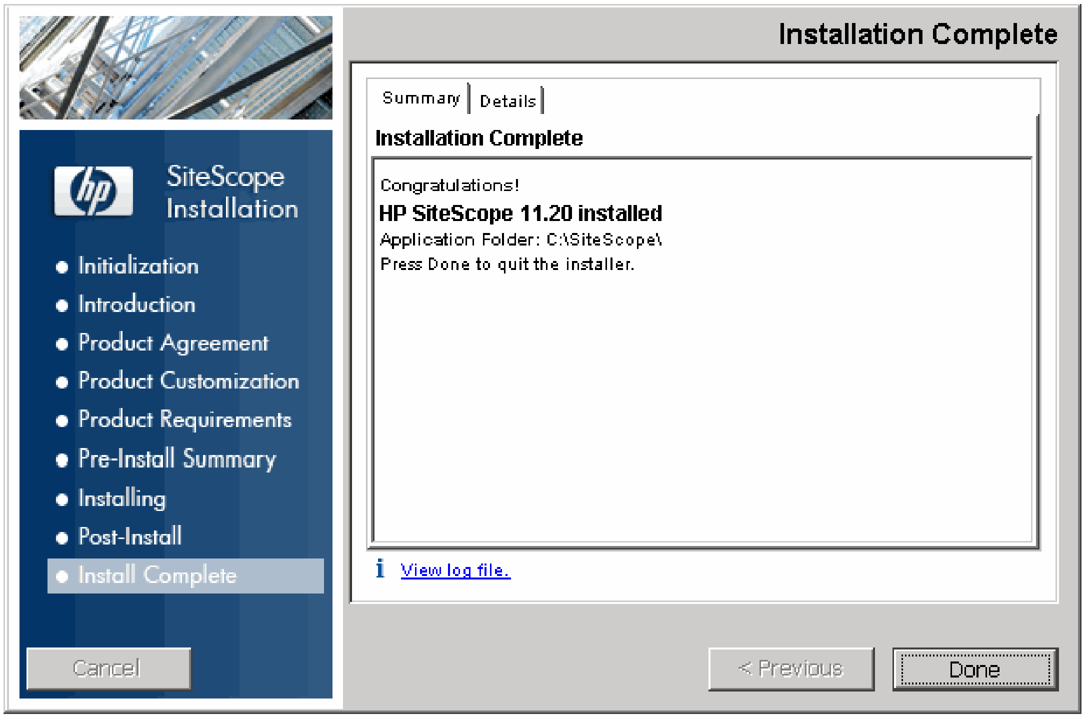
SiteScope UI can be accessed at http://localhost:8080/SiteScope

To access the SiteScope user interface, click the connection address for this installation of SiteScope.

> **Note:** If you did not select Start SiteScope service after install in the Configuration Settings screen, you need to start the SiteScope service before you can connect to SiteScope. For details, see "Getting Started with SiteScope" on page 172.

Click **Finish** to close the SiteScope Configuration Wizard.

19. When the installation finishes, the Installation Complete window opens displaying a summary of the installation paths used and the installation status.



Installation Complete

Congratulations!

HP SiteScope 11.20 installed

Application Folder: C:\SiteScope\

Press Done to quit the installer.

If the installation was not successful, review the installation log file for any errors by clicking the **View log file** link in the **Installation Complete** window to view the log file in a web browser.

For more information about the installed packages, click the **Details** tab.

Click **Done** to close the installation program.

If the installation program determines that the server must be restarted, it prompts you to restart the server.

20. For the latest available functionality, download and install the latest SiteScope service pack from the same location from which you installed SiteScope. For information on accessing the SiteScope interface, see "Connecting to SiteScope" on page 173.

21. After installing SiteScope on a Linux or Solaris environment, set the permissions for the SiteScope installation directory to have read, write, and execute permissions for the user account that is used to run the SiteScope application. The permissions must also be set for all subdirectories within the SiteScope installation directory.

Installing SiteScope Using the Installation Wizard on a Machine Without X11 Server

You can install SiteScope using the installation wizard on a machine that does not have an X11 server either by:

- Using a VNC server (on many Linux and Solaris systems, a VNC server is installed by default).
- Editing the DISPLAY environment variable to make the programs use X server on another machine.

To install SiteScope on a machine without X11 using a VNC server:

1. In command line, run vncserver. If it runs, select a password and note the display that the VNC server uses (usually `:1`).
2. Connect to your SiteScope machine using VNC client using the format: hostname:display. For example, `sitescope.company.name:1`
3. In the console that opens, navigate to the SiteScope installation directory and run the installation as usual.

To install SiteScope on a machine without X11 by redirecting X:

1. Run any Linux or Solaris system with an X server, or install an X server on Windows (for example, `xming`).
2. Check that X access control permits your SiteScope machine to connect. On Linux or Solaris platforms, consult man `xhost`. On Windows platforms, see the documentation for X server implementation.
3. Run **export DISPLAY=x-server.machine.name:display** on your SiteScope machine (display is usually `0`).
4. Navigate to the SiteScope installation directory in the same shell, and run the installation as usual.

Installing on Solaris or Linux Using Console Mode

You can install SiteScope using a command line or console mode. Use this option if you are installing SiteScope on a remote server, or for any other reason that prevents the use of the installation option using the user interface.

> **Note:** Running SiteScope on a Solaris platform is now deprecated. The next release is not planned to include a Solaris installer.

To install SiteScope on Solaris or Linux using the console mode:

1. Download the SiteScope setup file to the machine where you want to install SiteScope.

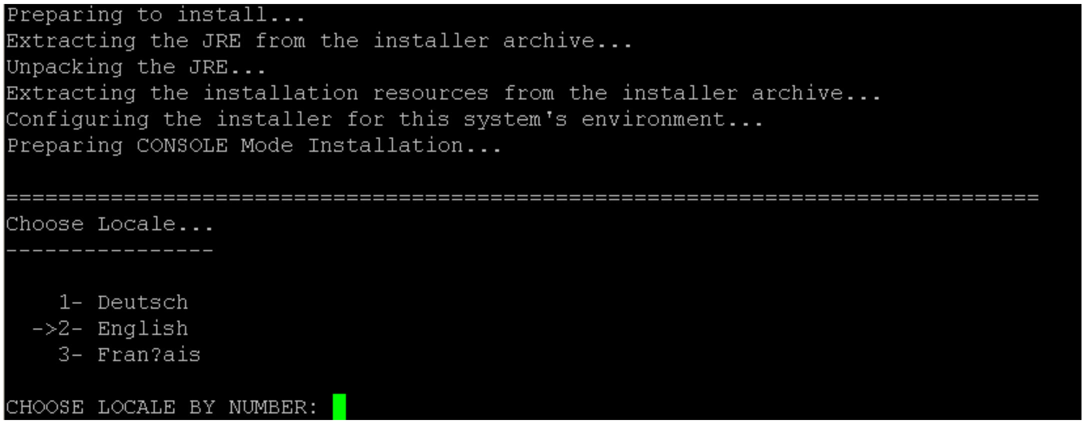
   Alternatively, copy the SiteScope setup file to a disk or network location where it is accessible to the user account that is to be used to install SiteScope.

2. Run the following command:

   ```
   HPSiteScope_11.20_setup.bin -i console
   ```

   The installation script initializes the Java Virtual Machine to begin the installation.

3. The Choose Locale screen is displayed.



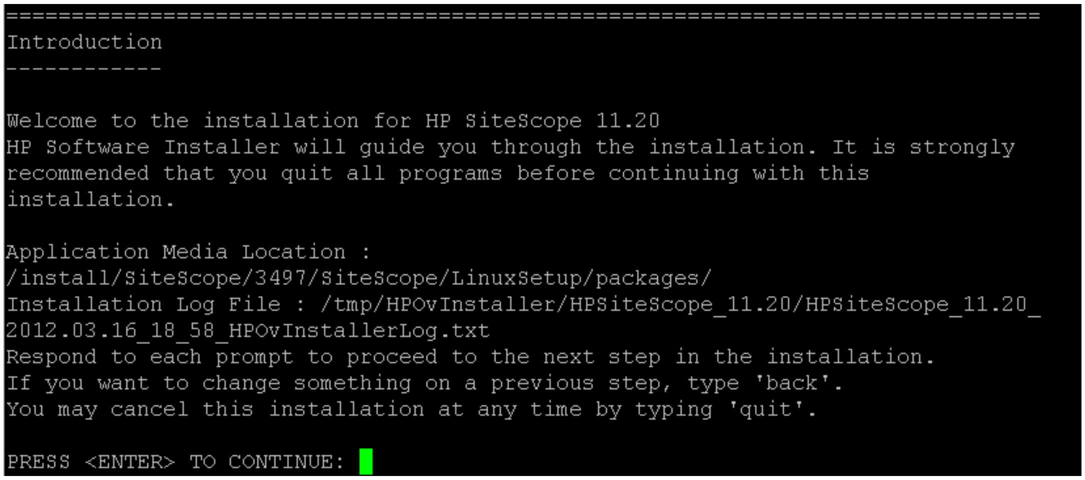
```
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Preparing CONSOLE Mode Installation...

===============================================================================
Choose Locale...
----------------

    1- Deutsch
  ->2- English
    3- Fran?ais

CHOOSE LOCALE BY NUMBER:
```

Enter the number to select the desired locale, and press `ENTER` to continue.

4. A confirmation screen is displayed.

   Press `ENTER` to continue.

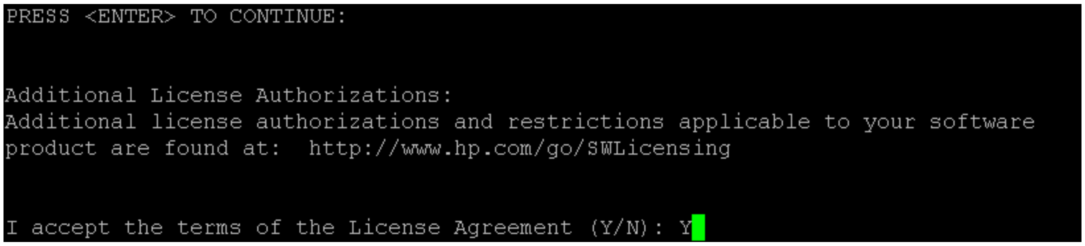
5. The Introduction screen is displayed.



```
===============================================================================
Introduction
------------

Welcome to the installation for HP SiteScope 11.20
HP Software Installer will guide you through the installation. It is strongly
recommended that you quit all programs before continuing with this
installation.

Application Media Location :
/install/SiteScope/3497/SiteScope/LinuxSetup/packages/
Installation Log File : /tmp/HPOvInstaller/HPSiteScope_11.20/HPSiteScope_11.20_
2012.03.16_18_58_HPOvInstallerLog.txt
Respond to each prompt to proceed to the next step in the installation.
If you want to change something on a previous step, type 'back'.
You may cancel this installation at any time by typing 'quit'.

PRESS <ENTER> TO CONTINUE:
```

   Press `ENTER` to continue with the installation.

6. The text of the license agreement is displayed. The SiteScope License Agreement requires several pages to display. Read each page as it is presented. Press `ENTER` to continue to the next page. When you have viewed all the pages of the license agreement, you have the option to accept or not accept the license agreement.

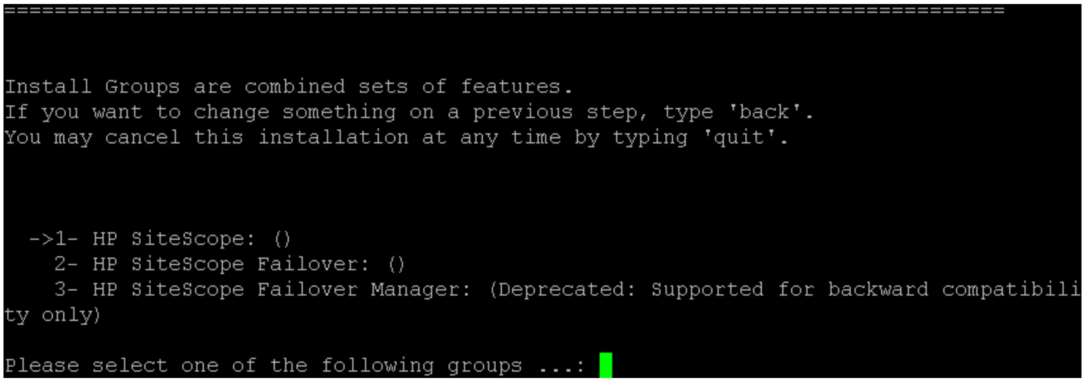


```
PRESS <ENTER> TO CONTINUE:


Additional License Authorizations:
Additional license authorizations and restrictions applicable to your software
product are found at:  http://www.hp.com/go/SWLicensing


I accept the terms of the License Agreement (Y/N): Y
```

To install SiteScope, you must accept the terms of the license agreement. The default selection is to not accept the agreement. To accept the license agreement and continue the installation, enter `Y`.

> **Note:** To cancel the installation after viewing the SiteScope License Agreement, enter `N`.

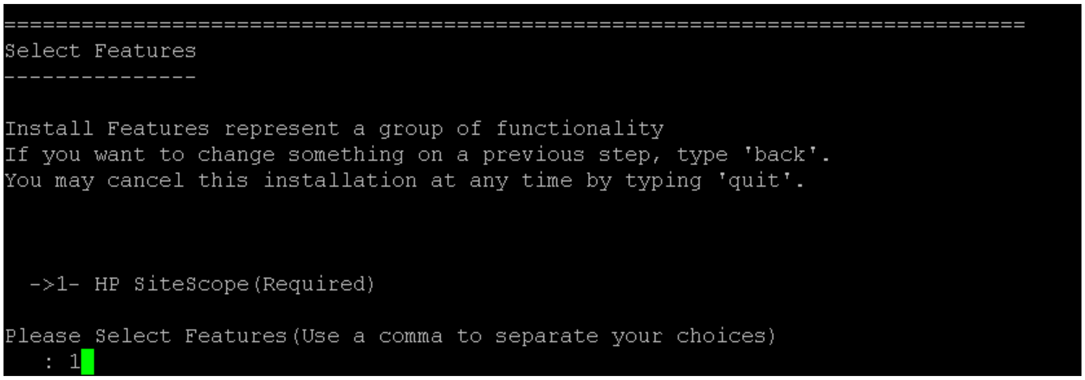
7. The SiteScope setup type screen opens.



```
===========================================================================



Install Groups are combined sets of features.
If you want to change something on a previous step, type 'back'.
You may cancel this installation at any time by typing 'quit'.



  ->1- HP SiteScope: ()
    2- HP SiteScope Failover: ()
    3- HP SiteScope Failover Manager: (Deprecated: Supported for backward compatibili
ty only)

Please select one of the following groups ...:
```

Choose the type that is suitable for your site. Enter the number of the setup type, and then press `ENTER` to continue.

8. The Select Features screen opens.

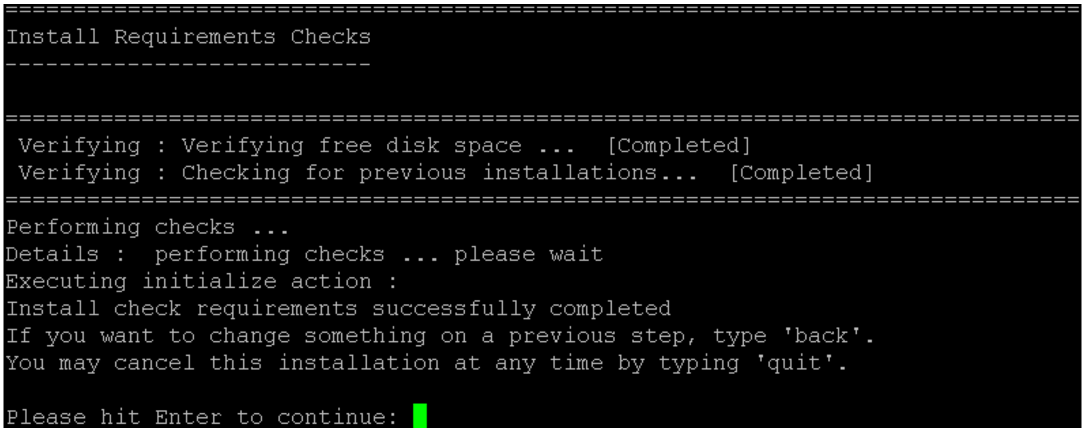


```
============================================================================
Select Features
---------------

Install Features represent a group of functionality
If you want to change something on a previous step, type 'back'.
You may cancel this installation at any time by typing 'quit'.



  ->1- HP SiteScope(Required)

Please Select Features(Use a comma to separate your choices)
   : 1
```

Enter the number `1` (required) to install SiteScope.

Press `ENTER` to continue with the installation.

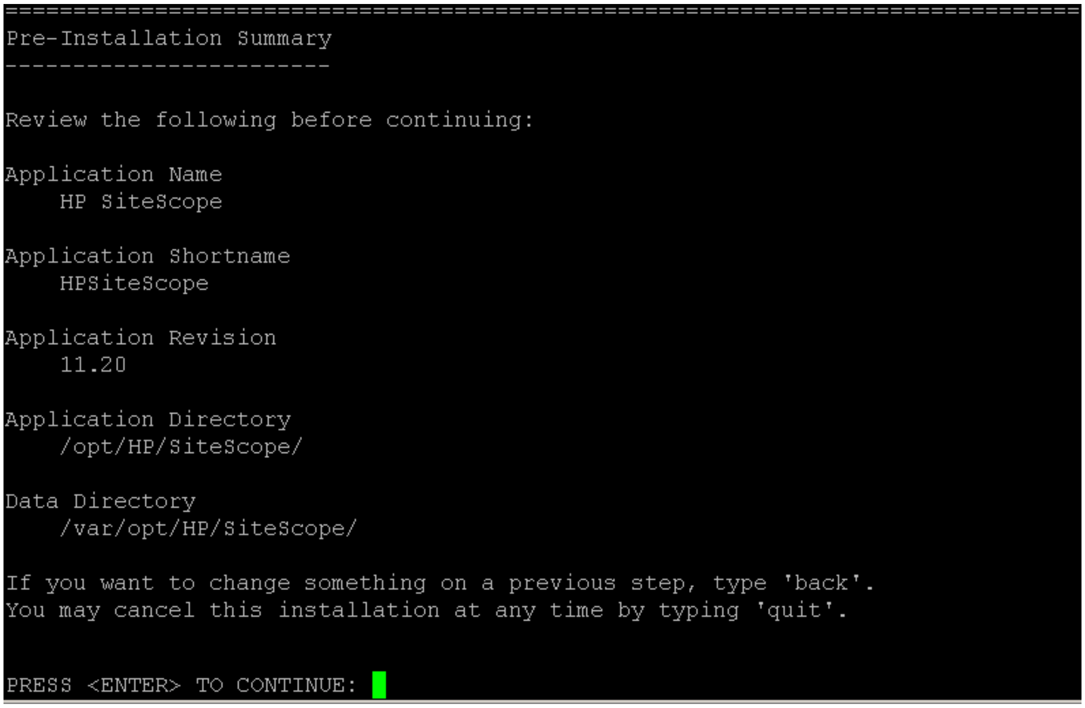
9. The Install Requirements screen opens.



```
===============================================================================
Install Requirements Checks
---------------------------


===============================================================================
 Verifying : Verifying free disk space ...  [Completed]
 Verifying : Checking for previous installations...  [Completed]
===============================================================================
Performing checks ...
Details :  performing checks ... please wait
Executing initialize action :
Install check requirements successfully completed
If you want to change something on a previous step, type 'back'.
You may cancel this installation at any time by typing 'quit'.

Please hit Enter to continue:
```

Press `ENTER` to continue with the installation.

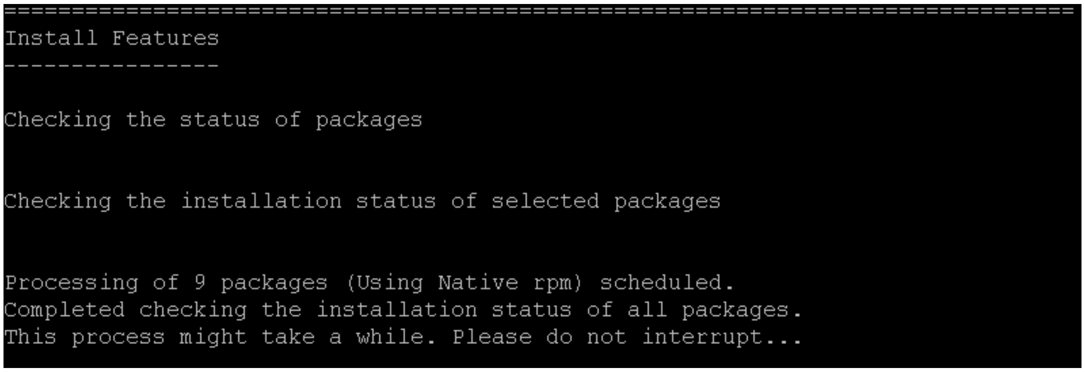
10. The Pre-Installation Summary screen opens.



```
===============================================================================
Pre-Installation Summary
------------------------

Review the following before continuing:

Application Name
    HP SiteScope

Application Shortname
    HPSiteScope

Application Revision
    11.20

Application Directory
    /opt/HP/SiteScope/

Data Directory
    /var/opt/HP/SiteScope/

If you want to change something on a previous step, type 'back'.
You may cancel this installation at any time by typing 'quit'.


PRESS <ENTER> TO CONTINUE:
```

Press `ENTER` to continue with the installation.

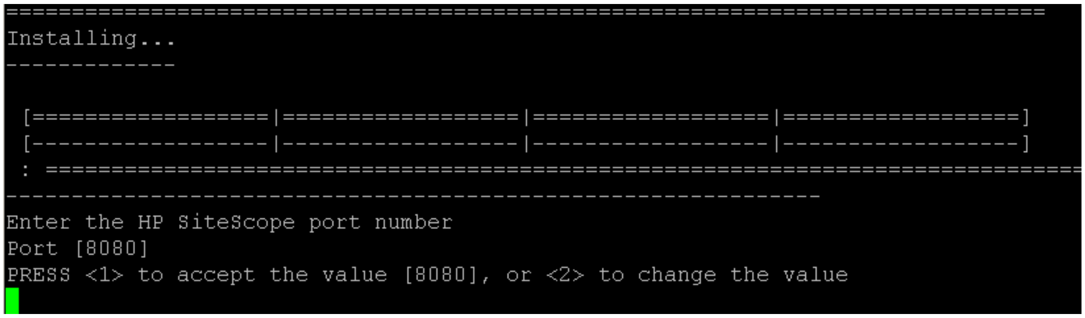
11. The Install Features screen opens and the installation process starts.



```
===============================================================================
Install Features
----------------

Checking the status of packages


Checking the installation status of selected packages


Processing of 9 packages (Using Native rpm) scheduled.
Completed checking the installation status of all packages.
This process might take a while. Please do not interrupt...
```

When the installation process is complete, the post-installation configuration screen opens.

12. The port prompt is displayed.



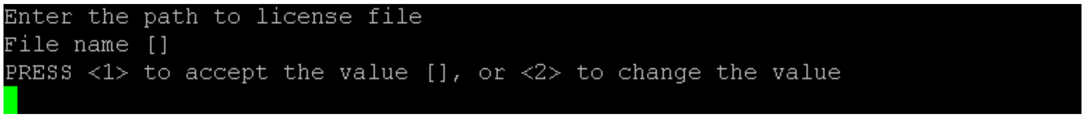
```
=============================================================================
Installing...
-------------

 [==================|==================|==================|==================]
 [------------------|------------------|------------------|------------------]
 : ==============================================================================
------------------------------------------------------------
Enter the HP SiteScope port number
Port [8080]
PRESS <1> to accept the value [8080], or <2> to change the value
```

Enter the number 1 to accept the default port 8080, or enter number 2 to change the port, and then enter a different number in the change port prompt.

> **Note:** If you plan to use SiteScope Failover Manager to monitor more than one primary SiteScope from a single Failover machine, each primary SiteScope installation must be configured to answer on a unique port number. You can check the ports used by the SiteScope server using the SiteScope Configuration Wizard. For details, see "Running the Configuration Tool on Solaris or Linux Platforms" on page 107.

Press ENTER to continue with the installation.

13. The license file path prompt is displayed.



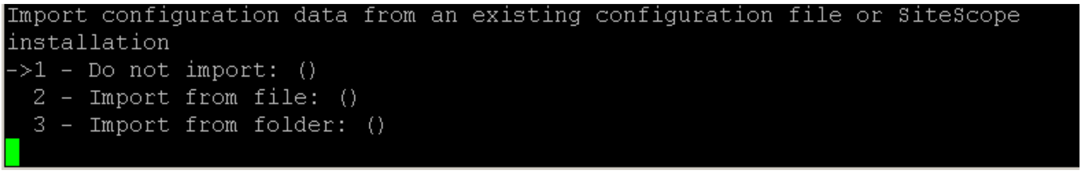
```
Enter the path to license file
File name []
PRESS <1> to accept the value [], or <2> to change the value
```

Enter the number 1 to leave the license file path empty (it is not necessary to enter license information at this point to use SiteScope during the free evaluation period), or enter the number 2, and then enter the license file path in the next text box.

> **Note:** License keys from previous versions of SiteScope are not compatible with this version. License key delivery can be fulfilled automatically through http://webware.hp.com.

Press ENTER to continue with the installation.

14. The Import Configuration Data screen opens.



```
Import configuration data from an existing configuration file or SiteScope
installation
->1 - Do not import: ()
  2 - Import from file: ()
  3 - Import from folder: ()
```

Enter the number `1` if you do not want to import data.

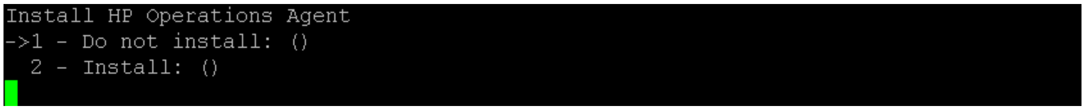
Enter the number `2` to use SiteScope data such as templates, logs, monitor configuration files, and so forth, from an existing exported configuration file. If you select this option, enter the path to the configuration file in the next text box.

Enter the number `3` to import configuration data from a SiteScope installation directory. If you select this option, enter the path to the SiteScope installation folder from which you want to import configuration data.

Press `ENTER` to continue with the installation.

> **Note:** When moving configuration data from one SiteScope installation to another, make sure that SiteScope server from which you are taking configuration data is in the same time zone as the SiteScope server to which the data is being imported.

15. The Install HP Operations Agent screen opens.



```
Install HP Operations Agent
->1 - Do not install: ()
  2 - Install: ()
```

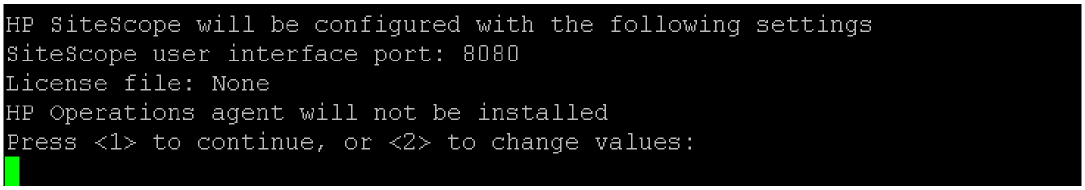
Enter the number `1` if you do not want to install the HP Operations agent.

Enter the number `2` to install the HP Operations agent on the SiteScope server. The agent is required to enable SiteScope to send events and act as a data storage for metrics data when SiteScope is integrated with an HP Operations Manager or BSM Gateway server.

> **Note:**
>
> - If you install SiteScope and the HP Operations agent on a machine that already has the agent installed, SiteScope overrides it and upgrades the current agent.
> - The HP Operations agent is supported on SiteScopes running on the environments listed in the HP SiteScope Support Matrices section in the release notes (in SiteScope, select **Help > What's New?**). Consequently, the SiteScope integration with HPOM and BSM is supported on these environments only.

Press `ENTER` to continue with the installation.

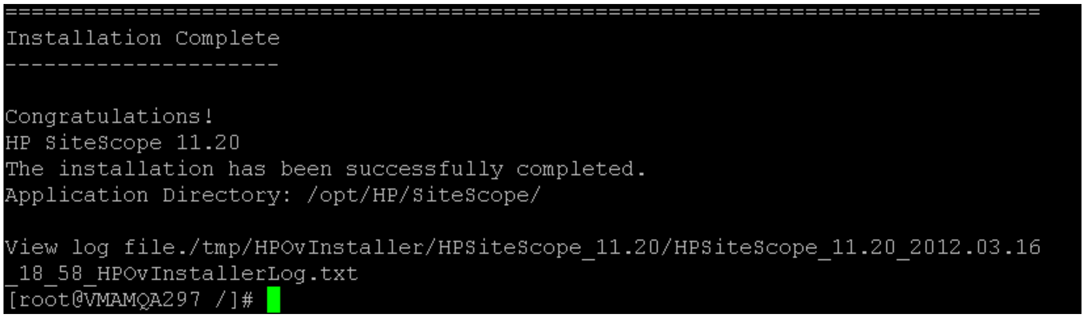
16. The console displays the installation parameters for confirmation.



```
HP SiteScope will be configured with the following settings
SiteScope user interface port: 8080
License file: None
HP Operations agent will not be installed
Press <1> to continue, or <2> to change values:
```

Enter `1` to proceed with the installation using the parameters indicated or enter `2` to return to make changes, and then press `ENTER`.

The installation process completes. An installation status message is displayed.



```
======================================================================
Installation Complete
---------------------

Congratulations!
HP SiteScope 11.20
The installation has been successfully completed.
Application Directory: /opt/HP/SiteScope/

View log file./tmp/HPOvInstaller/HPSiteScope_11.20/HPSiteScope_11.20_2012.03.16
_18_58_HPOvInstallerLog.txt
[root@VMAMQA297 /]#
```

17. After installing SiteScope, set the permissions for the SiteScope installation directory to have read, write, and execute permissions for the user account that is used to run the SiteScope application. The permissions must also be set for all subdirectories within the SiteScope installation directory.

    For details on creating a non-root user that runs the SiteScope application, and setting account permissions, see "Configuring a Non-Root User Account with Permissions to Run SiteScope" on page 18.

18. To connect to SiteScope, follow the steps in the section "Starting and Stopping the SiteScope Process on Solaris and Linux Platform" on page 173.

Troubleshooting and Limitations

This section describes the following troubleshooting and limitations for installing SiteScope.

- "SiteScope might not install on 64-bit Linux using console mode" on next page
- "SiteScope does not install on 64-bit Linux in graphic mode" on next page
- "SiteScope service not installed when SiteScope is installed on a 64-bit Microsoft Windows Server 2003" on next page
- "SiteScope might not install on Windows if %TEMP% and %TMP% point to a directory containing an empty space" on next page
- "HP Operations agent does not install on 32-bit Windows" on next page
- "Error installing the HP Operations agent - check the log files" on page 99
- "After uninstalling SiteScope, a subsequent SiteScope installation fails" on page 99

SiteScope might not install on 64-bit Linux using console mode

Installing SiteScope on Linux Red Hat 64-bit environments using console mode may fail if there are too many X sessions opened.

Workaround: Close some of the X sessions, or clear the DISPLAY variable.

SiteScope does not install on 64-bit Linux in graphic mode

The SiteScope installer might not work on Linux Red Hat 64-bit environments using the installation wizard.

Workaround: Install SiteScope using the console mode instead.

SiteScope service not installed when SiteScope is installed on a 64-bit Microsoft Windows Server 2003

The SiteScope service fails to install on a 64-bit Microsoft Windows Server 2003 on which McAfee Antivirus software is running.

Workaround: Shut down the McAfee Antivirus software and then reinstalled SiteScope.

SiteScope might not install on Windows if %TEMP% and %TMP% point to a directory containing an empty space

Installing SiteScope on a Microsoft Windows machine might fail if the environment variables %TEMP% and %TMP% point to a directory containing an empty space. For example, `C:\Documents and Settings\Default User\Local Settings\Temp`.

Workaround: Change the environment variables %TEMP% and %TMP% to point to a directory path that does not contain an empty space. For example, **C:\Temp**.

HP Operations agent does not install on 32-bit Windows

If the HP Operations agent fails to install on a 32-bit Windows machine, rename all the **.msi** files in **<SiteScope root directory>\install\components\oa\win32** to their original names (see list below), and then reinstall the agent.

For example, `HPOvAgtEx-06.20.105-WinNT4.0-release.msi` should be renamed `HPOvAgtEx.msi`.

HPOvAgtEx.msi	HPOvAgtEx.msi HPOvLcja.msi
HPOvBbc.msi	HPOvBbc.msi HPOvLcko.msi
HPOvConf.msi	HPOvConf.msi HPOvLczC.msi
HPOvCtrl.msi	HPOvCtrl.msi HPOvPacc.msi

HPOvDepl.msi	HPOvDepl.msi HPOvPCO.msi
HPOvEaAes.ms	HPOvEaAes.ms HPOvPerlA.msi
HPOvEaAgt.msi	HPOvEaAgt.msi HPOvSecCC.msi
HPOvEaAja.msi	HPOvEaAja.msi HPOvSecCo.msi
HPOvEaAko.msi	HPOvEaAko.msi HPOvXalanA.msi
HPOvEaAzC.msi	HPOvEaAzC.msi HPOvXercesA.msi
HPOvLces.msi	HPOvLces.msi HPOvXpl.msi

Error installing the HP Operations agent - check the log files

If you encounter an error while installing the HP Operations agent or you want to see the installation status, you can check the log files as described in "Installing Dependencies Required by the HP Operations Agent" on page 74.

After uninstalling SiteScope, a subsequent SiteScope installation fails

After uninstalling SiteScope, a subsequent installation cannot be completed and the following message is displayed: "Please enable windows scripting host". This occurs because Windows is unable to resolve the `%SystemRoot%` variable in the PATH environment variable (even though `%SystemRoot%` does appear in the path).

Workaround: Replace the `%SystemRoot%` variable in the PATH environment variable with the actual path to **C:\Windows\system32**.

Chapter 9

Installing SiteScope in Silent Mode

This chapter includes:

- "About Installing SiteScope in Silent Mode" below
- "Running a Silent Installation" below

About Installing SiteScope in Silent Mode

You can install SiteScope using a silent installation. A silent installation runs the entire setup process in the background without requiring you to navigate through the setup screens and input your selections. Instead, all configuration parameters are allocated values you define in a response file. To run silent installations for different configurations, you can create multiple response files.

Notes and Limitations

Before running a silent installation, consider the following issues:

- When running an installation in silent mode, no messages are displayed. Instead, you can view installation information in the log files, including information on whether the installation was successful. The installation log files can be found under:
  - **%tmp%\HPOvInstaller\HPSiteScope_11.20** on Windows platforms
  - **/tmp/HPOvInstaller/HPSiteScope_11.20** on Solaris or Linux platforms
- The SiteScope installation path (`prodInstallDir=<Installation_path>`) must not contain spaces or non-Latin characters in its name, and must end with a folder named **SiteScope** (the folder name is case sensitive).

Running a Silent Installation

You run a silent installation using the **ovinstallparams.ini** file. Since this file has a very specific format, you should create the silent installation file using the sample **ovinstallparams.ini** file.

> **Note:** The sample **ovinstallparams.ini** file is available only after installing SiteScope from the **<SiteScope installation directory>\examples\silent_installation** folder.

To run a silent installation for SiteScope 11.20:

1. Navigate to the **ovinstallparams.ini** file located in the **<SiteScope installation directory>\examples\silent_installation** folder.
2. Make a copy of the file, and then modify it to meet your installation needs.
3. Copy the file to the setup folder where the SiteScope installation file (**HPSiteScope_11.20_**

setup.exe, **HPSiteScope32on64_11.20_setup.exe**, or **HPSiteScope_11.20_setup.bin**) is located.

4. Run the installer from the command line with the **-i** silent flag. In Windows, specify Wait mode. For example:

   `start /wait HPSiteScope_11.20_setup.exe -i silent` (Windows)

   or

   `HPSiteScope_11.20_setup.bin -i silent` (Linux or Solaris)

To uninstall SiteScope in silent mode:

Linux or Solaris:

```
/opt/HP/SiteScope/installation/bin/uninstall.sh -i silent
```

Windows:

```
%SITESCOPE_HOME%\installation\bin\uninstall.bat -i silent
```

Chapter 10

Using the SiteScope Configuration Tool

This section includes:

- "Running the Configuration Tool on Windows Platforms" below
- "Running the Configuration Tool on Solaris or Linux Platforms" on page 107
- "Running the Configuration Tool on Solaris or Linux Using Console Mode" on page 111

Running the Configuration Tool on Windows Platforms

The Configuration Tool is a convenient utility for moving configuration data from one SiteScope installation to another. You can export SiteScope data such as templates, logs, monitor configuration files, scripts, server certificates, and so forth from your current SiteScope for later import into SiteScope. You can also use the wizard to optimize SiteScope's performance by making sizing changes in the Windows Registry keys, to change the ports assigned to SiteScope, and to install and uninstall the HP Operations agent.

If you exported SiteScope data during the installation process, you can import the data using the Configuration Tool. Alternatively, you can export data from your current SiteScope independently using the Configuration Tool. If you have created or modified monitor configuration files in previous versions of SiteScope, you may need to import them to the current SiteScope directory.

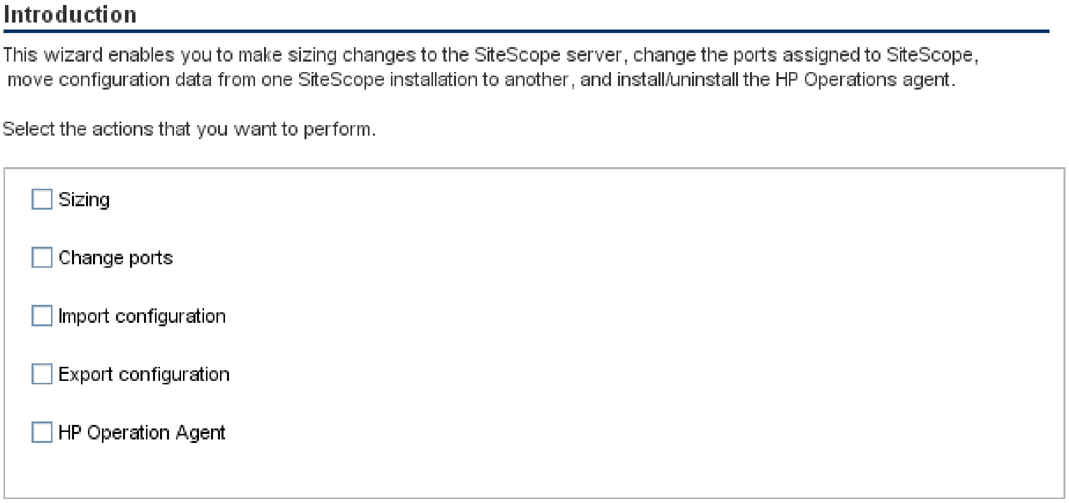
Note:

- You must stop the SiteScope service before exporting or importing the data, and restart the service after exporting or importing the data. For details, see "Starting and Stopping the SiteScope Service on Windows Platform" on page 172.
- When moving configuration data from one SiteScope installation to another, make sure that SiteScope server from which you are taking configuration data is in the same time zone as the SiteScope server to which the data is being imported.
- When importing configurations to the same version of SiteScope, you must rename or delete all template example containers so as to import the new template examples.
- The inclusion of server certificates and scripts when exporting data is supported in the Configuration Tool. For details on how to include server certificates and scripts when exporting data from earlier versions of SiteScope, see "Upgrading an Existing SiteScope Installation" on page 54.

To run the SiteScope Configuration Tool:

1. On the SiteScope server, select **Start > All Programs > HP SiteScope > Configuration Tool**. The SiteScope Configuration Wizard opens.

2. Select the actions that you want to perform, and then click **Next**.



Introduction

This wizard enables you to make sizing changes to the SiteScope server, change the ports assigned to SiteScope, move configuration data from one SiteScope installation to another, and install/uninstall the HP Operations agent.

Select the actions that you want to perform.

□ Sizing

□ Change ports

□ Import configuration

□ Export configuration

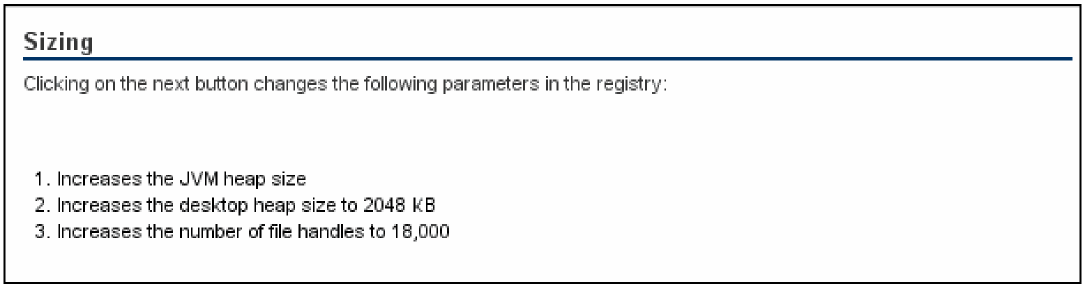
□ HP Operation Agent

- **Sizing.** Enables optimizing SiteScope's performance by increasing JVM heap size, desktop heap size, and the number of file handles in the Windows Registry keys. For details, see step 3.

  Note: If you start SiteScope by running the go.bat file in the **<SiteScope installation>\bin directory**, open the go.bat file and increase the –Xmx512m parameter to –Xmx1024m (for 1GB) or higher, as required, up to a maximum of –Xmx8192m (for 8GB).

- **Change port.** Enables changing any of the ports used by the SiteScope server. For details, see step 4.
- **Import configuration.** Enables importing configuration data from an exported configuration data (**.zip**) file, or from an existing SiteScope installation. For details, see step 5.
- **Export configuration.** Enables exporting SiteScope data such as templates, logs, and monitor configuration files from your current SiteScope for later import into SiteScope. For details, see step 6.
- **HP Operations Agent.** Enables installing and unstalling the HP Operations agent. The agent enables SiteScope or SiteScope Failover to send events and act as a data storage for metrics data when SiteScope is integrated with an HP Operations Manager or BSM Gateway server. For details, see step 7.

3. If you selected the **Sizing** option, the Sizing screen opens listing the parameters in the Windows Registry (the example below is for a 32-bit installation).



Sizing

Clicking on the next button changes the following parameters in the registry:

1. Increases the JVM heap size
2. Increases the desktop heap size to 2048 KB
3. Increases the number of file handles to 18,000

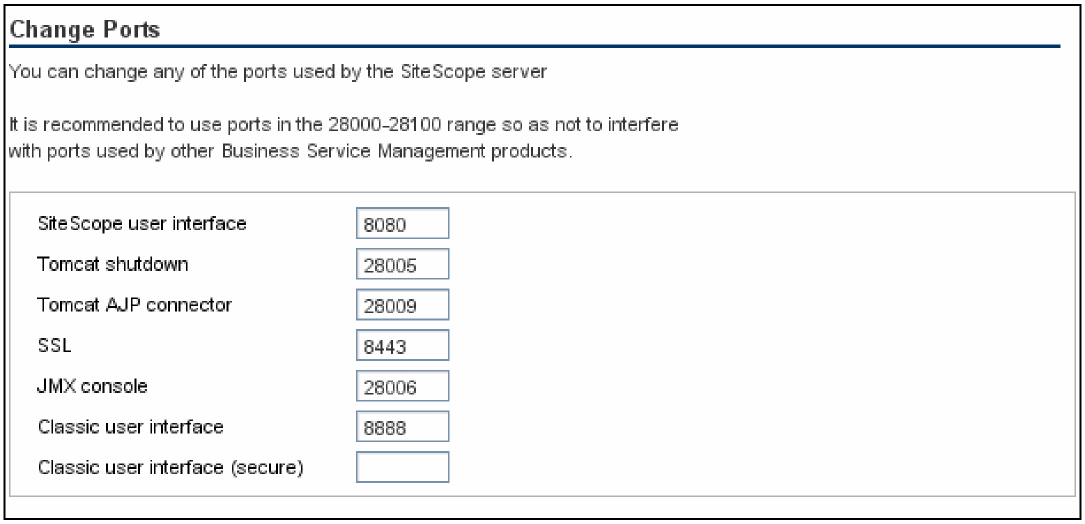
You can optimize SiteScope's performance by making changes in the following Windows Registry keys:

- **JVM heap size.** The value is changed from 512 MB to 1024 MB for 32-bit installations, and to 4096 MB for 64-bit installations. For more details on JVM heap size, refer to http://java.sun.com/j2se/1.5.0/docs/guide/vm/gc-ergonomics.html.
- **Desktop heap size.** The value is changed from 512 KB to 2048 KB for 32-bit installations, and to 8192 KB for 64-bit installations. For more details on Desktop heap size, refer to http://support.microsoft.com/kb/126962.

> **Note:** Sizing changes can be made only if the physical memory of the SiteScope server is larger than the maximum JVM heap size (Xmx) that the Configuration Tool has configured (1 GB for a 32-bit installation and 4 GB for a 64-bit installation).

Click **Next** to complete the sizing operation.

4. If you selected the **Change ports** option, the Change Ports screen opens.



Change Ports

You can change any of the ports used by the SiteScope server

It is recommended to use ports in the 28000-28100 range so as not to interfere with ports used by other Business Service Management products.

SiteScope user interface	8080
Tomcat shutdown	28005
Tomcat AJP connector	28009
SSL	8443
JMX console	28006
Classic user interface	8888
Classic user interface (secure)	

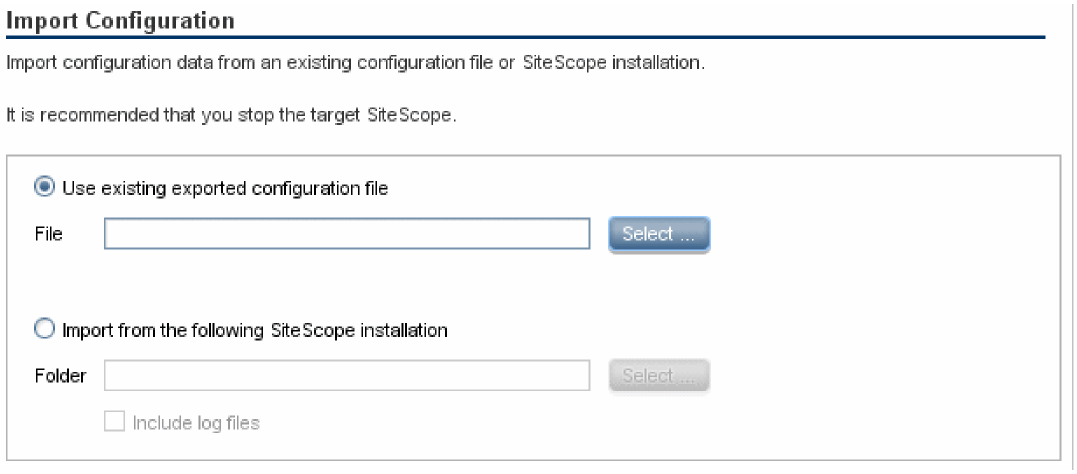
Modify the ports used by the SiteScope server as required. Port numbers must be numeric and should be in the 1-65534 range. A port is mandatory for all components except Classic user interface.

> **Note:** It is recommended to use ports in the 28000-28100 range so as not to interfere with ports used by other Business Service Management products.

Click **Next** to complete the change port operation.

> **Note:** After completing the port change operation, the port is updated in the **Start > All Programs > HP SiteScope > Open HP SiteScope** link.

5. If you selected the **Import Configuration** option, the **Import Configuration** screen opens.



Import Configuration

Import configuration data from an existing configuration file or SiteScope installation.

It is recommended that you stop the target SiteScope.

● Use existing exported configuration file

File

○ Import from the following SiteScope installation

Folder

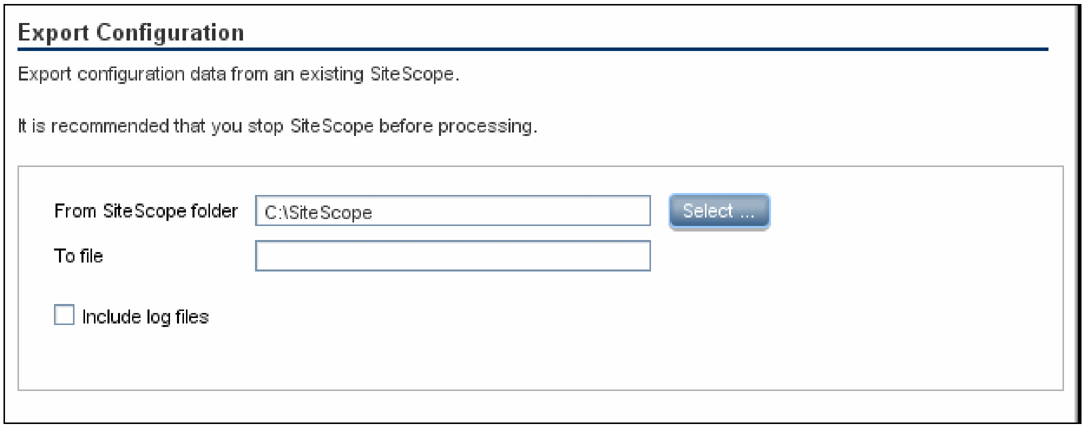
□ Include log files

> **Note:** You must stop the SiteScope service before importing the data, and restart the service after importing the data. For details, see "Starting and Stopping the SiteScope Service on Windows Platform" on page 172.

- If you select **Use existing exported configuration file**, enter the name of the user data file to import.
- If you select **Import the following SiteScope installation**, enter the SiteScope installation directory from which to import the user data file. If you also want to import log files, select **Include log files**.

Click **Next** to complete the import operation.

6. If you selected the **Export Configuration** option, the Export Configuration screen opens.



Export Configuration

Export configuration data from an existing SiteScope.

It is recommended that you stop SiteScope before processing.

From SiteScope folder: C:\SiteScope

To file

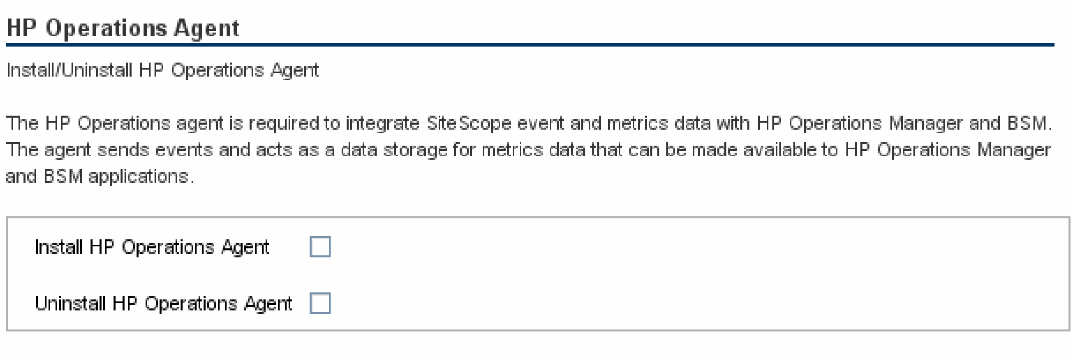
□ Include log files

- In **From SiteScope folder**, accept the default directory given in the box, or enter the full path of the SiteScope installation directory. For example, if you do not want to accept the directory path as listed and the installation directory path is `D:\SiteScope11_0\SiteScope, enter D:\SiteScope11_0\SiteScope`.
- In **To file**, enter the directory to which to export the user data file (the directory must already exist) and the name for the exported user data file. The name must end in **.zip**. If you also want to export log files, select **Include log files**.

> **Note:**
>
> - You must stop the SiteScope service before exporting the data, and restart the service after exporting the data. For details, see "Starting and Stopping the SiteScope Service on Windows Platform" on page 172.
> - Since the **\htdocs** directory is not copied when you export SiteScope data, you should make a backup of this directory and copy it to the SiteScope 11.20 directory after an upgrade, so that you can see old reports.

Click **Next** to complete the export operation.

7. If you selected the **HP Operations Agent** option, the Install/Uninstall HP Operations Agent screen opens.



HP Operations Agent

Install/Uninstall HP Operations Agent

The HP Operations agent is required to integrate SiteScope event and metrics data with HP Operations Manager and BSM. The agent sends events and acts as a data storage for metrics data that can be made available to HP Operations Manager and BSM applications.

Install HP Operations Agent □

Uninstall HP Operations Agent □

- **Install HP Operations Agent.** Select to install the HP Operations agent on the SiteScope server. The agent is required to enable SiteScope to send events and act as a data storage for metrics data when SiteScope is integrated with an HP Operations Manager or BSM Gateway server.
- **Uninstall HP Operations Agent.** Select to uninstall the HP Operations agent from the SiteScope server.

Click **Next** to complete the install/uninstall operation.

> **Note:** If you install the HP Operations agent on a machine that already has the agent installed, SiteScope overrides it and upgrades the current agent.

8. The Summary screen opens, displaying the configuration status.

Click **Finish** to close the wizard.

After an upgrade, you can start SiteScope by running the **go.bat** file from the **<SiteScope root directory>\bin** directory. This avoids SiteScope automatically restarting itself if it takes longer than 15 minutes for the monitors to run.

Running the Configuration Tool on Solaris or Linux Platforms

The Configuration Tool is a convenient utility for moving configuration data from one SiteScope installation to another. You can export SiteScope data such as templates, logs, monitor configuration files, scripts, server certificates, and so forth from your current SiteScope for later import into SiteScope. You can also use the wizard to change any of the ports used by the SiteScope server, and to install and unistall the HP Operations agent.

If you exported SiteScope data during the installation process, you can import the data using the Configuration Tool. Alternatively, you can export data from your current SiteScope independently using the Configuration Tool. If you have created or modified monitor configuration files in previous versions of SiteScope, you may need to import them to the current SiteScope directory.

Note:

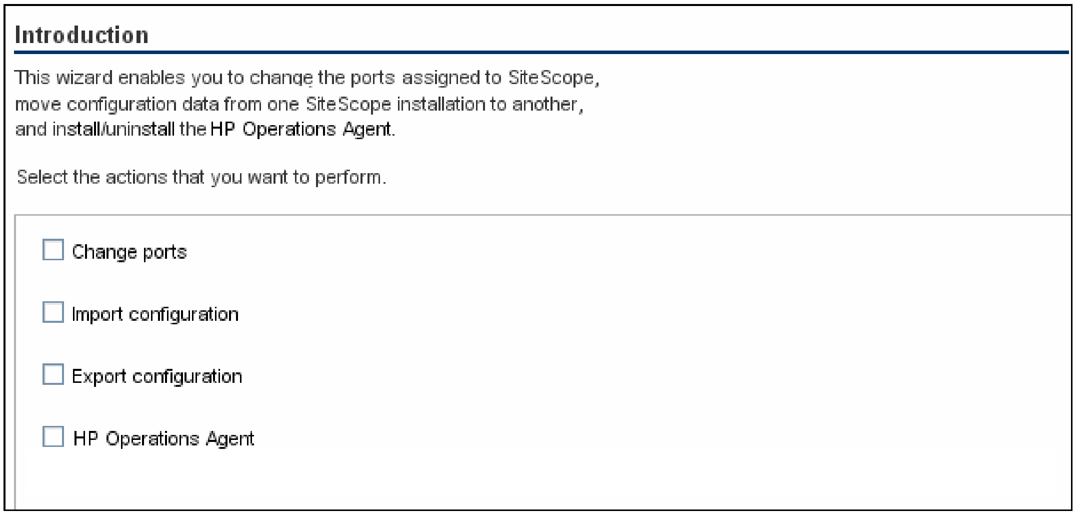
- You can also run the configuration Tool on Solaris or Linux platforms in console mode. For details, see "Running the Configuration Tool on Solaris or Linux Using Console Mode" on page 111.
- When moving configuration data from one SiteScope installation to another, make sure that SiteScope server from which you are taking configuration data is in the same time zone as the SiteScope server to which the data is being imported.
- The inclusion of server certificates and scripts when exporting data is supported by the SiteScope Configuration Tool. For details on how to include server certificates and scripts when exporting data from earlier versions of SiteScope, see "Upgrading an Existing SiteScope Installation" on page 54.
- The SiteScope 64-bit version consumes up to 3 times more memory than the SiteScope 32-bit version. Accordingly, if you are using a SiteScope 64-bit version you should manually increase the JVM heap size on the server:
  a. Open the **SiteScope/bin/start-service** file for editing.
  b. In the last line, increase parameter **-Xmx512m** to **-Xmx2048m** (for 2GB) or to a higher value, as required, up to a maximum of **-Xmx8192m** (for 8GB).

To run the SiteScope Configuration Tool:

1. On the SiteScope server, do either of the following:
   a. In graphic mode, run `<SiteScope install Directory>/bin/config_tool.sh`
   b. In console mode, run `<SiteScope install Directory>/bin/config_tool.sh -i console`

   The SiteScope Configuration Wizard opens.

   Click **Next**.
2. Select the actions that you want to perform in the Introduction screen, and then click **Next**.



Introduction

This wizard enables you to change the ports assigned to SiteScope,
move configuration data from one SiteScope installation to another,
and install/uninstall the HP Operations Agent.

Select the actions that you want to perform.

☐ Change ports

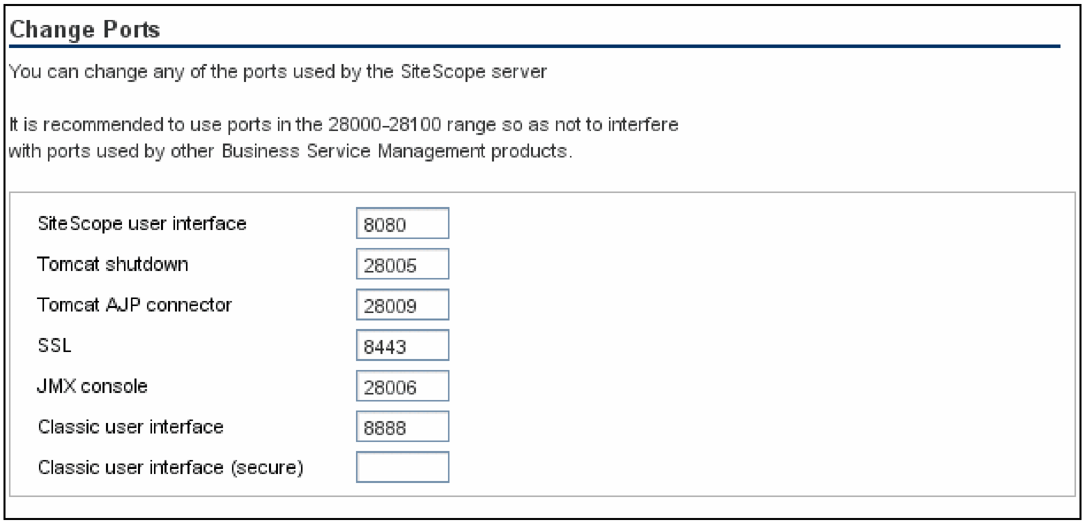
☐ Import configuration

☐ Export configuration

☐ HP Operations Agent

- **Change port.** Enables changing any of the ports used by the SiteScope server. For details, see step 3.
- **Import Configuration.** Enables importing configuration data from an exported configuration data (**.zip**) file, or from an existing SiteScope installation. For details, see step 5.
- **Export Configuration.** Enables exporting SiteScope data such as templates, logs, and monitor configuration files from your current SiteScope for later import into SiteScope. For details, see step 4.
- **HP Operations Agent.** Enables installing and unstalling the HP Operations agent. The agent enables SiteScope or SiteScope Failover to send events and act as a data storage for metrics data when SiteScope is integrated with an HP Operations Manager or BSM Gateway server. For details, see step 6.

3. If you selected the **Change ports** option, the Change Ports screen opens.



Change Ports

You can change any of the ports used by the SiteScope server

It is recommended to use ports in the 28000-28100 range so as not to interfere
with ports used by other Business Service Management products.

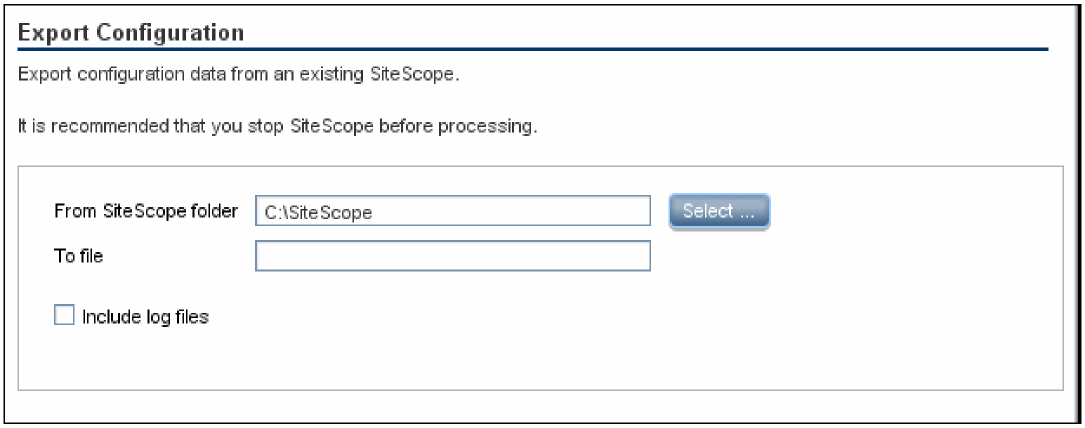
SiteScope user interface	8080
Tomcat shutdown	28005
Tomcat AJP connector	28009
SSL	8443
JMX console	28006
Classic user interface	8888
Classic user interface (secure)	

Modify the ports used by the SiteScope server as required. Port numbers must be numeric and should be in the 1-65534 range. A port is mandatory for all components except Classic user interface.

> **Note:** It is recommended to use ports in the 28000-28100 range so as not to interfere with ports used by other Business Service Management products.

Click **Next** to complete the change port operation.

4. If you selected the **Export Configuration** option, the Export Configuration screen opens.



Export Configuration

Export configuration data from an existing SiteScope.

It is recommended that you stop SiteScope before processing.

From SiteScope folder: C:\SiteScope Select ...

To file:

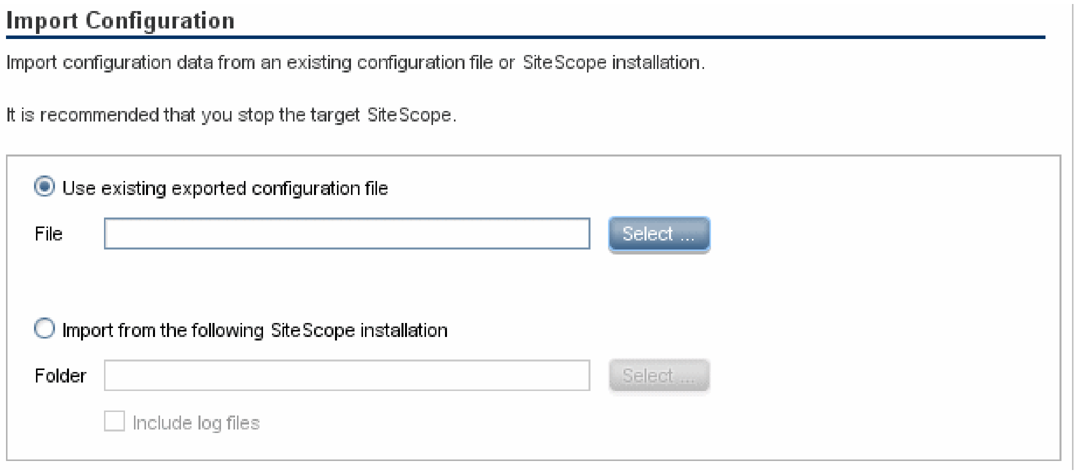
□ Include log files

> **Note:** You must stop the SiteScope service before exporting the data, and restart the service after exporting the data. For details, see "Starting and Stopping the SiteScope Process on Solaris and Linux Platform" on page 173.

- In **From SiteScope folder**, accept the default directory given in the box, or enter the full path of the SiteScope installation directory. For example, if you do not want to accept the directory path as listed and the installation directory path is `/opt/9_0/SiteScope`, `enter /opt/9_0/SiteScope`.
- In **To file**, enter the directory to which to export the user data file (the directory must already exist) and the name for the exported user data file. The name must end in **.zip**.
- If you also want to export log files, select **Include log files**.

Click **Next** to complete the export operation.

5. If you selected the **Import Configuration** option, the Import Configuration screen opens.



Import Configuration

Import configuration data from an existing configuration file or SiteScope installation.

It is recommended that you stop the target SiteScope.

● Use existing exported configuration file

File: Select ...

○ Import from the following SiteScope installation

Folder: Select ...

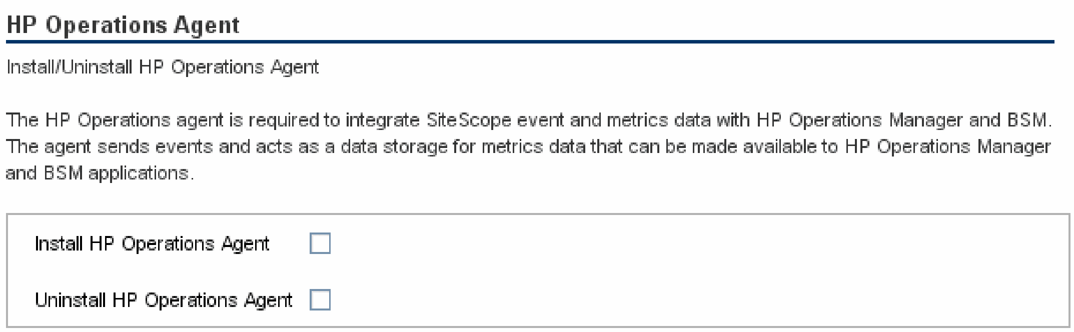
□ Include log files

> **Note:** You must stop the SiteScope service before importing the data, and restart the service after importing the data. For details, see "Starting and Stopping the SiteScope Process on Solaris and Linux Platform" on page 173.

- If you select **Use existing exported configuration file**, enter the name of the user data file to import.
- If you select **Import the followingSiteScope installation**, enter the SiteScope installation directory to which to import the user data file.
- If you also want to import log files, select **Include log files**.

Click **Next** to complete the import operation.

6. If you selected the **HP Operations Agent** option, the HP Operations Agent screen opens.



HP Operations Agent

Install/Uninstall HP Operations Agent

The HP Operations agent is required to integrate SiteScope event and metrics data with HP Operations Manager and BSM. The agent sends events and acts as a data storage for metrics data that can be made available to HP Operations Manager and BSM applications.

Install HP Operations Agent □

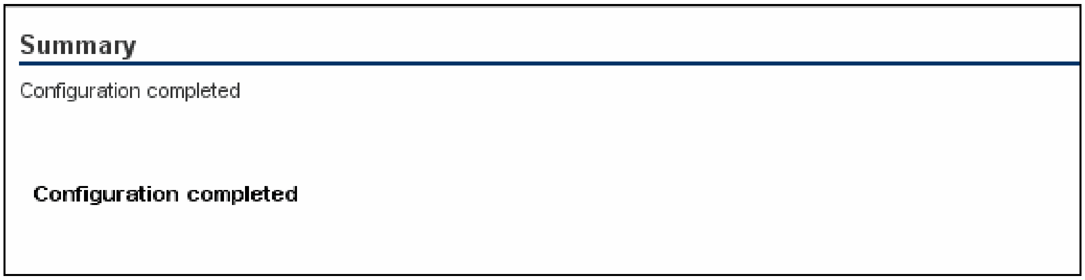
Uninstall HP Operations Agent □

- **Install HP Operations Agent.** Select to install the HP Operations agent on the SiteScope server. The agent is required to enable SiteScope to send events and act as a data storage for metrics data when SiteScope is integrated with an HP Operations Manager or BSM server.
- **Uninstall HP Operations Agent.** Select to uninstall the HP Operations agent from the SiteScope server.

Click **Next** to complete the install/uninstall operation.

> **Note:** If you install the HP Operations agent on a machine that already has the agent installed, SiteScope overrides it and upgrades the current agent

7. The Summary screen opens.



Summary

Configuration completed

Configuration completed

Click **Finish** to close the wizard.

Running the Configuration Tool on Solaris or Linux Using Console Mode

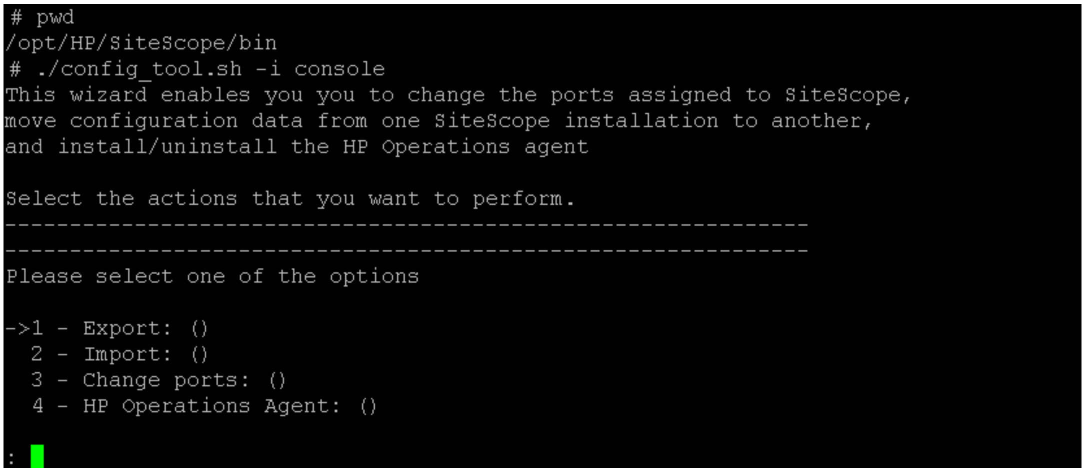
You can run the Configuration Tool using a command line or console mode. Use this option if you are configuring SiteScope on a remote server, or for any other reason that prevents the use of the user interface.

To run the Configuration Tool on Solaris or Linux using the console mode:

1. Run the following command:

   ```
   /bin/config_tool.sh -i console
   ```

2. The configuration selection screen is displayed.

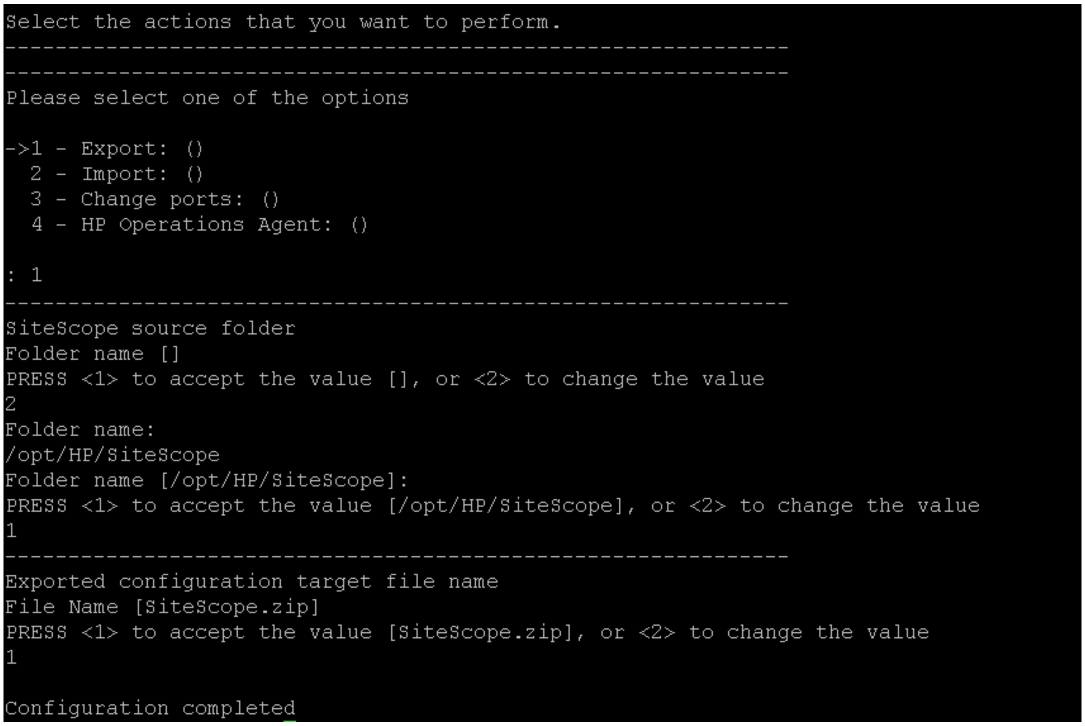
   ```
   # pwd
   /opt/HP/SiteScope/bin
   # ./config_tool.sh -i console
   This wizard enables you you to change the ports assigned to SiteScope,
   move configuration data from one SiteScope installation to another,
   and install/uninstall the HP Operations agent

   Select the actions that you want to perform.
   ---------------------------------------------------------------
   ---------------------------------------------------------------
   Please select one of the options

   ->1 - Export: ()
     2 - Import: ()
     3 - Change ports: ()
     4 - HP Operations Agent: ()

   :
   ```

   Choose the configuration action that you want to perform.

   - Enter the number 1 to export SiteScope data.
   - Enter the number 2 to import configuration data from an exported configuration data (.zip) file, or from an existing SiteScope installation.
   - Enter the number 3 to change any of the ports used by the SiteScope server.
   - Enter the number 4 to install or uninstall the HP Operations agent.

   Press ENTER to continue.

3. If you selected the **Export** option, the Export Configuration screen opens.



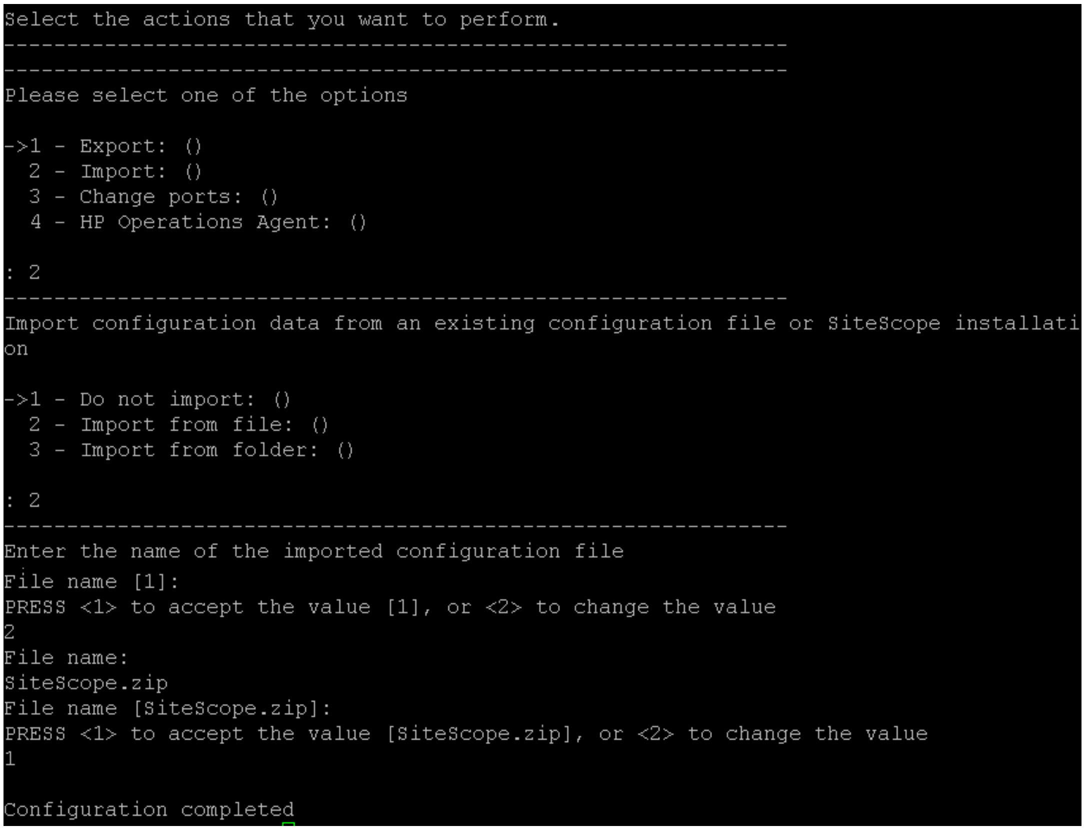
```
Select the actions that you want to perform.
--------------------------------------------------------------
--------------------------------------------------------------
Please select one of the options

->1 - Export: ()
  2 - Import: ()
  3 - Change ports: ()
  4 - HP Operations Agent: ()

: 1
--------------------------------------------------------------
SiteScope source folder
Folder name []
PRESS <1> to accept the value [], or <2> to change the value
2
Folder name:
/opt/HP/SiteScope
Folder name [/opt/HP/SiteScope]:
PRESS <1> to accept the value [/opt/HP/SiteScope], or <2> to change the value
1
--------------------------------------------------------------
Exported configuration target file name
File Name [SiteScope.zip]
PRESS <1> to accept the value [SiteScope.zip], or <2> to change the value
1

Configuration completed
```

- For the **SiteScope source folder**:
  - Enter the number `1` to accept the default directory given in [ ].
  - Enter the number `2` to change the value, and then enter the full path of the SiteScope installation directory. For example, if you do not want to accept the directory path as listed and the installation directory path is `/opt/HP/SiteScope, enter /opt/HP/SiteScope`.

  Press `ENTER` to continue with the installation.
- For **Exported configuration target file name**:
  - Enter the number `1` to export the data to a file named **SiteScope.zip**.
  - Enter the number `2` to change the name for the exported user data file. The name must end in **.zip**.

  Press `ENTER` to complete the export operation.

4. If you selected the **Import** option, the Import Configuration screen opens.



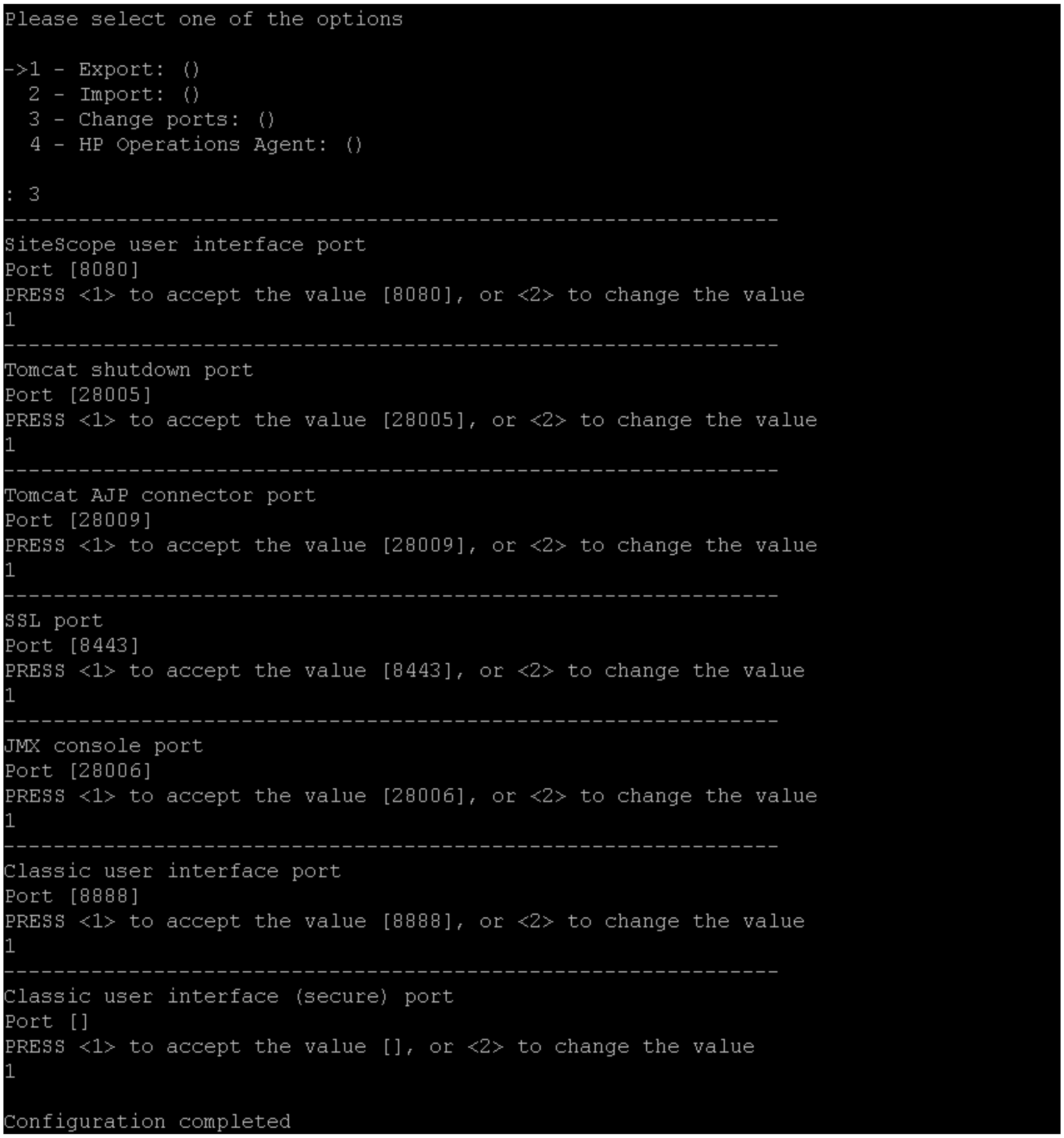
```
Select the actions that you want to perform.
--------------------------------------------------------------
--------------------------------------------------------------
Please select one of the options

->1 - Export: ()
  2 - Import: ()
  3 - Change ports: ()
  4 - HP Operations Agent: ()

: 2
--------------------------------------------------------------
Import configuration data from an existing configuration file or SiteScope installati
on

->1 - Do not import: ()
  2 - Import from file: ()
  3 - Import from folder: ()

: 2
--------------------------------------------------------------
Enter the name of the imported configuration file
File name [1]:
PRESS <1> to accept the value [1], or <2> to change the value
2
File name:
SiteScope.zip
File name [SiteScope.zip]:
PRESS <1> to accept the value [SiteScope.zip], or <2> to change the value
1

Configuration completed
```

Select the configuration data option:

- Enter the number `1` if you do not want to import configuration data.
- Enter the number `2` to import configuration data from a file. If you select this option:
  - Enter the number `1` to accept the default file name given in [ ].
  - Enter the number `2` to change the value, and enter the name of the file from which to import configuration data. Enter the number 1 to accept the name.
- Enter the number `3` to import configuration data from a SiteScope installation directory. If you select this option:
  - Enter the number `1` to accept the default directory given in [ ].
  - Enter the number `2` to change the value, and enter the SiteScope installation directory from which to import the user data file. Enter the number `1` to accept the name.

  Press `ENTER` to complete the import operation.

5. If you selected the **Change Ports** option, the Change Ports screen opens.



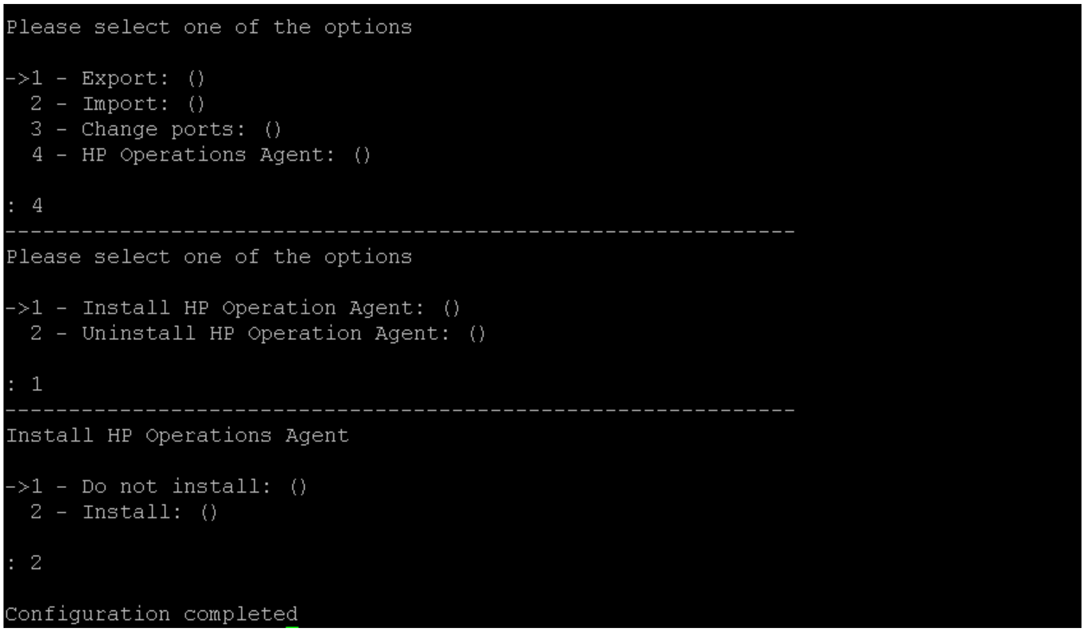
```
Please select one of the options

->1 - Export: ()
  2 - Import: ()
  3 - Change ports: ()
  4 - HP Operations Agent: ()

: 3
---------------------------------------------------------------
SiteScope user interface port
Port [8080]
PRESS <1> to accept the value [8080], or <2> to change the value
1
---------------------------------------------------------------
Tomcat shutdown port
Port [28005]
PRESS <1> to accept the value [28005], or <2> to change the value
1
---------------------------------------------------------------
Tomcat AJP connector port
Port [28009]
PRESS <1> to accept the value [28009], or <2> to change the value
1
---------------------------------------------------------------
SSL port
Port [8443]
PRESS <1> to accept the value [8443], or <2> to change the value
1
---------------------------------------------------------------
JMX console port
Port [28006]
PRESS <1> to accept the value [28006], or <2> to change the value
1
---------------------------------------------------------------
Classic user interface port
Port [8888]
PRESS <1> to accept the value [8888], or <2> to change the value
1
---------------------------------------------------------------
Classic user interface (secure) port
Port []
PRESS <1> to accept the value [], or <2> to change the value
1

Configuration completed
```

Modify the ports used by the SiteScope server as required. Port numbers must be numeric and should be in the 1-65534 range. A port is mandatory for all components except Classic user interface.

> **Note:** It is recommended to use ports in the 28000-28100 range so as not to interfere with ports used by other BSM products.

Press `ENTER` to complete the change port operation.

6. If you selected the **HP Operations Agent** option, the HP Operations Agent screen opens.



```
Please select one of the options

->1 - Export: ()
  2 - Import: ()
  3 - Change ports: ()
  4 - HP Operations Agent: ()

: 4
-------------------------------------------------------------
Please select one of the options

->1 - Install HP Operation Agent: ()
  2 - Uninstall HP Operation Agent: ()

: 1
-------------------------------------------------------------
Install HP Operations Agent

->1 - Do not install: ()
  2 - Install: ()

: 2

Configuration completed
```

Select one of the following options:

- Enter the number `1` to install the HP Operations agent on the SiteScope server. The agent is required to enable SiteScope to send events and act as a data storage for metrics data when SiteScope is integrated with an HP Operations Manager or BSM Gateway server.
- Enter the number `2` to uninstall the HP Operations agent from the SiteScope server.

> **Note:** If you install the HP Operations agent on a machine that already has the agent installed, SiteScope overrides it and upgrades the current agent.

Press `ENTER` to complete the HP Operations agent install/uninstall operation.

> **Note:** The SiteScope 64-bit version consumes up to three times more memory than the SiteScope 32-bit version. Accordingly, if you are using a SiteScope 64-bit version you should manually increase the JVM heap size on the server as follows:
>
> a. Open the **SiteScope/bin/start-service** file for editing.
>
> b. In the last line, increase parameter **-Xmx512m** to **-Xmx2048m** (for 2GB) or to a higher value, as required, up to a maximum of **-Xmx8192m** (for 8GB).

Chapter 11

Sizing SiteScope

This chapter includes:

Sizing SiteScope Overview

While the default SiteScope configuration permits running thousands of monitors, sizing the server where SiteScope is installed may be necessary to achieve optimum performance. Since each configuration is different, you should use the SiteScope Capacity Calculator to verify if your configuration requires sizing.

Proper sizing of the server where SiteScope is to run is the foundation of successful monitoring deployment. To ensure optimal sizing, HP strongly recommends the following SiteScope server environment:

- SiteScope runs as a stand-alone server. For best results, SiteScope should be the only program running on a server. BSM, BMC, HP LoadRunner, databases, Web servers, and so forth, should not be on the SiteScope server.
- Only one instance of SiteScope exists and it runs on a single server. Running multiple instances of SiteScope on a single server can cause severe resource problems. This recommendation includes instances of SiteScope used for System Health.
- SiteScope Failover needs to be sized just like the primary SiteScope server.

SiteScope Capacity Calculator

SiteScope includes a tool that helps you predict system behavior and perform capacity planning for SiteScope. You enter the CPU and memory details of the system on which SiteScope is running, and the number of monitors of each type and the frequency that they are to run. The calculator then displays the expected CPU usage and memory usage for each monitor type, and the recommended system requirements for the given workload. This enables you to determine whether your configuration requires tuning.

Note: The SiteScope Capacity Calculator is supported in SiteScopes running on Windows versions only, and for monitors and solution templates listed in "Supported Monitors and Solution Templates" on page 118.

To use the SiteScope Capacity Calculator:

1. Before using the calculator, estimate the load on the SiteScope server and use the system requirement recommendations in this guide for determining your hardware needs.

   For details, see "System Requirements" on page 46 and "Certified Configurations" on page 51.

2. Open the SiteScope Capacity Calculator which is available from:

   - The SiteScope installation folder: **<SiteScope root directory>\tools\SiteScopeCapacityCalculator.xls**
   - Product Manuals page on the HP Software Support site (under Product **SiteScope**, Product version 11.20).

3. Select the **Monitor Usage** tab according to the operating system on which SiteScope is installed (32 or 64-bit).

4. In the **Requirements** section, enter the following information:

   - Average % CPU usage
   - CPU type
   - Memory heap size (in megabytes)
   - For a 64-bit installation, select TRUE if SiteScope is integrated with BSM, or FALSE for a standalone SiteScope.

5. In the **Monitors** section, enter the number of monitors for each type, and the update frequency for each monitor.

6. The results and recommendations are displayed in the **Results and Recommendations** section. A difference of 30-40% between the expected results and the actual results should be considered as acceptable.

Supported Monitors and Solution Templates

The following monitors and solution templates are supported by the SiteScope Capacity Calculator:

Monitors	• CPU • Database Counter • Database Query (64-bit only) • Directory Monitor (64-bit only) • Disk Space • DNS Monitor • File Monitor (64-bit only) • JMX Monitor (64-bit only) • Log File Monitor (32-bit only) • Memory Monitor • Microsoft IIS Server Monitor • Microsoft SQL Server Monitor (32-bit only) • Microsoft Windows Event Log Monitor (32-bit only) • Microsoft Windows Resources Monitor • Ping Monitor • SAP CCMS Monitor (32-bit only) • Service Monitor • Siebel Application Server Monitor (32-bit only) • SNMP by MIB Monitor • UNIX Resources Monitor (64-bit only) • URL Monitor • URL List Monitor (64-bit only) • WebLogic Application Server Monitor (32-bit only) • Web Service Monitor (64-bit only) • WebSphere Application Server Monitor(32-bit only)
Solution Templates	• Microsoft Exchange 2003 Solution Template (32-bit only) • Siebel Solution Templates (32-bit only)

Sizing SiteScope on Windows Platforms

When sizing SiteScope installed on a Windows platform, you should perform the following sizing steps on SiteScope and on the Windows operating system:

1. **Size SiteScope.**

   We recommend sizing SiteScope first and letting SiteScope run for at least 24 hours before proceeding to the next step. For details, see the procedure "Sizing SiteScope" below.

2. **Tune the Windows Operating System.**

   After sizing SiteScope and waiting at least 24 hours, you need to tune the Windows operating system and then restart the SiteScope server for the parameter changes to take effect. For details, see the procedure "Tuning Microsoft Windows Operating System" on next page

3. **General Maintenance Recommendations.**

   In addition, certain general maintenance recommendations should be followed to ensure optimal tuning. For details, see "General Maintenance Recommendations" on next page.

Note:

- We recommend making backups of any file or parameter that you change, so that it can be restored from that backup if needed.
- If the settings are not effective, do not randomly increase or decrease them. Contact HP Software Support for further analysis and troubleshooting.

Sizing SiteScope

Sizing SiteScope involves checking that monitors use the **Verify error** option only when absolutely necessary. This option should be used on a very small number of monitors, and for monitors with a history of false **no data** alerts due to network issues or server load problems on the remote machine being monitored.

When this feature is enabled, a monitor that fails is immediately run again, bypassing the scheduler before the alert conditions are checked. Large numbers of these extra runs can significantly disrupt the scheduler and cause SiteScope performance to degrade. For monitors failing due to connection problems, verify error can take up to the connection timeout amount of time before the monitor is terminated. During this time, it locks the monitor thread and connection for 2 minutes, by default. This delay can cause other monitors to wait and the failing monitor to skip.

To size SiteScope:

1. For each monitor, select the **Properties** tab, open the **Monitor Run Settings** panel, and check whether **Verify error** is selected. Clear the check box for monitors that do not require this option.

   Tip: For multiple monitors, we recommend using **Global Search and Replace** to perform this task.

2. Let SiteScope run for at least 24 hours before tuning the Windows operating system.

Tuning Microsoft Windows Operating System

Tuning Microsoft Windows operating systems involves changing a number of parameters using the Configuration Tool. In addition, certain general maintenance recommendations should be followed to ensure optimal tuning.

To tune Microsoft Windows operating systems:

1. Check that the following hotfix has been installed on the SiteScope server, if applicable:

   - For Windows XP, hotfix 327699 must already be installed. For details about increasing file handles on Windows XP and for downloading the hotfix, see Microsoft Knowledge Base (http://support.microsoft.com/kb/327699/en-us).

2. Run the Configuration Tool, and select the **Sizing** option.

   This tool increases JVM heap size to 1024 MB, desktop heap size to 2048 KB, and the number of file handles to 18,000. It also disables pop-up warnings for SiteScope executables. For details, see "Running the Configuration Tool on Windows Platforms" on page 102.

   > **Note:** The Configuration Tool supports the default SiteScope service name only. If you changed the service name, contact HP Software Support instead of running the Configuration Tool.

3. Restart the SiteScope server for the parameter changes to take effect.

General Maintenance Recommendations

Follow these general maintenance recommendations to size SiteScope on Windows.

- **Determine appropriate monitor frequency.**

  Check the monitor run frequency and ensure that monitors are running at an appropriate interval. For example, most disk monitors do not need to run every 5 minutes. Generally every 15, 30, or even 60 minutes is adequate for all volumes except, perhaps, `/var`, `/tmp`, and `swap`. Reducing monitor frequencies lowers the number of monitor runs per minute, and improves performance and capacity.

- **Optimize group structure.**

  Group structure should take into account ease of use with SiteScope, and performance optimization for SiteScope. Ideally, the number of top-level groups should be minimized as should the depth of the structure.

  Performance can degrade if a group structure has more than 50 top-level groups, or if it is more than 5 levels deep.

- **Resolve SiteScope configuration errors.**

  Use the health monitors to resolve monitor configuration errors. Even a small number of errors can lead to performance and stability degradation. For more information on resolving these errors, contact HP Software Support.

- **Plan the physical location of SiteScope servers.**

  SiteScope servers should be physically located as close as possible on the local network to the machines they are monitoring. It is not recommended to monitor over a WAN connection, although in some cases where the connection has sufficient capacity and low latency, this may be acceptable.

Sizing SiteScope on Solaris and Linux Platforms

Sizing SiteScope on Solaris and Linux operating systems involves changing a number of parameters. In addition, certain general maintenance recommendations should be followed to ensure optimal tuning.

1. **Tune the Operating System.**

   Configure the appropriate number of threads for the SiteScope instance and configure the Solaris or Linux operating system parameters. For details, see the procedure "Tuning the Operating System" below.

2. **Tune the Java Virtual Machine.**

   Configure the JVM heap size, thread stack size, and implement parallel garbage collection. For details, see the procedure "Tuning the Java Virtual Machine" on next page.

3. **General Maintenance Recommendations.**

   In addition, certain general maintenance recommendations should be followed to ensure optimal tuning. For details, see "General Maintenance Recommendations" on page 123.

Tuning the Operating System

Tuning the operating system involves configuring the appropriate number of monitors for the SiteScope instance and configuring the Solaris or Linux operating system parameters.

Configuring the Maximum Number of Running Monitors

You can configure the **Maximum monitor running** setting in **Preferences > Infrastructure Preferences > Server Settings**. For details, see the Preferences section in Using SiteScope in the SiteScope Help.

Configuring Solaris or Linux Operating System Parameters

The Solaris or Linux operating system can support large numbers of threads. To enable this feature, perform the following on the SiteScope server.

To configure the Solaris or Linux operating system parameters:

1. **Modify the kernel file descriptor limits.**

   a. Edit the **/etc/system** file and add the following line:

   ```
   set rlim_fd_max=8192
   ```

> **Note:** `1024` is the default (this limit does not apply to user `root`). The value `8192` is sufficient for even the largest instance of SiteScope. Use this high value rather than experiment with lower values. This avoids the need to restart the machine later if the lower value is not sufficient.

   b. Restart the server.

2. **Modify the user runtime limits.**

   a. In **<SiteScope root directory>\bin directory**, add the following line to the SiteScope startup scripts **start-monitor** and **start-service**:

   ```
   ulimit -n 8192
   ```

   b. Check that the following parameters have the following minimum values. Contact your UNIX system administrator for more information.

Parameter	Minimum Value
core file size (blocks)	unlimited
data seg size (kbytes)	unlimited
file size (blocks)	unlimited
open files	8192
pipe size (512 bytes)	10
stack size (kbytes)	8192
cpu time (seconds)	unlimited
max user processes	8192
virtual memory (kbytes)	unlimited

   You do not need to restart the SiteScope application or the server after modifying the runtime limits.

Tuning the Java Virtual Machine

You should configure the JVM as follows for optimal performance.

To configure the JVM:

1. **Increase heap space.**

   By default, the Java heap space for SiteScope is set to 512 MB. This is insufficient for the normal operation of large instances.

   The Java heap space can be increased up to 1024 MB (this is the recommended heap size for large loads) by modifying **start-service** and **start-monitor** scripts in **<SiteScope root directory>\bin** directory.

2. **Decrease thread stack size (-Xss).**

Each thread created by SiteScope instantiates a stack with -Xss amount of allocated memory. The default UNIX JRE maximum thread stack size, -Xss, is 512 KB memory per thread.

Unless specified on the Java command line in **<SiteScope root directory>\bin\start-monitor**, the default maximum thread stack size is used. The default size can limit the number of threads by exceeding the available memory.

Instances of 4000 or more monitors can benefit from a -Xss of 128 KB.

General Maintenance Recommendations

There are general maintenance recommendations to size SiteScope on Solaris and Linux platforms.

- **Use health monitors.**

  Use health monitors with **Depends on** wherever possible, but especially for all monitors using remote UNIX connections. The health monitor can prevent server performance degradation by detecting if multiple machines become unavailable and lock SSH connection threads.

- **Minimize the use of the Verify error feature.**

  When the **Verify error** option is enabled in the **Monitor Run Settings** panel, a monitor that fails is immediately run again, bypassing the scheduler before the alert conditions are checked. Large numbers of these extra runs can significantly disrupt the scheduler and cause SiteScope performance to degrade. For monitors failing due to connection problems, verify error can take up to the connection timeout amount of time before the monitor is terminated. During this time, it locks the monitor thread and connection for 2 minutes, by default. This delay can cause other monitors to wait and the failing monitor to skip.

- **Use SSH and internal Java libraries.**

  Wherever possible, use SSH and Internal Java Libraries option when defining a remote preference with a SSH connection method. Internal Java Libraries is a third-party, Java-based, SSH client. This client significantly improves performance and scalability over Telnet and the host operating system’s SSH client. This client supports SSH1, SSH2, Public Key Authentication, and so forth.

  Make sure that connection caching is enabled (in the New/Edit Microsoft Windows/UNIX Remote Server dialog box, expand **Advanced Settings** and clear the **Disable connection caching** check box). The **Connection limit** should be adjusted to enable all monitors running against a particular server to execute in a timely manner.

- **Determine appropriate monitor frequency.**

  Check the monitor run frequency and ensure that monitors are running at an appropriate interval. For example, most disk monitors do not need to run every 5 minutes. Generally every 15, 30, or even 60 minutes is adequate for all volumes except, perhaps, /var, /tmp, and swap. Reducing monitor frequencies lowers the number of monitor runs per minute, and improves performance and capacity.

- **Optimize group structure.**

  Group structure should take into account ease of use with SiteScope, and performance optimization for SiteScope. Ideally, the number of top-level groups should be minimized as should the depth of the structure.

Performance can degrade if a group structure has more than 50 top-level groups, or if it is more than 5 levels deep.

- **Resolve SiteScope configuration errors.**

  Use the health monitors to resolve monitor configuration errors. Even a small number of errors can lead to performance and stability degradation. For more information on resolving these errors, contact HP Software Support.

- **Plan the physical location of SiteScope servers.**

  SiteScope servers should be physically located as close as possible on the local network to the machines they are monitoring. When monitoring across WAN or slow network links, the network usually becomes the bottleneck. This can require additional time for the monitors to run. It is not recommended to monitor over a WAN connection, although in some cases where the connection has sufficient capacity and low latency, this may be acceptable.

- **Use local user accounts.**

  Local user accounts are preferred over Directory Service accounts for UNIX Remote Authentication. Local user accounts avoid dependency on a Directory Service server for authentication. This ensures rapid authentication and prevents connection failures if the Directory Service server goes down.

  In some cases, very large instances of SiteScope can negatively impact the performance of the Directory Services server. It is recommended that this server be physically close to the servers being monitored.

Troubleshooting and Limitations

Problem: JVM crashes with an "out of swap space" error.

You can detect an out of swap space error by:

1. Creating a Microsoft Windows Resources monitor to monitor the virtual bytes counter on the target SiteScope server.
2. Configuring the following threshold settings:

32-bit Operating System	64-bit Operating System
Error if >= 1.9 GB Warning if >= 1.8 GB (The process crashes when its value reaches 2 GB)	Error if >= 7.9 GB Warning if >= 7.8GB (The process crashes when its value reaches 8 GB)

Solution:

1. Reduce the JVM heap size. For details on changing the JVM heap size, see "Running the Configuration Tool on Windows Platforms" on page 102.
2. Reduce the number of threads SiteScope uses by reducing the number of concurrent monitors running (in **Preferences > Infrastructure Preferences > Server Settings > Maximum monitor processes**).

Chapter 12

Uninstalling SiteScope

This chapter includes:

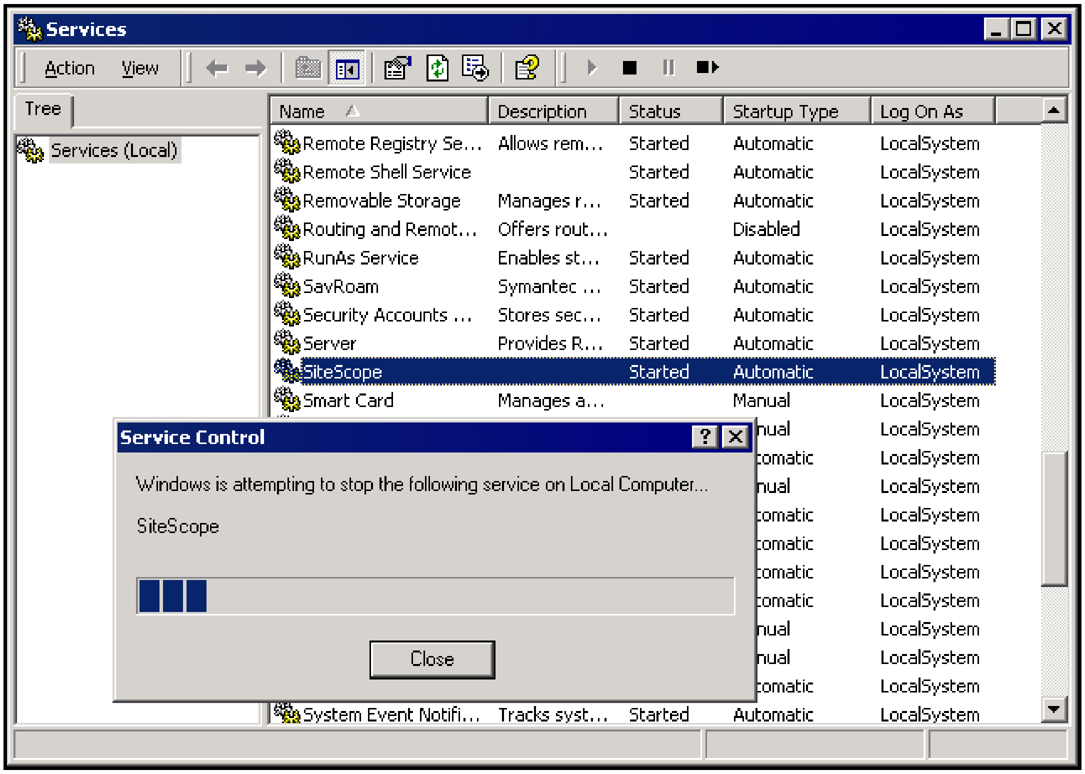
- "Uninstalling SiteScope on a Windows Platform" below
- "Uninstalling SiteScope on a Solaris or Linux Platform" on page 128

Uninstalling SiteScope on a Windows Platform

You can uninstall SiteScope from your server machine. For SiteScope running on Windows platforms, the SiteScope installation includes a program to uninstall the SiteScope software from your computer.

To uninstall SiteScope on a Windows platform:

1. Choose **Start > All Programs > Administrative Tools > Services**. The Services dialog box opens.
2. Select the SiteScope service in the list of services. If SiteScope is running, right-click to display the action menu and select **Stop**. Wait until the Status of the service indicates that it is stopped, and close the Services window.



Name	Description	Status	Startup Type	Log On As
Remote Registry Se...	Allows rem...	Started	Automatic	LocalSystem
Remote Shell Service		Started	Automatic	LocalSystem
Removable Storage	Manages r...	Started	Automatic	LocalSystem
Routing and Remot...	Offers rout...		Disabled	LocalSystem
RunAs Service	Enables st...	Started	Automatic	LocalSystem
SavRoam	Symantec ...	Started	Automatic	LocalSystem
Security Accounts ...	Stores sec...	Started	Automatic	LocalSystem
Server	Provides R...	Started	Automatic	LocalSystem
SiteScope		Started	Automatic	LocalSystem
Smart Card	Manages a...		Manual	LocalSystem
			nual	LocalSystem
			omatic	LocalSystem
			nual	LocalSystem
			omatic	LocalSystem
			omatic	LocalSystem
			omatic	LocalSystem
			omatic	LocalSystem
			nual	LocalSystem
			nual	LocalSystem
			omatic	LocalSystem
System Event Notifi...	Tracks syst...	Started	Automatic	LocalSystem

Service Control

Windows is attempting to stop the following service on Local Computer...

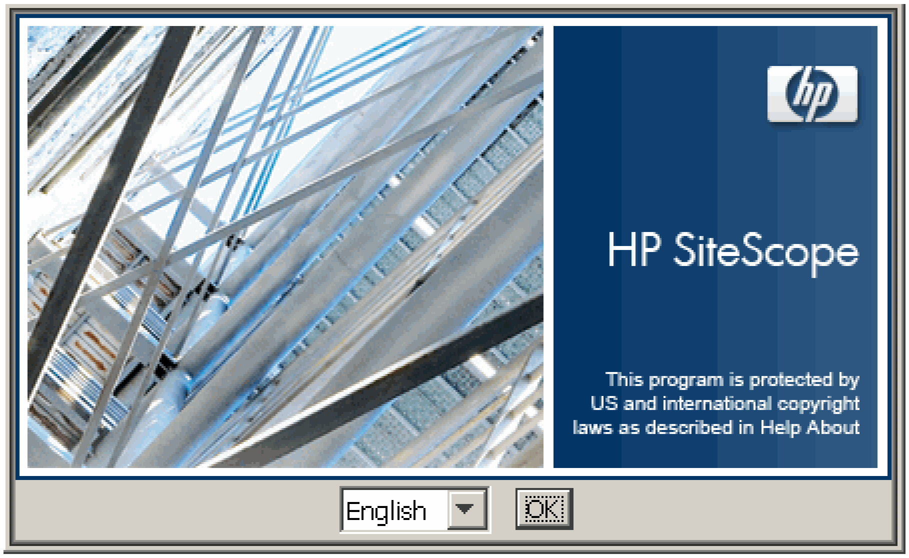
SiteScope

3. Click **Start > All Programs > HP SiteScope > Uninstall HP SiteScope** to start the HP

Software Installer.

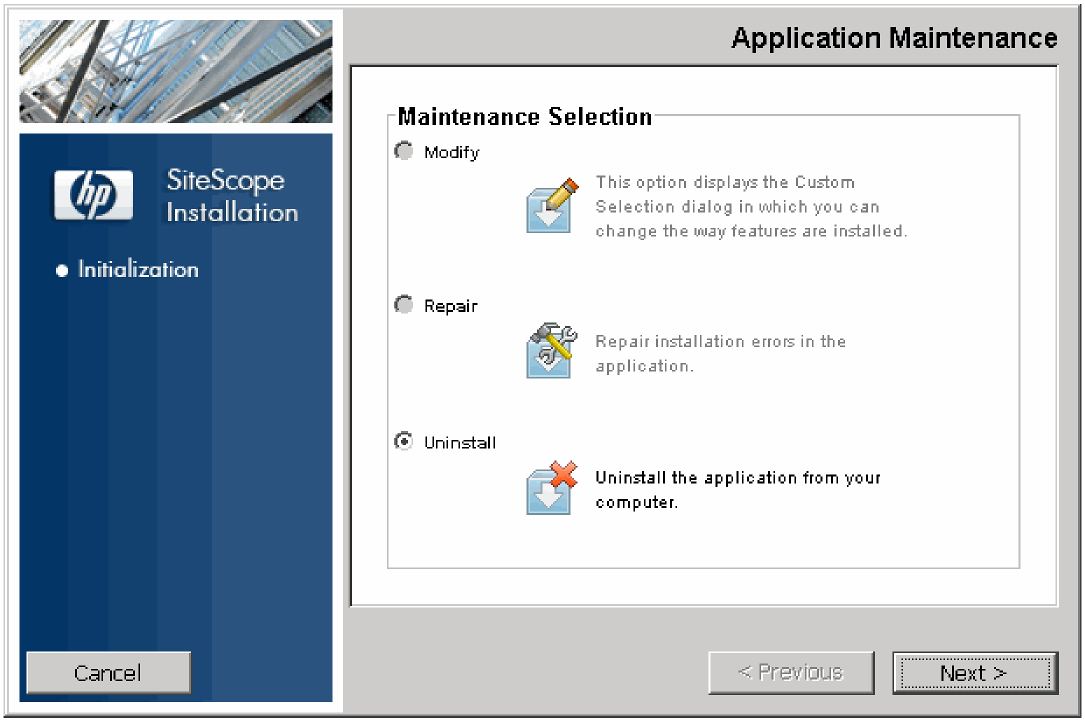
4. If the following warning appears, click **OK**.

5. On the Choose Locale screen, choose the language you want to have displayed, and click OK.



This program is protected by US and international copyright laws as described in Help About

6. On the Application Maintenance screen, Select **Uninstall** and click **Next**.



Application Maintenance

Maintenance Selection

○ Modify

This option displays the Custom Selection dialog in which you can change the way features are installed.

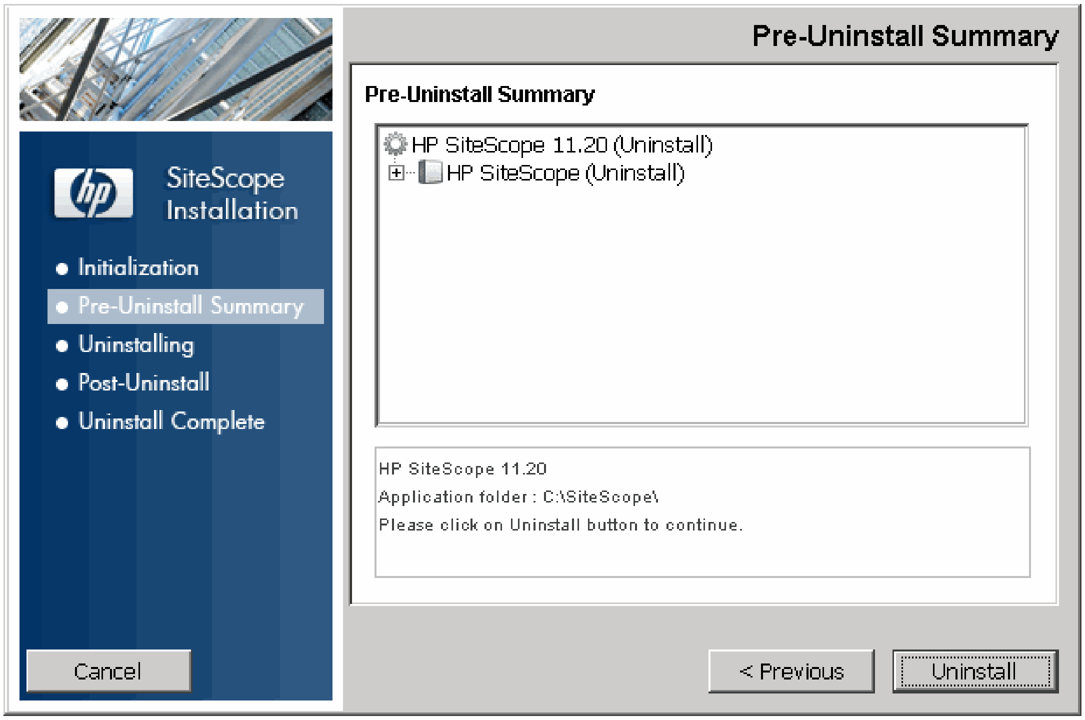
○ Repair

Repair installation errors in the application.

● Uninstall

Uninstall the application from your computer.

7. In the Pre-Uninstall Summary screen, click **Uninstall**.



Pre-Uninstall Summary

HP SiteScope 11.20 (Uninstall)
HP SiteScope (Uninstall)

HP SiteScope 11.20
Application folder : C:\SiteScope\
Please click on Uninstall button to continue.

The Installer selects and uninstalls the SiteScope software components.

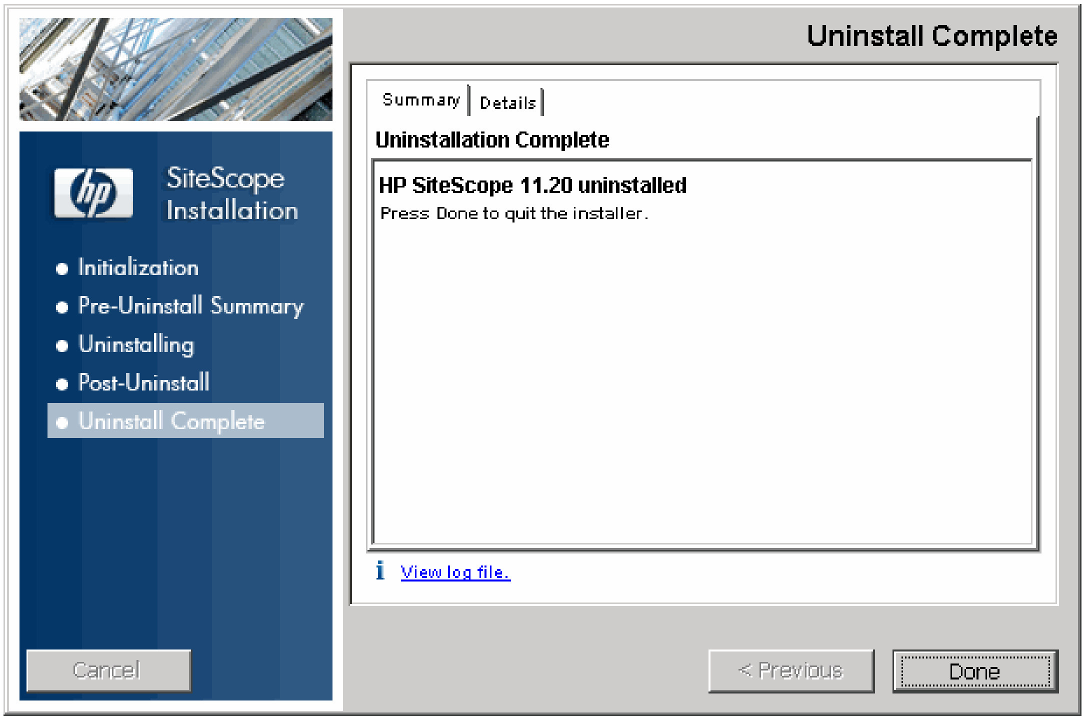
8. The HP SiteScope Configuration Wizard opens. Specify whether to uninstall the HP Operations Agent. Click **Next**.

   Each software component and its uninstallation progress are displayed on your screen during the uninstallation operation.

   > **Note:** If SiteScope is installed on the same machine as HP Operations Manager, when uninstalling SiteScope you should clear the option to uninstall the HP Operations agent.

   After the uninstallation process is complete, the Uninstall Complete window opens showing you a summary of the uninstallation process.

9. In the Uninstall Complete window, click **Done** to close the uninstallation program.



Uninstallation Complete

HP SiteScope 11.20 uninstalled

Press Done to quit the installer.

From the **View log file** link, you can access the uninstallation log file that opens in a Web browser. For details on the removed packages, click the Details tab

10. Restart your system to apply the changes made to it. Failure to restart may lead to unexpected problems for other applications.

Uninstalling SiteScope on a Solaris or Linux Platform

For SiteScope running on Solaris or Linux platforms, the SiteScope installation includes a script to uninstall the SiteScope software from your computer. If you are unable to run the script, you can delete the SiteScope files and directories manually.

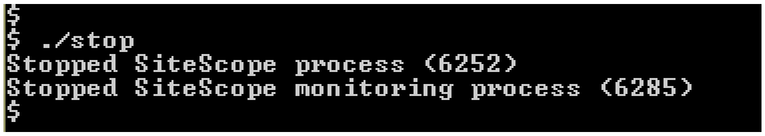
To uninstall SiteScope on a Solaris or Linux platform:

1. Log on to the machine where SiteScope is running using the account authorized to execute scripts in the SiteScope directory. Normally this should be the account under which SiteScope is running.

2. Stop SiteScope by running the stop shell script included in the **<install_path>/SiteScope** directory. An example command line to run the script is:

   ```
   SiteScope/stop
   ```

   A message is displayed indicating that SiteScope is stopped.

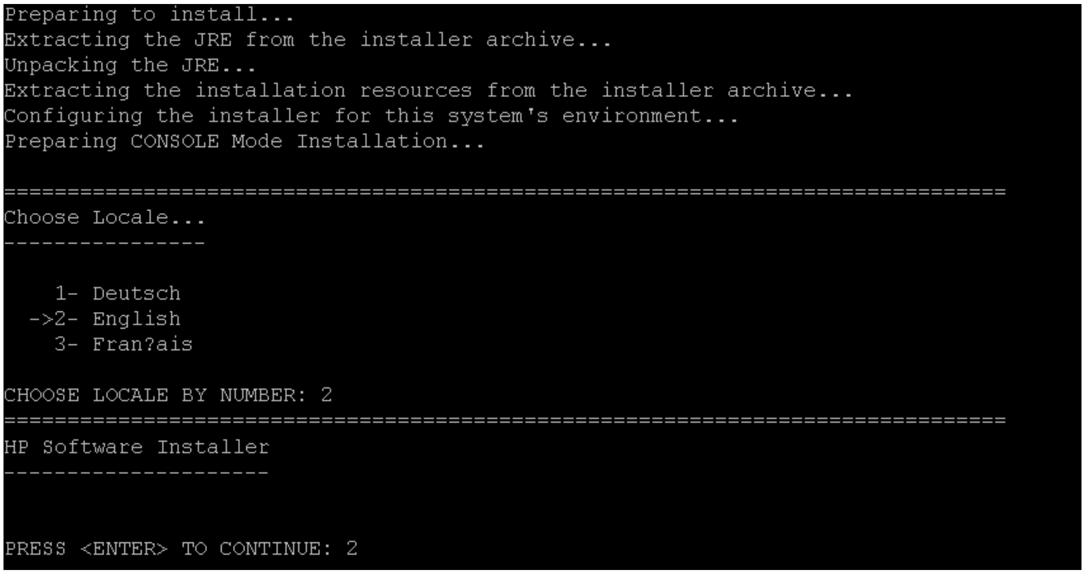
   ```
   $
   $ ./stop
   Stopped SiteScope process (6252)
   Stopped SiteScope monitoring process (6285)
   $
   ```

3. Run the uninstall command.

   If you work in X Windows mode, run the following command:
   `/opt/HP/SiteScope/installation/bin/uninstall.sh`

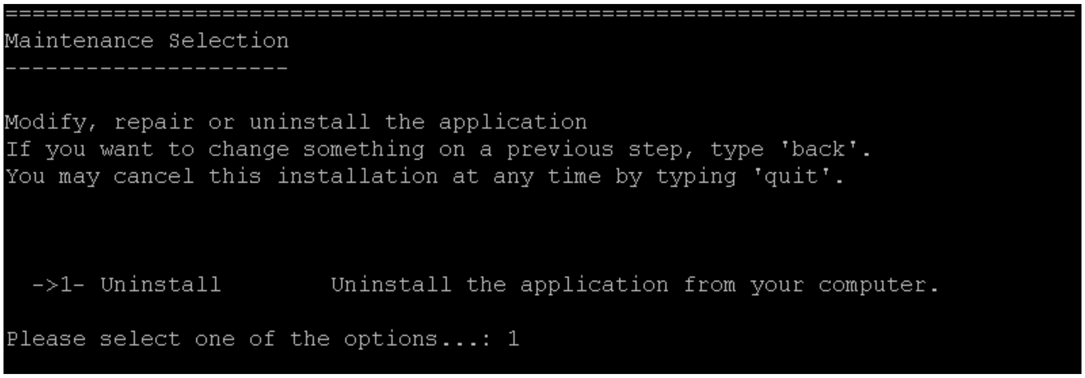
   If you work in console mode, run the command:
   `/opt/HP/SiteScope/installation/bin/uninstall.sh -i console`

4. The HP Software Installer starts. Specify the Locale and press `ENTER`.



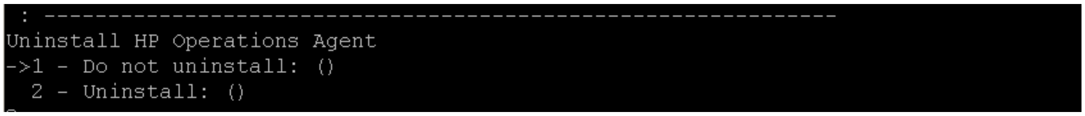
```
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Preparing CONSOLE Mode Installation...

===============================================================================
Choose Locale...
----------------

    1- Deutsch
  ->2- English
    3- Fran?ais

CHOOSE LOCALE BY NUMBER: 2
===============================================================================
HP Software Installer
---------------------



PRESS <ENTER> TO CONTINUE: 2
```

5. Type `1` and press `ENTER` to confirm that you want to uninstall SiteScope.



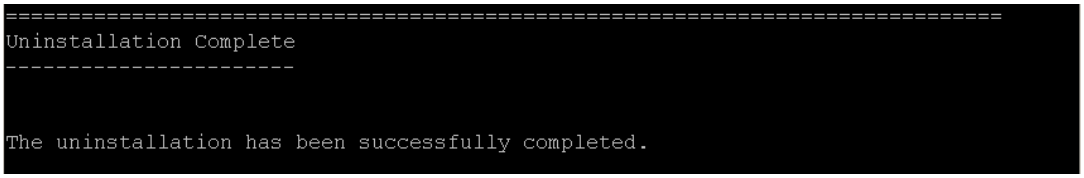
```
===============================================================================
Maintenance Selection
---------------------

Modify, repair or uninstall the application
If you want to change something on a previous step, type 'back'.
You may cancel this installation at any time by typing 'quit'.



  ->1- Uninstall        Uninstall the application from your computer.

Please select one of the options...: 1
```

6. The uninstallation process begins. If HP Operations Agent is installed, you are prompted to uninstall it. Type `2` and press `ENTER` to uninstall HP Operations Agent:



```
 : --------------------------------------------------------------
Uninstall HP Operations Agent
->1 - Do not uninstall: ()
  2 - Uninstall: ()
```

7. The package uninstall status messages are displayed and then the uninstall completes:



```
===============================================================================
Uninstallation Complete
-----------------------


The uninstallation has been successfully completed.
```

Part 4

Running SiteScope Securely

Chapter 13

Hardening the SiteScope Platform

This chapter includes:

Hardening the SiteScope Platform Overview

This chapter describes several configuration and set up options that can be used to harden the SiteScope platform.

Network and system security has become increasingly important. As a system availability monitoring tool, SiteScope might have access to some system information which could be used to compromise system security if steps are not taken to secure it. You should use the configurations and set up options in this section to protect the SiteScope platform.

> **Caution:** There are two Web servers that are active and serving two versions of the SiteScope product interface. To limit all access to SiteScope, you must apply the applicable settings to both the SiteScope Web server and the Apache Tomcat server supplied with SiteScope.

Setting SiteScope User Preferences

SiteScope user profiles are used to require a user name and password to access the SiteScope interface. After installation, SiteScope is normally accessible to any user who has HTTP access to the server on which SiteScope is running.

By default, SiteScope is installed with only one user account and this account does not have a default user name or password defined for it. This is the administrator account. You should define a user name and password for this account after installing and accessing the product. You can also create other user account profiles to control how other users may access the product and what actions they may perform. For more information on creating user accounts, see the User Management Preferences section in Using SiteScope in the SiteScope Help.

Password Encryption

All SiteScope passwords are encrypted using a method called Triple Data Encryption Standard, or TDES. TDES applies the Data Encryption Algorithm on each 64-bit block of text three successive times, using either two or three different keys. As a result, unauthorized users cannot reproduce the original password in a reasonable amount of time.

Using Secure Socket Layer (SSL) to Access SiteScope

SiteScope can be configured to use SSL to control access to the product interface. For more information, see "Configuring SiteScope to Use SSL" on page 154.

Configuring SiteScope to Send Bulk Data to the Run-time Service Model

SiteScope results can be sent to BSM’s Run-time Service Model (RTSM) either zipped or unzipped. The request includes a parameter that indicates to RTSM whether the results being sent are in zipped or unzipped format.

To send SiteScope results in a zipped format:

1. Open the following file: **<SiteScope root directory>\discovery\discovery_agent.properties**.
2. Locate the line beginning appilog.agent.probe.send.results.zipped. If the line does not exist, add it to the file.
3. Change the value to **=true**.
4. Restart SiteScope. SiteScope results are zipped before being sent to RTSM.

Chapter 14

Permissions and Credentials

This chapter contains a table of SiteScope monitors. Each monitor is listed with its corresponding protocol, the user permissions and credentials needed to access the monitor, and any further notes.

The purpose of this chapter is to provide you with basic information about the permissions needed to secure your SiteScope monitors.

Monitor Name	Protocol / Tech-nology	User Permissions and Credentials	Notes
Amazon Web Services	HTTPS	AWS AccessKey ID, AWS SecretKey	This monitor uses secret access keys provided by Amazon. User can find them at Amazon's official site under the user’s profile. The HTTP connection is secured.
Apache Server	HTTP, HTTPS	None needed unless required to access the server statistics page.	
BroadVision	Proprietary		
CheckPoint Firewall-1	SNMP	Community string.	This monitor does not support SNMP V3, so the community string passes plain text over the network. The target's SNMP agent may be configured so that the community string can only be used to read a subset of the MIB. The implication for such a configuration is that if an unauthorized person obtained the community string, he would only be able to read OIDs from the agent (but not be able to set them).

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
Cisco Works	SNMP	Community string or user name/password, depending on SNMP version.	The safest possible configuration for this monitor is running it against an agent configured to use SNMP V3 with authentication (SHA or MD5) and DES encryption for privacy. In this configuration, no unencrypted SNMP data passes over the network. This greatly reduces the risk that a malicious user could compromise the monitored device. It does not take into account security vulnerabilities from implementation bugs in the monitored device's SNMP agent. The riskiest configuration of this monitor is to use SNMP V1 with a community string that has both read and write access on the entire MIB implemented by the agent on the monitored device. In this configuration, a malicious user could obtain the community string by eavesdropping on the network, and then use that community string to reconfigure the device.
Citrix Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
ColdFusion	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
COM+	HTTP, HTTPS		

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
CPU (Windows)	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	Add the server where SiteScope is running to the Domain Admin group in Active Directory (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 enable non-admin access. For details on enabling non-admin users to remotely monitor machines with perfmon, see Microsoft Knowledge Base article 164018 (http://support.microsoft.com/kb/164018/en-us). 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 whose registry has been modified can be monitored without use of a connection profile.
CPU (Solaris/ Linux)	Telnet, SSH, rlogin	Need shell access to the remote server. It is also necessary for the logged-in user to have permissions to run specific executable programs.	It is possible to restrict logged-in users' access by using UNIX group permissions for the commands that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the **templates.os** files.
Database Counter	JDBC	User credentials are needed to authenticate access to the particular database. Each database has a particular method for providing access control to the particular tables that need to be accessed.	The user needs sufficient permission to execute any specified SQL statements.

Monitor Name	Protocol / Tech-nology	User Permissions and Credentials	Notes
Directory	Shell	Need shell access to the remote server. Supported access protocols are telnet, SSH, and rlogin. It is also necessary for the logged-in user to have permissions to run specific executable programs.	It is possible to restrict logged-in users' access by using UNIX group permissions for the commands that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the **templates.os** files.
Directory (Windows)	NetBIOS	Read-only file system access.	Permissions for specific files can be controlled at the operating system level.
Directory (Solaris/ Linux)	Telnet, SSH, rlogin	Read-only file system access to the particular files.	Permissions for specific files can be controlled at the operating system level.
Disk Space (Windows)	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	For Windows 2000, disk counters must be enabled in perfex.
Disk Space (Solaris/ Linux)	Telnet, SSH, rlogin	Need shell access to the remote server. It is also necessary for the logged-in user to have permission to run specific executable programs.	It is possible to restrict logged-in users' access by using UNIX group permissions for the commands that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the **templates.os** files.
Dynamic Disk Space (Windows)	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	For Windows 2000, disk counters must be enabled in perfex.

Monitor Name	Protocol / Tech-nology	User Permissions and Credentials	Notes
Dynamic Disk Space (Solaris/ Linux)	Telnet, SSH, rlogin	Need shell access to the remote server. It is also necessary for the logged-in user to have permission to run specific executable programs.	It is possible to restrict logged-in users' access by using UNIX group permissions for the commands that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the **templates.os** files.
F5 Big-IP	SNMP	Community string or user name/password depending on SNMP version.	The safest possible configuration for this monitor is running it against an agent configured to use SNMP V3 with authentication (SHA or MD5) and DES encryption for privacy. In this configuration, no unencrypted SNMP data passes over the network. This greatly reduces the risk that a malicious user could compromise the monitored device. It does not take into account security vulnerabilities from implementation bugs in the monitored device's SNMP agent. The riskiest configuration of this monitor is to use SNMP V1 with a community string that has both read and write access on the entire MIB implemented by the agent on the monitored device. In this configuration, a malicious user could obtain the community string by eavesdropping on the network, and then use that community string to reconfigure the device.
File (Windows)	NetBIOS, WMI	Windows permissions for read-only access to log file.	
File (Solaris/ Linux)	Telnet, SSH, rlogin	Read-only file permission to the target file system.	

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
FTP	FTP	Valid user name and password for the FTP site with read-only permission to copy the user-specified file. The customer site may permit anonymous logon.	
Generic Hypervisor	Telnet, SSH, and rlogin	Need shell access to the remote server. It is also necessary for the logged-in user to have permission to run specific executable programs.	It is possible to restrict logged-in users' access by using UNIX group permissions for the commands that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the **templates.os** files.
HAProxy	HTTP/ HTTPS	None needed for SiteScope. The server may require a valid user name and password.	
HP iLO (Integrated Lights-Out)	SSH	Should be configured by the HP iLO system administrator.	When configuring the remote server, select SSH version 2 only in the Advanced Settings pane (to make it work faster).
KVM	Telnet, SSH, and rlogin	Need shell access to the remote server. It is also necessary for the logged-in user to have permission to run specific executable programs.	It is possible to restrict logged-in users' access by using UNIX group permissions for the commands that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the **templates.os** files.
LDAP	LDAP	Valid user name and password on the LDAP server to do simple authentication. Query or search operations require appropriate permissions. Anonymous authentication also supported in version 7.9.	

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
Link Check	HTTP/ HTTPS	None needed unless the HTTP/HTTPS site requires a user name/password.	User needs sufficient permission to click on links.
Log File (Windows)	NetBIOS	Windows permissions for read-only access to log file.	
Log File (Solaris/ Linux)	Telnet, SSH, rlogin	Need shell access to the remote server. It is also necessary for the logged-in user to have permissions to run specific executable programs. Read-only file permissions to the target file system.	It is possible to restrict logged-in users' access by using UNIX group permissions for the command that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the **templates.os** files.
Mail	SMTP	A valid email account and password.	
MAPI	MAPI	User name/password of one or two email accounts to send and receive test emails.	SiteScope must run as local administrator on the SiteScope server. Test email accounts must have local administrator authority in the SiteScope server.
Memory (Windows)	NetBIOS, WMI	Same as Microsoft ASP Server monitor.	
Memory (Solaris/ Linux)	Telnet, SSH, rlogin	Need shell access to the remote server. It is also necessary for the logged-in user to have permissions to run specific executable programs.	It is possible to restrict logged-in users' access by using UNIX group permissions for the commands that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the **templates.os** files.
Memcached Statistics	TCP	None needed.	

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
Microsoft Archiving Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft A/V Conferencing Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft ASP Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft Director Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
Microsoft Edge Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft Front End Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft IIS Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft Mediation Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
Microsoft Monitoring and CDR Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft Registrar Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft SQL Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft Windows Dialup	MODEM	User name/password to the ISP account being contacted. The account needs sufficient authority to execute its specified test monitors.	
Microsoft Windows Event Log	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
Microsoft Windows Media Player	Telnet, SSH, rlogin	Read-only file permission to the target file system.	
Microsoft Windows Media Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft Windows Performance Counter	NetBIOS	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Microsoft Windows Resources	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.

Monitor Name	**Protocol / Technology**	**User Permissions and Credentials**	**Notes**
Network Bandwidth	SNMP	Community string or user name/password depending on SNMP version.	The safest possible configuration for this monitor is running it against an agent configured to use SNMP V3 with authentication (SHA or MD5) and DES encryption for privacy. In this configuration no unencrypted SNMP data passes over the network. This greatly reduces the risk that a malicious user could compromise the monitored device. It does not take into account security vulnerabilities from implementation bugs in the monitored device's SNMP agent. The riskiest configuration of this monitor is to use SNMP V1 with a community string that has both read and write access on the entire MIB implemented by the agent on the monitored device. In this configuration, a malicious user could obtain the community string by eavesdropping on the network, and then use that community string to reconfigure the device.
News	NNTP	A valid user name and password if the news server requires it, with read-only permission to query total number of messages in the news groups.	
Oracle 9i Application Server	HTTP/ HTTPS		
Oracle Database	JDBC	An Oracle user logs in with the ability to execute all the SQL statements found in **<SiteScope root directory>\templates.applications\commands.oraclejdbc**.	

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
Ping	ICMP	N/A	
Port	TCP	N/A	
Radius	Radius	A valid user name and password on the Radius server. No other permissions are needed.	SiteScope’s IP must be added to the list of servers enabled to communicate with the Radius server. It must also be configured to do PAP authentication.
Real Media Player	Telnet, SSH, rlogin	Read-only file permission on the target file system.	
Real Media Server	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
SAP CCMS	Proprietary	XMI authorization.	Profiles that have XMI authorization are S_A.SYSTEM, PD_CHICAGO, S_WF_RWTEST, and SAP_ALL.
SAP CCMS Alert	Proprietary		
SAP Performance or SAP Work Processes	Proprietary		
Script (Windows)	Telnet, SSH, rlogin	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.

Monitor Name	Protocol / Tech-nology	User Permissions and Credentials	Notes
Script (Solaris/ Linux)	Telnet, SSH, rlogin	Need shell access to the remote server. It is also necessary for the logged-in user to have permissions to run specific executable programs.	It is possible to restrict logged-in users' access by using UNIX group permissions for the commands that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the **templates.os** files.
Script on local machine (Solaris, Linux and Windows)	Telnet, SSH, rlogin/ NetBIOS	Read-only file permission to the target file system.	
Service (Windows)	NetBIOS, WMI	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on page 152).	See notes in "Monitoring Performance Objects on Windows" on page 152.
Service (Solaris/ Linux)	Telnet, SSH, rlogin	Need shell access to the remote server. It is also necessary for the logged-in user to have permissions to run specific executable programs.	It is possible to restrict logged-in users' access by using UNIX group permissions for the commands that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the templates.os files.
Siebel Application Server (previously Siebel Server Manager)	CmdLine	User account must have Siebel Administrator Responsibility privileges to issue Siebel server manager (srvrmgr) commands.	If the srvrmgr client is remote then a Remote (Windows or UNIX) must be set up with the appropriate user name and password credentials for executing the remote srvrmgr command.
Siebel Log	Telnet, SSH, rlogin	File read-only permission to the target Siebel server file system.	

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
Siebel Web Server	HTTP/ HTTPS	User name and password are needed if target Siebel Extensions Page is behind third-party, HTML, form-based authentication software.	User must have permission to retrieve the Siebel SWE page.
SNMP	SNMP	Community string or user name/password, depending on the SNMP version.	The safest possible configuration for this monitor is running it against an agent configured to use SNMP V3 with authentication (SHA or MD5) and DES encryption for privacy. In this configuration, no unencrypted SNMP data passes over the network. This greatly reduces the risk that a malicious user could compromise the monitored device. It does not take into account security vulnerabilities from implementation bugs in the monitored device's SNMP agent. The riskiest configuration of this monitor is to use SNMP V1 with a community string that has both read and write access on the entire MIB implemented by the agent on the monitored device. In this configuration, a malicious user could obtain the community string by eavesdropping on the network, and then use that community string to reconfigure the device.

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
SNMP by MIB	SNMP	Community string or user name and password, depending on the SNMP version.	The safest possible configuration for this monitor is running it against an agent configured to use SNMP V3 with authentication (SHA or MD5) and DES encryption for privacy. In this configuration, no unencrypted SNMP data passes over the network. It greatly reduces the risk that a malicious user could compromise the monitored device. It does not take into account security vulnerabilities from implementation bugs in the monitored device's SNMP agent. The riskiest configuration of this monitor is to use SNMP V1 with a community string that has both read and write access on the entire MIB implemented by the agent on the monitored device. In this configuration, a malicious user could obtain the community string by eavesdropping on the network, and then use that community string to reconfigure the device.
SNMP Trap	SNMP	None, although permissions to configure agents on the network to send traps to SiteScope are required. SiteScope must be running as a privileged user so that it can bind to port 162, a reserved port.	The security risk associated with SNMP V1 and V2 traps is that a malicious user could eavesdrop on the data that is passed in the traps. Using V3 traps with authentication and privacy greatly reduces the chance that data can be used maliciously by eavesdroppers.
SunONE	HTTP/ HTTPS	None, unless using a proxy that requires authentication.	

Monitor Name	Protocol / Technology	User Permissions and Credentials	Notes
Syslog	Telnet, SSH, rlogin	Need shell access to the remote server. It is also necessary for the logged-in user to have permissions to run specific executable programs. Read-only file permissions to the target file system.	It is possible to restrict logged-in users' access by using UNIX group permissions for the command that SiteScope would run. A list of the relevant commands for a particular operating system can be found in the **templates.os** files.
Tuxedo	Proprietary	PeopleSoft Tuxedo comes with two preconfigured users, **PS** and **VP**, that are monitor-only accounts. No other user can be created or used for SiteScope monitoring.	
URL	HTTP/ HTTPS	None needed for SiteScope. The server may require a valid user name and password.	
URL Content	HTTP/ HTTPS	None needed for SiteScope. The server may require a valid user name and password.	
URL List	HTTP/ HTTPS	None needed for SiteScope. The server may require a valid user name and password.	
URL Sequence	HTTP/ HTTPS	None needed for SiteScope. The server may require a valid user name and password.	

Monitor Name	Protocol / Tech- nology	User Permissions and Credentials	Notes
VMware Datastore	HTTPS	Valid username and password for vCenter	User needs sufficient permissions to view datacenters, datastores, and vmdisks. For vmdisks, user should have Datastore browsable permissions. These monitors also require importing server certificates from vCenter. This can be done using Certificate Management in SiteScope (either before or during monitor configuration, using the Import Certificate option).
VMware Host CPU/ Memory/ Storage/ Network/ State	HTTPS	Valid username and password for vCenter/Host.	User needs sufficient permissions to view hosts and VMs. These monitors also require importing server certificates from vCenter/Host. This can be done manually or by using Certificate Management in SiteScope (either before or during monitor configuration, using the Import Certificate option).
Web Server	NetBIOS	Specific access permissions are required for monitoring performance objects on Windows (see "Monitoring Performance Objects on Windows" on next page).	See notes in "Monitoring Performance Objects on Windows" on next page.
Web Server (Solaris, Linux and Windows)	Telnet, SSH, rlogin	Read-only file permission to the target file system.	
Web Service	HTTP/ HTTPS	Supports basic, digest, and NTLM authentication if required by the target Web service.	
WebLogic Application Server 5.x	SNMP	Community string credential must match the string in the SNMP agent.	

Monitor Name	Protocol / Tech-nology	User Permissions and Credentials	Notes
WebLogic Application Server 6.x and later	RMI	Requires a user that belongs to a group with at least monitor role privilege.	
WebSphere Application Server (SOAP over HTTP)	HTTP/ HTTPS	Requires a user that has or belongs to a group with at least the monitor role privilege.	
WebSphere MQ Status	Proprietary	SiteScope account must be a member of mqm group in the MQ Windows server. In MQ UNIX, the server connection channel used must not require SSL authentication.	
WebSphere Performance Servlet	HTTP/ HTTPS	HTTP authentication through user name and password to the URL of the servlet. Credentials can be customized by the user.	

Monitoring Performance Objects on Windows

User Permissions and Credentials

Monitoring performance objects on Windows requires that a user have specific access permissions as described in the Microsoft Knowledge Base for article 300702 (http://support.microsoft.com/kb/300702/en-us) and article 164018 (http://support.microsoft.com/kb/164018/en-us).

These articles describe the permissions and security policies that should be granted to the user on the monitored server.

Notes:

- **Perfmon User.** A user that was granted the required privileges to be able to monitor performance objects on Windows servers.

The **Performance Monitor Users** (on Windows 2000 and Windows 2003), **Power Users**, and **Administrators** groups on Windows servers are already associated with the set of permissions and security policies that are required for a Perfmon User. Any user that belongs to these groups has all required permissions to monitor the performance objects and automatically becomes a Perfmon User. The **Performance Monitor Users** group contains the exact set of privileges whereas the **Power Users** and **Administrators** groups are associated with multiple additional privileges that are not required for performance monitoring.

- **SiteScope User.** The user that the SiteScope service logs on as.

  For SiteScope monitors to be able to collect perfmon data from remote servers, connections must be established to these servers using the credentials of a user defined as a Perfmon User. These connections can be established with the following options:

  - Configure the SiteScope user to be a domain user that is also a user on the remote machines.
  - Where the SiteScope User is not defined as a Perfmon User on remote machines, a Remote NT object must be configured in SiteScope using the credentials of a user that is defined as a Perfmon User on the remote machine. Monitors are then configured to use the Remote NT object.

Chapter 15

Configuring SiteScope to Use SSL

This chapter includes:

Using SSL in SiteScope Overview

SiteScope can be configured to use Secure Sockets Layer (SSL) to restrict access to the SiteScope interface. You set a SiteScope server to support SSL by configuring the Web server used to serve the SiteScope interface to support SSL. You do this by importing a digital certificate to a key store file and then changing server configuration settings to have SiteScope only respond to HTTPS requests. SiteScope can also be configured to connect to a BSM server that requires SSL with or without a client certificate.

Caution: To limit all access to SiteScope to HTTPS client connections, you must configure both the SiteScope Web server and the Tomcat server supplied with SiteScope to use SSL using the steps in this chapter.

Preparing SiteScope for Using SSL

SiteScope is shipped with **Keytool.exe**. Keytool is a key and certificate management utility. It enables users to administer their own public/private key pairs and associated certificates for authentication using digital signatures. It also enables users to cache the public keys of other persons and organizations they communicate with. This is installed in the **<SiteScope install path>\SiteScope\java\bin** directory.

Caution: When you create, request, and install a digital certificate, make a note of the parameters and command line arguments that you use in each step of the process. It is very important that you use the same values throughout the procedure.

> **Note:** To prepare the SiteScope Classic interface for use with SSL, you must configure both the Tomcat server (see "Configuring SiteScope for SSL" on page 157) and the classic interface engine (refer to the instructions in "Accessing SiteScope via HTTPS Using the Classic SiteScope User Interface" on page 192).

You can find out more about keytool at the Sun Microsystems Web site (http://java.sun.com/j2se/1.3/docs/tooldocs/win32/keytool.html).

This section includes the following topics:

- "Using a Certificate from a Certificate Authority" below
- "Using a Self-Signed Certificate" on page 157

Using a Certificate from a Certificate Authority

You can use a digital certificate issued by a certificate authority. To use this option, you need a digital certificate that can be imported into the key storage file used by keytool. If your organization does not currently have a digital certificate for this purpose, you need to make a request to a certificate authority to issue you a certificate.

You use the following steps to create a KeyStore file and a digital certificate request.

To create a certificate request file for a certificate authority:

1. Remove the **serverKeystore** file that is located in the **<SiteScope root directory>\groups directory**. You can delete it or simply move it to a different directory.

2. Create a key pair by running the following command line from the **<SiteScope root directory>\java\bin directory**:

   ```
   keytool -genkey -dname "CN=www.yourDomain.com, OU=yourDepartment,
   O=yourCompanyName, L=yourLocation, ST=yourState, C=yourCountryCode"
   -alias yourAlias -keypass keypass -keystore
   ..\..\groups\serverKeystore -storepass keypass -keyalg "RSA" -
   validity valdays
   ```

   > **Note:**
   > - This command and all others you use must be entered on a single line. The line is divided here to fit on this page.
   > - The private key password and keystore password must be the same to avoid getting an "IOException: Cannot recover key" error.

   This command creates a file called **serverKeystore** in the **<SiteScope root directory>\groups directory**. SiteScope uses this file to store the certificates used in your secure sessions. Make sure you keep a backup copy of this file in another location.

   Guidelines and Limitations

- The value of a `-dname` option must be in the following order where the italicized values are replaced by values of your choosing. The keywords are abbreviations for the following:

  `CN` = commonName - Common name of a person (for example, `Warren Pease`)

  `OU` = organizationUnit - Small organizational unit (for example, `NetAdmin`)

  `O` = organizationName - Large organization name (for example, `ACMe-Systems, Inc.`)

  `L` = localityName - Locality (city) name (for example, `Palo Alto`)

  `ST` = stateName - State or province name (for example, `California`)

  `C` = country - Two-letter country code (for example, `US`)

- The subcomponents within the `-dname` (distinguished name string) variable are case-insensitive and they are order-sensitive, although you do not have to include all of the subcomponents. The `-dname` variable should represent your company and the `CN` is the domain name of the Web server on which SiteScope is installed.

- The value of `-storepass` is a password used to protect the KeyStore file. This password must be at least 6 characters long. You need to use this password to import to and remove certificate data from the KeyStore file.

- The `-alias` variable is an alias or nickname you use to identify an entry in your KeyStore.

3. Create a certificate request for this keystore by running the following command from the **<SiteScope root directory>\java\bin** directory:

   ```
   keytool -certreq -alias yourAlias -file ..\..\groups\sis.csr -
   keystore ..\..\groups\serverKeystore -storepass passphrase
   ```

   This command creates a file named sis.csr in the **<SiteScope root directory>\groups** directory. Use this file to request certificate from your certificate authority.

   After you receive your certificate from a certificate authority (the reply message should include a file called **cert.cer**), you need to import this certificate into the KeyStore file you created using the steps above. The file should be called **serverKeystore**. You use the following steps to import the certificate for use with SiteScope.

To import a certificate from a certificate authority:

1. Import the certificate data into the KeyStore file by running the following command from the **<SiteScope root directory>\java\bin** directory:

   ```
   keytool -import -trustcacerts -alias yourAlias -file cert.cer -
   keystore ..\..\groups\serverKeystore
   ```

2. To change **SiteScope** to use a secure connection, you need to add or modify certain settings or configuration files in **SiteScope**. For details, see "Configuring SiteScope for SSL" on next page.

Using a Self-Signed Certificate

Alternatively, you can generate a self-signed certificate for use with SiteScope. To do this, you use the `-selfcert` option to have the Keytool utility generate a self-signed certificate using the following steps.

To use a self-signed certificate:

1. Remove the **serverKeystore** file that is located in the **<SiteScope root directory>\groups** directory. You can delete it or simply move it to a different directory.

2. Run the following command from the **<SiteScope root directory>\java\bin** directory. The values in italics are variables that you fill in with information specific to your organization.

   ```
   keytool -genkey -dname "CN=www.yourDomain.com, OU=yourDepartment,
   O=yourCompanyName, L=yourLocation, ST=yourState, C=yourCountryCode"
   -alias yourAlias -keypass keypass -keystore
   ..\..\groups\serverKeystore -storepass passphrase -keyalg "RSA" -
   validity valdays
   ```

   Note: This command and all others you use must be entered on a single line. The line is divided here to fit on this page.

3. Run the following command, also from the **<SiteScope root directory>\java\bin** directory:

   ```
   keytool -selfcert -alias yourAlias -sigalg "MD5withRSA" -keypass
   password -dname "CN=www.yourDomain.com, OU=yourDepartment,
   O=yourCompanyName, L=yourLocation, ST=yourState, C=yourCountryCode"
   -keystore ..\..\groups\serverKeystore
   ```

4. To change SiteScope to use a secured connection, you need to add or modify certain settings or configuration files in SiteScope. For details, see "Configuring SiteScope for SSL" below.

5. Optionally, you can export the certificate for use in BSM by running the following command:

   ```
   keytool -exportcert -alias yourAlias -file <SiteScope root
   directory>\certificate_name.cer -keystore
   ..\..\groups\serverKeystore
   ```

   When prompted, enter your keystore password.

Configuring SiteScope for SSL

To enable SSL on Tomcat you need to make changes to the configuration files used by the Tomcat server.

1. Open the **server.xml** file that is located in the **<SiteScope root directory>\Tomcat\conf** directory.

2. Locate the section of the configuration file that looks like the following:

   ```
   <!-- Define a SSL Coyote HTTP/1.1 Connector on port 8443 -->
   ```

```
<!--
<Connector port="8443"
maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
enableLookups="false" disableUploadTimeout="true"
acceptCount="100" debug="0" scheme="https" secure="true"
clientAuth="false" sslProtocol="TLS" />
-->
```

3. Change this section to the following:

```
<!-- Define a SSL Coyote HTTP/1.1 Connector on port 8443 -->

<Connector port="8443"
maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
enableLookups="false" disableUploadTimeout="true"
acceptCount="100" debug="0" scheme="https" secure="true"
clientAuth="false" sslProtocol="TLS"
keystoreFile="<SiteScope_install_
path>\SiteScope\groups\serverKeystore"
keystorePass="testing"
/>
```

   Where `<SiteScope_install_path>` is the path to your SiteScope installation.

   Note:

   - If there are other HP products installed on the same server as SiteScope, you might need to change port 8443 to another port to avoid conflict.
   - Tomcat log output is written to the **<SiteScope root directory>\logs\tomcat.log** file. Settings for the log file can be configured from the **<SiteScope root directory>\Tomcat\common\classes\log4j.properties** file.

   By default, Tomcat looks for a **.keystore** file in the SiteScope user's home directory.

   For more information on enabling SSL for the Tomcat server, see http://tomcat.apache.org/tomcat-5.5-doc/ssl-howto.html.

4. After enabling Tomcat to use SSL using this example, the SiteScope interface is available at a URL with the following syntax:

   `https://<SiteScope_server>:8443/SiteScope` (the link is case sensitive)

Configuring SiteScope for Mutual SSL Configuration

Perform the following steps if the SiteScope server requires a client certificate from the client.

1. SiteScope should be configured with SSL For details, see "Configuring SiteScope for SSL" on previous page.

2. Configure the Tomcat server to request a client certificate by locating the following section of the **<SiteScope root directory>\Tomcat\conf\server.xml** configuration file:

   ```
   <Connector port="8443"
          maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
          enableLookups="false" disableUploadTimeout="true"
          acceptCount="100" debug="0" scheme="https" secure="true"
          sslProtocol="TLS"
          keystoreFile="..\groups\serverKeystore"
          keystorePass="changeit"
   ```

   and adding the following attributes, and changing `clientAuth="true"`:

   ```
           truststoreFile="..\java\lib\security\cacerts"
          truststorePass="changeit"
          truststoreType="JKS"
          clientAuth="true"
   />
   ```

3. Import your client certificate or certificate of your certificate authority to the SiteScope trustStore (**<SiteScope root directory>\java\lib\security\cacerts**) by running the command:

   ```
   C:\SiteScope\java\>keytool -import -trustcacerts -alias <your
   alias> -keystore ..\lib\security\
      cacerts -file <certificate file>
   ```

4. Create a client certificate, or use an existing one to import it to the browser.

5. Restart SiteScope, and access it using the following link:

   `https://<server>:8443/SiteScope` (the link is case sensitive)

   Note:

   Calls to the SiteScope SOAP API also require a certificate. Add the following to your Java code to respond with a client certificate:

   ```
   System.setProperty("javax.net.ssl.keyStore",<pathname to client
   certificate keystore in JKS format>);
   ```

   ```
   System.setProperty("javax.net.ssl.keyStorePassword", <password
   of client certificate keystore>);
   ```

   (Optional) `System.setProperty("javax.net.ssl.trustStore", <pathname to truststore in JKS format>);`

   or use the following JVM arguments:

   ```
   -Djavax.net.ssl.keyStore=<pathname to client certificate
   keystore in JKS format>
   ```

   ```
   -Djavax.net.ssl.keyStorePassword=<password of client certificate
   keystore>
   ```

> (Optional) `-Djavax.net.ssl.trustStore=<pathname to truststore in JKS format>`

Configuring SiteScope to Connect to BSM Server With SSL Deployment

To connect SiteScope to a BSM server with an SSL deployment, perform the following:

1. Connect to the SiteScope server.
2. Import the CA or BSM server certificate into SiteScope using Certificate Management in the SiteScope user interface. For details, see the Certificate Management section in Using SiteScope in the SiteScope Help.
3. If BSM is configured with a load balancer, import the certificates of Load Balance Core and Center URLs into SiteScope using Certificate Management in the SiteScope user interface. For details, see the Certificate Management section in Using SiteScope in the SiteScope Help.
4. For details on how to import the certificate into BSM, see the Using SSL with SiteScope section in the BSM Hardening Guide in the BSM Documentation Library.

Configuring SiteScope to Connect to a BSM Server That Requires a Client Certificate

To connect SiteScope to a BSM server that requires a client certificate, perform the following:

1. Connect to the SiteScope server.
2. Import the CA or BSM server certificate into SiteScope using Certificate Management in the SiteScope user interface. For details, see the Certificate Management section in Using SiteScope in the SiteScope Help.

   > **Note:** The machine name in the certificate must be a fully qualified domain name that is exactly the same name (case sensitive) as the one used in the New SiteScope page in System Availability Management Administration (in step 14).

3. If you obtained the client certificate in JKS format, copy it to the **<SiteScope root directory>\templates.certificates** folder, and then continue from step 11.

   > **Note:**
   >
   > - Make sure that the private key password is at least 6 characters long, and that the private key and keystore passwords are the same.
   > - In addition, make sure that the above keystore contains the CA certificate that issued it.

   Otherwise, perform the steps below (if you did not obtain the client certificate in JKS format).

4. Create a keystore under **<SiteScope root directory>/templates.certificates** by running the

following command from the **<SiteScope root directory>\java\bin** directory:

```
keytool -genkey -keyalg RSA -alias sis -keystore
<SiteScope root directory>\templates.certificates\.ks -storepass
<your_keystore_password>
```

Example:

```
keytool -genkey -keyalg RSA -alias sis -keystore
C:\SiteScope\templates.certificates\.ks -storepass changeit
What is your first and last name?
[Unknown]: domain.name
What is the name of your organizational unit?
[Unknown]: dept
What is the name of your organization?
[Unknown]: XYZ Ltd
What is the name of your City or Locality?
[Unknown]:  New York
What is the name of your State or Province?
[Unknown]:  USA
What is the two-letter country code for this unit?
[Unknown]:  US
Is CN=domain.name, OU=dept, O=XYZ Ltd, L=New York, ST=USA, C=US
correct?
[no]:  yes

Enter key password for <SiteScope>
```

Press `ENTER` to use the same password as the keystore password.

5. Create a certificate request for this keystore by running the following command from the **<SiteScope root directory>\java\bin** directory:

   ```
   keytool -certreq -alias sis -file c:\sis.csr -keystore
   <SiteScope root directory>\templates.certificates\.ks -storepass
   <your_keystore_password>
   ```

   Example:

   ```
   keytool -certreq -alias sis -file c:\sis.csr -keystore
   C:\SiteScope\templates.certificates\.ks -storepass changeit
   ```

6. Have your certificate authority sign the certificate request. Copy/paste the contents of the **.csr** file into your Certificate Authority Web form.

7. Download the signed client certificate in BASE-64 format to **<SiteScope root directory>\templates.certificates\clientcert.cer**.

8. Download the certificate authority certificate in BASE-64 format to `c:\`.

9. Import the certificate authority certificate into the JKS keystore by running the following command:

```
keytool -import -alias ca -file c:\ca.cer -keystore
<SiteScope root directory>\templates.certificates\.ks -storepass
<your_keystore_password>
```

Example:

```
keytool -import -alias ca -file c:\ca.cer -keystore
C:\SiteScope\templates.certificates\.ks -storepass changeit
Owner: CN=dept-CA, DC=domain.name
Issuer: CN=dept-CA, DC=domain.name
Serial number: 2c2721eb293d60b4424fe82e37794d2c
Valid from: Tue Jun 17 11:49:31 IDT 2008 until: Mon Jun 17
11:57:06 IDT 2013
Certificate fingerprints:
MD5:  14:59:8F:47:00:E8:10:93:23:1C:C6:22:6F:A6:6C:5B
SHA1:
17:2F:4E:76:83:5F:03:BB:A4:B9:96:D4:80:E3:08:94:8C:D5:4A:D5
Trust this certificate? [no]:  yes
Certificate was added to keystore
```

10. Import the client certificate into the keystore by running the following command:

```
keytool -import -alias sis -file
<SiteScope root directory>\templates.certificates\certnew.cer -
keystore
<SiteScope root directory>\templates.certificates\.ks -storepass
<your_keystore_password>
```

Example:

```
keytool -import -alias sis -fil
c:\SiteScope\templates.certificates\certnew.cer -keystore
C:\SiteScope\templates.certificates\.ks -storepass changeit
```

The certificate reply is installed in the keystore **<SiteScope root directory>\java\bin** directory.

11. Check the keystore contents by running the following command from the **<SiteScope root directory>\java\bin** directory, and enter the keystore password:

```
keytool -list -keystore <SiteScope root
directory>\templates.certificates\.ks
```

Example:

```
keytool -list -keystore C:\SiteScope\templates.certificates\.ks
Enter keystore password:  changeit

Keystore type: jks
Keystore provider: SUN
```

```
Your keystore contains 2 entries
ca, Mar 8, 2009, trustedCertEntry,
Certificate fingerprint (MD5):
14:59:8F:47:00:E8:10:93:23:1C:C6:22:6F:A6:6C:5B
sis, Mar 8, 2009, keyEntry,
Certificate fingerprint (MD5):
C7:70:8B:3C:2D:A9:48:EB:24:8A:46:77:B0:A3:42:E1

C:\SiteScope\java\bin>
```

12. To use this keystore for client certificate, add the following lines to the **<SiteScope root directory>\groups\master.config** file:

    `_urlClientCert=<keystoreName>`

    `_urlClientCertPassword=<keystorePassword>`

    Example:

    ```
    _urlClientCert=.ks
    _urlClientCertPassword=changeit
    ```

13. In SiteScope **Preferences > Integration Preferences > BSM Preferences Available Operations**, click **Reset** to delete all BSM related settings from the SiteScope server and all SiteScope configurations from BSM.

14. In BSM, select **Admin > System Availability Management Administration**, and click the **New SiteScope** button to add the SiteScope instance.

    Note: If the connection between SiteScope and BSM fails, check the **<SiteScope root directory>\log\bac_integration.log** for errors.

Configuring the Topology Discovery Agent in SiteScope When BSM Server Requires a Client Certificate

After configuring SiteScope to connect to the BSM Gateway server using a client certificate (see "Configuring SiteScope to Connect to a BSM Server That Requires a Client Certificate" on page 160), you need to perform the following steps for discovery to report topology to the BSM server.

1. Create a folder named **security** in **<SiteScope root directory>\WEB-INF\classes** (if it does not exist).
2. Move **MAMTrustStoreExp.jks** and **ssl.properties** from **<SiteScope root directory>\WEB-INF\classes** to the **<SiteScope root directory>\WEB-INF\classes\security** folder.
3. Import the CA certificate (or BSM server certificate) into the discovery trust store (**MAMTrustStoreExp.jks**) with password (the default password for the discovery trust store is

logomania, which encrypted, is: [22,-8,116,-119,-107,64,49,93,-69,57,-13,-123,-32,-114,-88,-61]):

```
keytool -import -alias <your_CA> -keystore <SiteScope root
directory>\WEB-INF\classes\security\MAMTrustStoreExp.jks -storepass
<your_keystore_password>
```

Example:

```
keytool -import -alias AMQA_CA -file c:\ca.cer -keystore
C:\SiteScope\WEB-INF\classes\security\MAMTrustStoreExp.jks -
storepass logomania
```

Note: The private key password must be at least 6 characters, and the password for the private key and password for the keystore must be the same.

4. Check the contents of trustStore using the following command:

```
<SiteScope root directory>\java\bin>keytool -list -keystore
<SiteScope root directory>\WEB-
INF\classes\security\MAMTrustStoreExp.jks -storepass <your_
keystore_password>
Keystore type: <Keystore_type>
Keystore provider: <Keystore_provider>
Your keystore contains 2 entries mam, Nov 4, 2004,
trustedCertEntry,Certificate fingerprint (MD5):
<Certificate_fingerprint> amqa_ca, Dec 30, 2010, trustedCertEntry,
Certificate fingerprint (MD5):
<Certificate_fingerprint>
```

Example:

```
C:\SiteScope\java\bin>keytool -list -keystore C:\SiteScope\WEB-
INF\classes\security\MAMTrustStoreExp.jks -storepass logomania

Keystore type: JKS
Keystore provider: SUN

Your keystore contains 2 entries

mam, Nov 4, 2004,trustedCertEntry,
Certificate fingerprint (MD5):
C6:78:0F:58:32:04:DF:87:5C:8C:60:BC:58:75:6E:F7
amqa_ca, Dec 30, 2010, trustedCertEntry,
Certificate fingerprint (MD5):
5D:47:4B:52:14:66:9A:6A:0A:90:8F:6D:7A:94:76:AB
```

5. Copy the SiteScope client keyStore (.ks) from **<SiteScope root directory>\templates.certificates** to **<SiteScope root directory>SiteScope\WEB-INF\classes\security\**.

6. In the **ssl.properties** file, update the **javax.net.ssl.keyStore** property to the keyStore name. For example, `javax.net.ssl.keyStore=.ks`.

7. Change the SiteScope client keyStore password to match the Discovery password for keystore (default is `logomania`).

   ```
   keytool -storepasswd -new <Discovery_keystore_password> -keystore
   <SiteScope root directory>\WEB-INF\classes\security\.ks -storepass
   <your_keystore_password>
   ```

   Example:

   ```
   keytool -storepasswd -new logomania -keystore C:\SiteScope\WEB-
   INF\classes\security\.ks -storepass changeit
   ```

8. Change private key password to match Discovery password for keyStore:

   ```
   keytool -keypasswd -alias sis -keypass <your_keystore_password> -
   new <Discovery_keystore_password> -keystore <SiteScope root
   directory>\WEB-INF\classes\security\.ks -storepass <your_keystore_
   password>
   ```

   Example:

   ```
   keytool -keypasswd -alias sis -keypass changeit -new logomania -
   keystore C:\SiteScope\WEB-INF\classes\security\.ks -storepass
   logomania
   ```

9. Verify keystore using new password:

   ```
   keytool -list -v -keystore <SiteScope root directory>\WEB-
   INF\classes\security\.ks -storepass <your_keystore_password>
   ```

   Example:

   ```
   keytool -list -v -keystore C:\SiteScope\WEB-
   INF\classes\security\.ks -storepass logomania
   ```

10. Restart the SiteScope server.

11. In BSM, select **Admin > System Availability Management Administration**, and click the **New SiteScope** button to add the SiteScope instance. In the Profile Settings pane, make sure to select the **BSM Front End Use HTTPS** check box.

12. Check the topology appears in **BSM > Admin > RTSM Administration > IT Universe Manager > System Monitors** view.

Troubleshooting

- Check the **bac-integration.log** located in **<SiteScope root directory>\logs\bac_integration\** for the following errors:

```
2010-12-30 11:03:06,399 [TopologyReporterSender]
(TopologyReporterSender.java:364)
 ERROR - failed to run main topology agent.
topologyCommand=TopologyCommand
{commandType=RUN_SCRIPT, …
java.lang.IllegalArgumentException: cannot find script with
name=create_monitor.py
at
com.me-
rcury.s-
itescope.integrations.bac.topology.dependencies.DependenciesCrawler.
findDependencies(DependenciesCrawler.java:60)
at com.mercury.sitescope.integrations.bac.topology.dependencies.
ScriptDependenciesFinder.find(ScriptDependenciesFinder.java:80)
at
com.me-
rcury.sitescope.integrations.bac.topology.TopologyReporterSender.
getDependencies(TopologyReporterSender.java:552)
at
com.me-
rcury.sitescope.integrations.bac.topology.TopologyReporterSender.
send(TopologyReporterSender.java:347)
at
com.me-
rcury.sitescope.integrations.bac.topology.TopologyReporterSender.
run(TopologyReporterSender.java:304)
at java.lang.Thread.run(Thread.java:619)
```

- Verify that the certificate and keyStore passwords are identical.

Chapter 16

Configuration of USGCB (FDCC) Compliant Desktop

The United States Government Configuration Baseline (USGCB), formerly known as the Federal Desktop Core Configuration (FDCC), is a standard for desktop configuration that provides guidance on improving and maintaining effective configuration settings focusing primarily on security.

SiteScope is certified with USGCB (FDCC) compliant clients. To enable compliancy, you must add the SiteScope URL to the trusted sites security zone and to the pop-up allow list. It is also recommended to allow file downloads.

For more information on USGCB (FDCC), see:

- http://usgcb.nist.gov/usgcb/microsoft_content.html
- http://nvd.nist.gov/fdcc/index.cfm

Prerequisites:

- Install the latest JRE version supported by SiteScope as listed in the "Client System Requirements" in the SiteScope Release Notes (a PDF reader is required to open the release notes).

How to Enable Group Policy Editor (gpedit.msc) in Windows 7:

1. Add the SiteScope URL to the Trusted sites security zone:
   a. Open the Group Policy Editor by running the command: `run gpedit.msc`.
   b. Navigate to: **Computer Configuration > Administrative Templates > Windows Components > Internet Explorer > Internet Control Panel > Security Page**:
      i. In the setting panel on the right, double-click **Site to Zone Assignment List**, select the **Enabled** option, and click **Show**. In the Show Content dialog box, click **Add**.
      ii. In the **Enter the name of the item to be added** box, enter the name of the SiteScope server. For example, `http://MySiteScope.com`. If you are using SiteScope over HTTPS, enter `https://MySiteScope.com`.
      iii. In the **Enter the value if item to be added** box, enter the number to denote the zone type:

Value	Zone Type	Description
1	Intranet zone	Sites on your local network
2	Trusted Site Zone	Sites that have been added to your trusted sites
3	Internet zone	Sites that are on the Internet

Value	Zone Type	Description
4	Restricted Sites zone	Sites that have been specifically added to your restricted sites

2. Add the SiteScope URL to the Pop-up allow list.

   a. Open the Group Policy Editor by running the command: `run gpedit.msc`.

   b. Navigate to: **Computer Configuration > Administrative Templates > Windows Components > Internet Explorer**:

      i. In the setting panel on the right, double-click **Pop-up allow List**, select the **Enabled** option, and click **Show**. In the Show Content dialog box, click **Add**.

      ii. In the **Enter the name of the item to be added** box, enter the name of the SiteScope server. For example, `http://MySiteScope.com`. If you are using SiteScope over HTTPS, enter `https://MySiteScope.com`.

3. Allow file downloads (optional, used for log grabber and release notes).

   a. Open the Group Policy Editor by running the command: `run gpedit.msc`.

   b. Navigate to: **Computer Configuration > Administrative Templates > Windows Components > Internet Explorer > Security Features > Restrict File Download**, and in the setting panel on the right, double-click **Internet Explorer Process**, and select the **Disabled** option.

Part 5

Getting Started and Accessing SiteScope

Chapter 17

Post-Installation Administration

This chapter includes recommended steps you should perform after installing SiteScope.

✓	Step
	Register for SiteScope support. For more information, see "Getting Started Roadmap" on page 13.
	Log on to the SiteScope Web interface using a Web browser. For more information, see "Connecting to SiteScope" on page 173.
	If you are upgrading to SiteScope 11.20 from an earlier version of SiteScope, use the Configuration Tool to transfer monitor and group configuration data from the older SiteScope installation to the new installation. For more information on using the Configuration Tool, see "Using the SiteScope Configuration Tool" on page 102.
	If you did not enter your SiteScope license information during installation, enter it in the General Preferences page, as described in the General Preferences section of Using SiteScope in the SiteScope Help. New installations operate with a 60 day evaluation license. For license details, see "SiteScope Licenses" on page 23.
	Create a user name and password for the SiteScope administrator account. This 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, see the User Management Preferences section in Using SiteScope in the SiteScope Help. If no user name and password are defined for the administrator user, SiteScope skips the Login page and logs in automatically.
	Configure the SiteScope Email Preferences email server with an administrators email address and specify a mail server that SiteScope can use to forward email messages and alerts to users. For details, see the Email Preferences section in Using SiteScope in the SiteScope Help.
	Configure connection profiles for the remote servers you want to be able to monitor. Specify the connection method to use in accordance with your security requirements. For details, see the Remote Servers section in Using SiteScope in the SiteScope Help.

✓	Step
	If necessary, adjust Log Preferences to set how many days of monitor data 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, see the Log Preferences section in Using SiteScope in the SiteScope Help.
	Install middleware drivers for connectivity with remote databases and applications for those monitors that require drivers.
	When using SiteScope as a data collector for Business Service Management (BSM), configure the BSM integration. For details, see the Working with BSM section in Using SiteScope in the SiteScope Help.
	When using SiteScope to send events or report metrics for use in HP Operations Manager (HPOM) or Operations Management in BSM, configure the HP Operations Manager integration. For details, see "Integrating SiteScope with HP Operations Manager Products" in the HP Software Integrations site: • For HPOM for Windows, http://support.openview.hp.com/sc/solutions/integrations.jsp?intid=39 • For HPOM for UNIX, http://support.openview.hp.com/sc/solutions/integrations.jsp?intid=628
	Outline group and monitor organization based on the requirements and constraints identified in your assessment of the business system infrastructure.
	Create and develop templates to help speed the deployment of monitoring using standardized group structure, naming conventions, and configuration settings. For details, see the User-Defined Templates and Solution Templates sections in Using SiteScope in the SiteScope Help.
	Build dependencies between groups and key monitors to help control redundant alerting. For details, see the Working with SiteScope Groups section in Using SiteScope in the SiteScope Help.
	Roll out SiteScope to business stakeholders and system administrators.

After the SiteScope system is up and running with defined users and incoming monitor data, begin the process of educating business and systems users on how to access and use SiteScope reporting and alerting functionality.

Chapter 18

Getting Started with SiteScope

This chapter includes:

Starting the SiteScope Service Overview

The SiteScope process is started on all platforms during installation.

- On Windows platforms, SiteScope is added as a service that is set to restart automatically if the server is rebooted.
- On Solaris and Linux platforms, whenever you reboot the server where SiteScope is installed, you must restart the SiteScope process.

You can start and stop the SiteScope process manually as necessary using the steps described in this section.

Starting and Stopping the SiteScope Service on Windows Platform

SiteScope is installed as a service on Microsoft Windows platforms. By default, the SiteScope Service is set to restart automatically whenever the server is rebooted. You can start and stop the SiteScope service manually by using the Services control panel.

To start or stop the SiteScope service using Services control panel:

1. Open the Services control panel by selecting **Start > Settings > Control Panel > Administrative Tools > Services**.
2. Select **SiteScope** in the list of services and right-click to display the action menu.
3. Select **Start** or **Stop** as applicable from the action menu.

Netstart and Netstop Commands

You can also start and stop the SiteScope service by using the netstart and netstop commands.

To start the SiteScope service using netstart:

1. Open a command line window on the server where SiteScope is installed.
2. Run the netstart utility using the following syntax:

   ```
   net start SiteScope
   ```

To stop the SiteScope service using netstop:

1. Open a command line window on the server where SiteScope is running.
2. Run the netstop utility using the following syntax:

   ```
   net stop SiteScope
   ```

Starting and Stopping the SiteScope Process on Solaris and Linux Platform

You can start and stop SiteScope manually by using the shell scripts supplied with the product. You can automatically restart SiteScope when a server is rebooted by using an init.d script.

> **Note:** While SiteScope must be installed on Solaris or Linux from a root user account, after it has been installed it can be run from a non-root user account. For details, see "Configuring a Non-Root User Account with Permissions to Run SiteScope" on page 18.

To start the SiteScope process on Solaris and Linux:

1. Open a terminal window on the server where SiteScope is installed.
2. Run the start command shell script using the following syntax:

   ```
   <installpath>/SiteScope/start
   ```

To stop the SiteScope process on Solaris and Linux:

1. Open a terminal window on the server where SiteScope is running.
2. Run the stop command shell script using the following syntax:

   ```
   <installpath>/SiteScope/stop
   ```

In each of the commands above, replace `<installpath>` with the path where SiteScope is installed. For example, if you installed SiteScope in the /usr directory, the command to stop SiteScope would be:

```
/usr/SiteScope/stop
```

Connecting to SiteScope

SiteScope is designed as a Web application. This means that you view and manage SiteScope using a Web browser with access to the SiteScope server.

SiteScope is installed to answer on two ports: 8080 and 8888. If there is another service configured to use these ports, the installation process attempts to configure SiteScope to answer on another port.

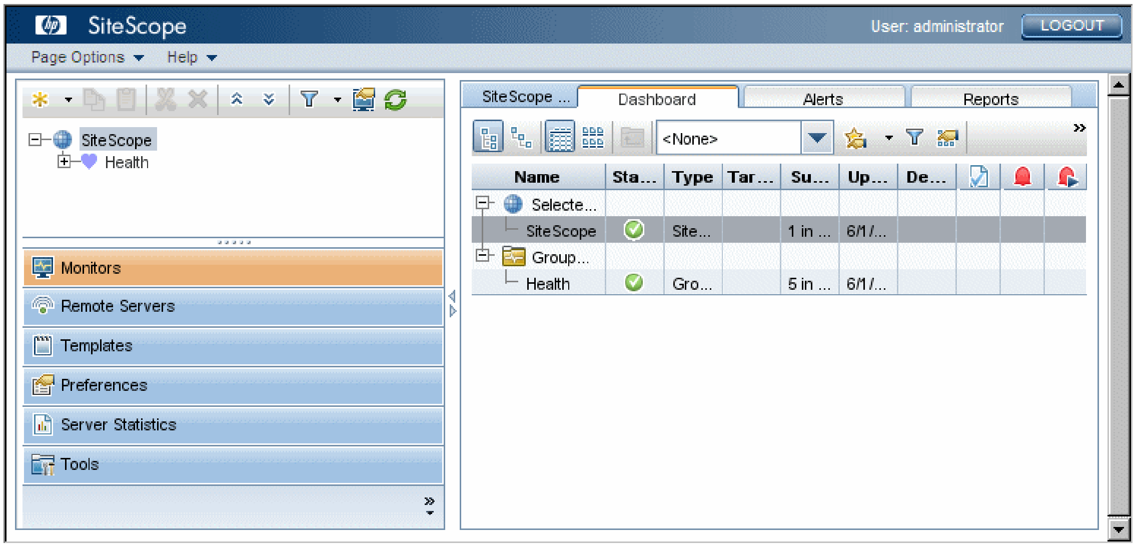
On Windows platforms, the installation process also adds a link to SiteScope in the **Start > All Programs** menu for SiteScope. The Start menu folder is selected during the installation procedure.

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 > All Programs > HP SiteScope > Open HP SiteScope**. If the SiteScope port is changed after installing SiteScope, the port is updated in the **Open HP SiteScope** link.

The first time SiteScope is deployed, there is a delay for initialization of the interface elements. SiteScope opens to the Dashboard view, as shown below.



Name	Sta...	Type	Tar...	Su...	Up...	De...			
Selecte...									
SiteScope	✓	Site...		1 in ...	6/1/...				
Group...									
Health	✓	Gro...		5 in ...	6/1/...				

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 password. SiteScope then displays a login dialogue before SiteScope can be accessed. For information on editing the administrator account profile, see the User Management Preferences section in Using SiteScope in the SiteScope Help.
- When viewing SiteScope from another machine, it is recommended to use a machine that has Java Runtime Environment 1.6.0_26 or later installed.

SiteScope Classic Interface

The SiteScope Classic interface that was available in earlier versions of SiteScope using the URL `http://<sitescope_host>:8888`, is no longer available for managing SiteScope.

You can still access specific pages in the Classic interface if they are listed in the **_serverFilter** property in the **master.config** file. Pages listed by default include the Monitor Summary and Alert Report pages.

Note: You should not remove SiteScope Classic interface pages that are enabled by default, as this may cause some functionality to fail.

Troubleshooting and Limitations

This section contains troubleshooting and limitations for the following issues when logging on to SiteScope:

- "SiteScope does not start and an error message is displayed" below
- "SiteScope applet loading fails with a "NoClassDefFound" exception" below
- "Problems loading applet from a 64-bit machine" on next page
- "For SiteScope installed on Solaris: "SiteScope failed to start as a background process" error is displayed when the stop and start commands are used" on next page
- "For SiteScope installed on Solaris: "Shutting down SiteScope reason scheduled restart..." error is displayed shortly after starting SiteScope" on page 177
- "SiteScope hangs when opening the same SiteScope server on more than one tab in a browser window" on page 177
- "The SiteScope menu bar opens but the applet fails to start, and you see a blank screen, an error, or an "x" image" on page 177
- "Backing up and recovering a SiteScope installation if unable to start SiteScope" on page 178

SiteScope does not start and an error message is displayed

If you encounter an error message such as "The Java Runtime Environment cannot be loaded", or any other unknown error while starting the SiteScope applet, perform the steps below.

After each step, try to reopen SiteScope. If SiteScope fails again, proceed to the next step.

1. Close all the browser’s windows.
2. End all remaining browser processes (if any remained) using Windows Task Manager.
3. Clean the local Java applet cache. Select **Start > Control Panel > Java**. In the **General** tab, click **Settings > Delete Files** and then click **OK**.
4. Clean the local Java applet cache by deleting the content of the following folder: `C:\Documents and Settings\<user_name>\Application Data\Sun\Java\Deployment\cache`.

SiteScope applet loading fails with a "NoClassDefFound" exception

If applet loading fails with a "NoClassDefFound" exception, select the **Keep temporary files on my computer** option in your client Java configuration (**Control Panel > Java > General Tab > Temporary Internet Files > Settings**).

If security issues require it, delete the temporary files manually when you finished using the SiteScope applet:

1. Close the SiteScope applet.
2. Select **Start > Control Panel > Java > General tab**.
3. In the **Temporary Internet Files** section, click **Settings**, and then click **Delete Files**.

Problems loading applet from a 64-bit machine

When running SiteScope on a 64-bit machine, make sure to use a browser version that matches your JRE:

JRE	Browser
64-bit JRE	• Internet Explorer (64-bit) • Internet Explorer (64-bit)
32-bit JRE	• Internet Explorer (32-bit) • Internet Explorer (32-bit)

For SiteScope installed on Solaris: "SiteScope failed to start as a background process" error is displayed when the stop and start commands are used

This issue could occur because SiteScope was not shut down properly before you tried to start it again. In some environments, if you start SiteScope and then immediately stop it, SiteScope is not stopped properly.

There are two possible solutions to this issue:

Possible solution 1 (to avoid this issue before starting SiteScope):

1. Manually kill the SiteScope process.
2. Run `ps -e | grep SiteScope` to get the SiteScope process ID.
3. Run `kill -9 <SiteScope's process ID>`.

Possible solution 2 (if you started SiteScope, and immediately want to stop it):

1. Before you stop SiteScope, go to the **<SiteScope root directory>\groups** folder and make sure that a file named **monpid** appears there.
2. If it does not appear, wait a couple of minutes until it is created.
3. Stop SiteScope.

For SiteScope installed on Solaris: "Shutting down SiteScope reason scheduled restart..." error is displayed shortly after starting SiteScope

SiteScope keeps restarting with "Shutting down SiteScope reason scheduled restart...." error written to the **<SiteScope root directory>\logs\Error.log** file.

The following error is written to the **<SiteScope root dir>\logs\tomcat.log** file:

```
<Date> [http-8080-Processor18] (PoolTcpEndpoint.java:441) ERROR -
Endpoint ServerSocket[addr=0.0.0.0/0.0.0.0,port=0,localport=8080]
ignored exception: java.net.SocketException: Too many open files
```

Possible solution:

On the Solaris server on which SiteScope is installed, edit the **/etc/security/limits.conf** file by adding your new limit for the user running Tomcat. For example:

```
root hard nofile 5120
root soft nofile 4096
```

For details on the **/etc/security/limits.conf** settings, see http://ss64.com/bash/limits.conf.html.

SiteScope hangs when opening the same SiteScope server on more than one tab in a browser window

When opening the same SiteScope server user interface in more than one tab of a browser window, SiteScope hangs when trying to navigate between the SiteScope server tabs.

Possible solution:

- Close the redundant tabs, and make sure that only one tab is open for the same SiteScope server user interface.
- Alternatively, open a new browser window.

The SiteScope menu bar opens but the applet fails to start, and you see a blank screen, an error, or an "x" image

This may occur if the Java control panel is not configured to use the Web browser.

Possible solution:

1. Click **Start > Control Panel > Java**. In the **General** tab, click **Network Settings**, select the **Direct Connection** option, and then click **OK**.
2. In the **Advanced** tab, expand the **Default Java for browsers** folder (or **<APPLET> tag support** if you are using Java 5). Make sure that **Microsoft Internet Explorer** and **Mozilla family** are selected. Click **Apply** and then click **OK**.
3. Restart your browser.

Backing up and recovering a SiteScope installation if unable to start SiteScope

To recover the SiteScope configuration data if SiteScope goes down and you are unable to restart it, you should make a backup of your current SiteScope installation directory and all of the subdirectories within the directory before installing a new version of SiteScope. You can back up the current SiteScope installation using the Configuration Tool to export SiteScope data to a **.zip** file, or you can manually back up the required files.

After reinstalling SiteScope, the monitor configuration data can be copied into SiteScope using the Configuration Tool (if you used the tool to make a backup of your installation directory), or by deleting from the new installation directory all the folders and files that you backed up, and then copying the backed up folders and files to the installation directory.

To back up the SiteScope installation:

1. Stop SiteScope.

   Note: Although it is not mandatory to stop SiteScope, it is recommended to do so before making a back up.

2. Make a backup of your current SiteScope installation directory either by:

   - Using the Configuration Tool to export your configuration into a **.zip** file. For details, see "Using the SiteScope Configuration Tool" on page 102.
   - Copy the following folders and files from the SiteScope installation to your backup destination:

Directory	Description
\cache	Contains data samples that were not reported to Business Service Management if Business Service Management was down.
\conf\ems	Contains key configuration and control files used with Integration monitor types. This is only applicable if you use SiteScope as an agent reporting to another Business Service Management application.
\conf\integration	Contains topology files used for integrations with Business Service Management.
\discovery\scripts\custom	Contains custom discovery scripts.
\groups	Contains monitor, alert, report, and other critical configuration data needed for SiteScope operation.

Directory	Description
\htdocs	Contains scheduled reports and user-customized style sheets for the SiteScope interface. Backup this directory and copy it to the SiteScope directory (within the same SiteScope versions) to avoid damaging the report pages and to see old reports. This folder cannot be backed up when the configuration is imported into a newer SiteScope version.
\logs	Contains a number of logs including date coded logs of monitoring data. Selectively back up the most recent monitoring data log files along with the other log types in this directory. You may also want to back up the **error.log**, **RunMonitor.log, access.log**, **alert.log**, and **monitorCount.log** logs for historical continuity.
\persistency	This is the main persistency directory of the product. All the defined monitors, groups, alerts, templates, and many other SiteScope entities are found in this directory.
\scripts	Contains scripts used by Script monitors.
\scripts.remote	Contains command scripts used by Script monitors to trigger other scripts on remote servers.
\templates.*	Includes data and templates used to customize monitor function, alert content, and other features. The group of subdirectories all begin with the name templates. **Example:** templates.mail, templates.os, templates.webscripts
\WEB-INF\lib\peregrine.jar	File that might have been altered (regenerated) when configuring the HP Service Manager integration.

To recover the SiteScope installation:

1. Perform a new installation of SiteScope. For details, see "Installing SiteScope" on page 69.
2. After installing SiteScope:
   - If you used the Configuration Tool to make a backup of your current SiteScope installation directory, use the Configuration Tool to import the previously created **.zip** file. For details, see "Using the SiteScope Configuration Tool" on page 102.
   - If you manually created a back up, delete all the folders and files listed above from the new installation directory, and then copy the backed up folders and files to the installation directory.

Part 6

Appendixes

Appendix A

Integrating IIS with SiteScope's Tomcat Server

To integrate Internet Information Server (IIS) with the Apache Tomcat server included with SiteScope, you need to make changes to the configuration files used by the Apache Tomcat server and create the virtual directory in the corresponding Web site object in the IIS configuration.

This chapter includes:

- "Configuring the Apache Tomcat Server Files" below
- "Configuring IIS" on page 183

Configuring the Apache Tomcat Server Files

To enable IIS integration with the Apache Tomcat server, you must edit the configuration files for the Apache Tomcat server included with SiteScope.

To configure the Apache Tomcat server files:

1. Download the latest version of Java Connector jk from the Apache download site for connector files from:

   http://tomcat.apache.org/download-connectors.cgi

2. Copy the **isapi_redirect.dll** file to the **<Tomcat installation>\bin\win32** directory. By default, a Tomcat server is installed as part of the SiteScope installation at **C:\SiteScope\Tomcat**. Create the **win32** directory if it does not exist.

3. Perform one of the following:

   - Create a configuration file in the same directory as the **isapi_redirect.dll** file, and name it **isapi_redirect.properties**.

     Example of the isapi_redirect.properties file:

     ```
     # Configuration file for the Jakarta ISAPI Redirector

     # The path to the ISAPI Redirector Extension, relative to the
     website
     # This must be in a virtual directory with execute privileges
     extension_uri=/jakarta/isapi_redirect.dll

     # Full path to the log file for the ISAPI Redirector
     log_file=C:\SiteScope\Tomcat\logs\isapi.log

     # Log level (debug, info, warn, error or trace)
     log_level=info
     ```

```
# Full path to the workers.properties file
worker_
file=C:\SiteScope\Tomcat\conf\workers.properties.minimal

# Full path to the uriworkermap.properties file
worker_mount_
file=C:\SiteScope\Tomcat\conf\uriworkermap.properties
```

This configuration points to the log file, which it is recommended to put under the **<SiteScope root directory>\Tomcat\logs** directory, and the worker and worker mount files, which should be stored under the **<SiteScope root directory>\Tomcat\conf** directory.

- Add the same configuration entries (see above) to the registry at path: `HKEY_LOCAL_MACHINE\SOFTWARE\Apache Software Foundation\Jakarta Isapi Redirector\1.0`

4. Create the SiteScope workers file, named **workers.properties.minimal**, under the **<SiteScope root directory>\Tomcat\conf** directory.

Example of the SiteScope workers file:

```
# workers.properties.minimal -
#
# This file provides minimal jk configuration
# properties needed to
# connect to Tomcat.
#
# Defining a worker named ajp13w and of type ajp13
# Note that the name and the type do not have to
# match.
worker.list=ajp13w
worker.ajp13w.type=ajp13
worker.ajp13w.host=localhost
worker.ajp13w.port=8009
#END
```

Note:

- **worker.ajp13w.port** depends on the Tomcat version being used. Open **<SiteScope root directory>\Tomcat\conf\server.xml** and search for the string `<Connector port=` to determine the port which this Tomcat version is using.
- If you are configuring SiteScope to integrate with SiteMinder, modify the redirect port in the <!-- Define an AJP 1.3 Connector on port 8009 --> section of the **server.xml** file from:

```
<!--   <Connector port="18009"
URIEncoding="UTF-8" enableLookups="false" redirectPort="8443"
protocol="AJP/1.3" /> -->
```

to

```
<Connector port="18009"
URIEncoding="UTF-8" enableLookups="false" redirectPort="80"
protocol="AJP/1.3" />
```

- If IIS and Tomcat are not on the same machine, change the host attribute in **workers.properties.minimal** to point to the other machine.

5. Create the SiteScope workers mount file under the **<SiteScope root directory>\Tomcat\conf** directory.

Example of the SiteScope workers file named uriworkermap.properties, as in the configuration example above:

```
# uriworkermap.properties - IIS
#
# This file provides sample mappings for example:
# ajp13w worker defined in workermap.properties.minimal
# The general syntax for this file is:
# [URL]=[Worker name]
/SiteScope=ajp13w
/SiteScope/*=ajp13w
#END
```

The new syntax combines the two rules for SiteScope into one rule: `/SiteScope/*=ajp13w`

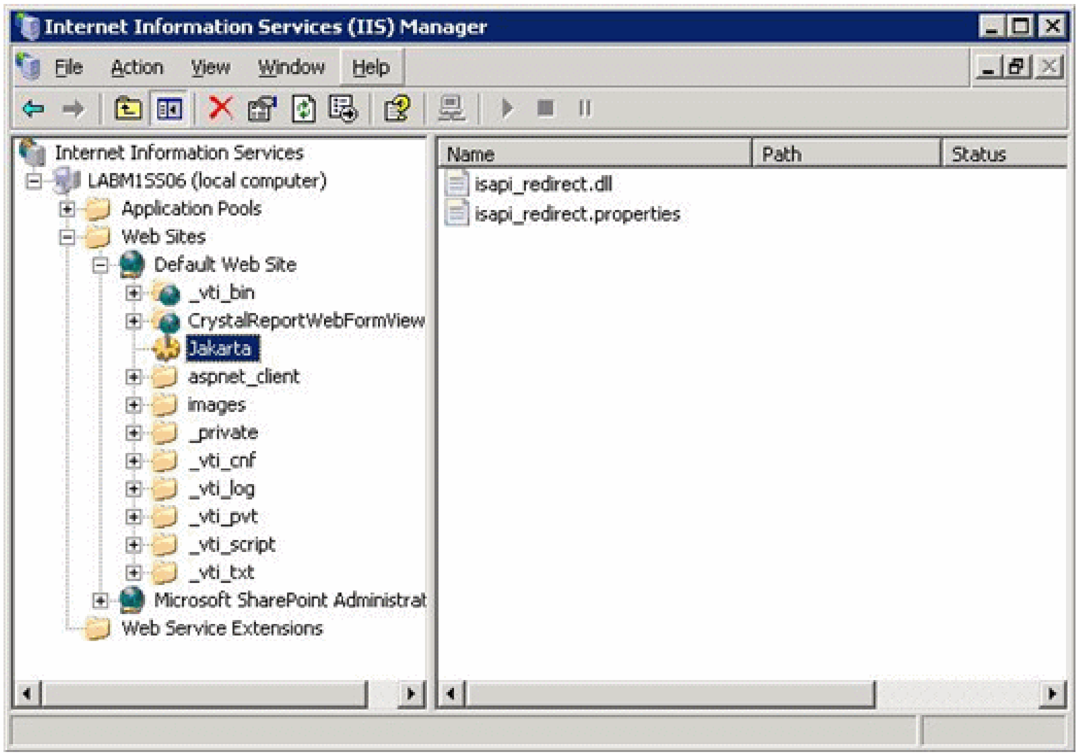
Tomcat log output is written to the **<SiteScope root dir>\logs\tomcat.log** file. Settings for the log file can be configured from the **<SiteScope root dir>\Tomcat\common\classes\log4j.properties** file.

Configuring IIS

After you make changes to the configuration files used by the Tomcat server, you need to create the virtual directory in the corresponding Web site object in the IIS configuration.

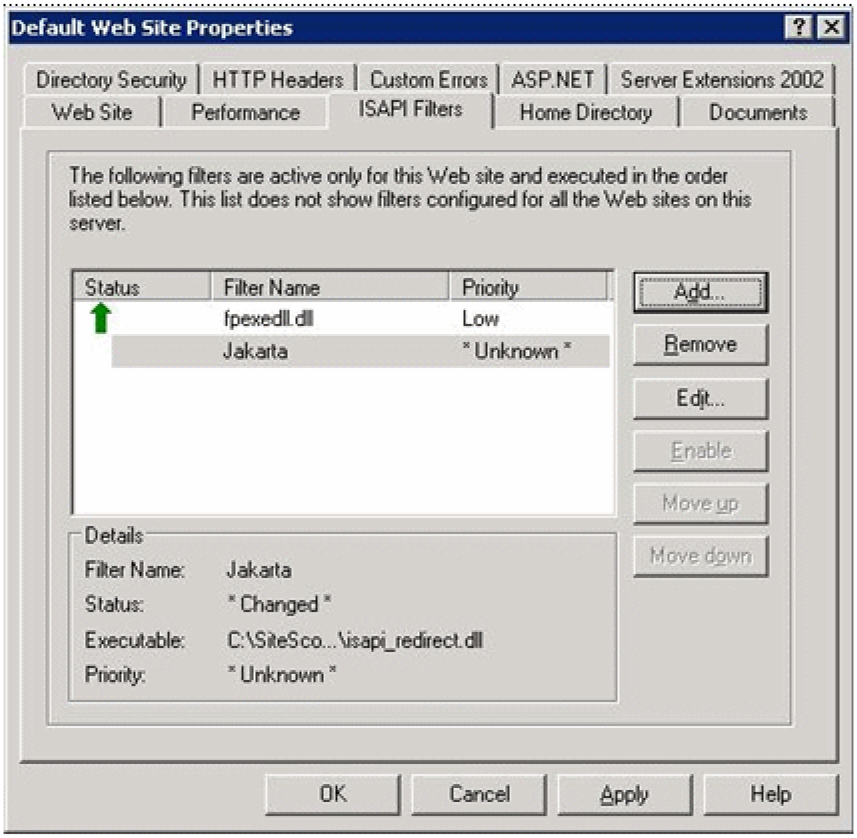
To configure IIS:

1. From the Windows Start menu, click **Settings > Control Panel > Administrative Tools > Internet Information Services (IIS) Manager**.
2. In the right pane, right-click **<Local Computer name>\Web Sites\<Your Web Site name>**, and click **New\Virtual Directory**. Rename it **Jakarta**, and set **local path** to the directory with **isapi_redirect.dll**.



3. Right click **<Your Web Site name>** and click **Properties**.

4. Click the **ISAPI Filters** tab, and then click **Add**. In the **Filter Name** column, select **Jakarta**, and browse to **isapi_redirect.dll**. The filter is added, but at this stage it is still inactive.



The following filters are active only for this Web site and executed in the order listed below. This list does not show filters configured for all the Web sites on this server.

Status	Filter Name	Priority
⬆	fpexedll.dll	Low
	Jakarta	* Unknown *

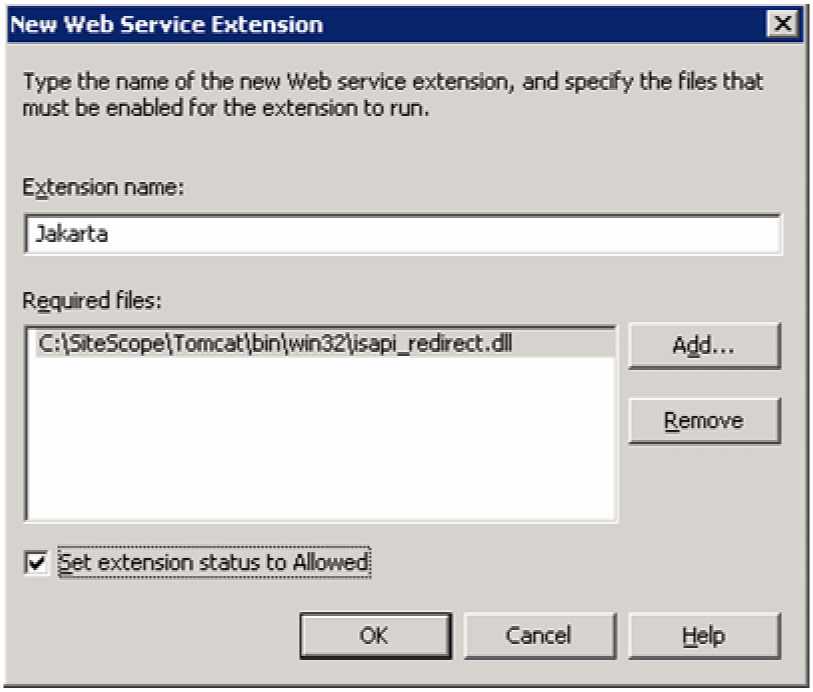
Details

Filter Name: Jakarta
Status: * Changed *
Executable: C:\SiteSco...\isapi_redirect.dll
Priority: * Unknown *

Click **Apply**.

5. Right-click **<Local Machine name>\Web Service extensions** and click **Add new Web Service Extension**. The New Web Service Extension dialog box opens.

6. In the **Extension name** box, enter the name `Jakarta`, and under **Required files** browse to the **isapi_redirect.dll** file. Select **Set Extension Status to Allowed**.



Type the name of the new Web service extension, and specify the files that must be enabled for the extension to run.

Extension name: Jakarta

Required files: C:\SiteScope\Tomcat\bin\win32\isapi_redirect.dll

☑ Set extension status to Allowed

Click **OK**.

7. Restart the IIS Web Server, and try to access the application through the Web Service.

Appendix B

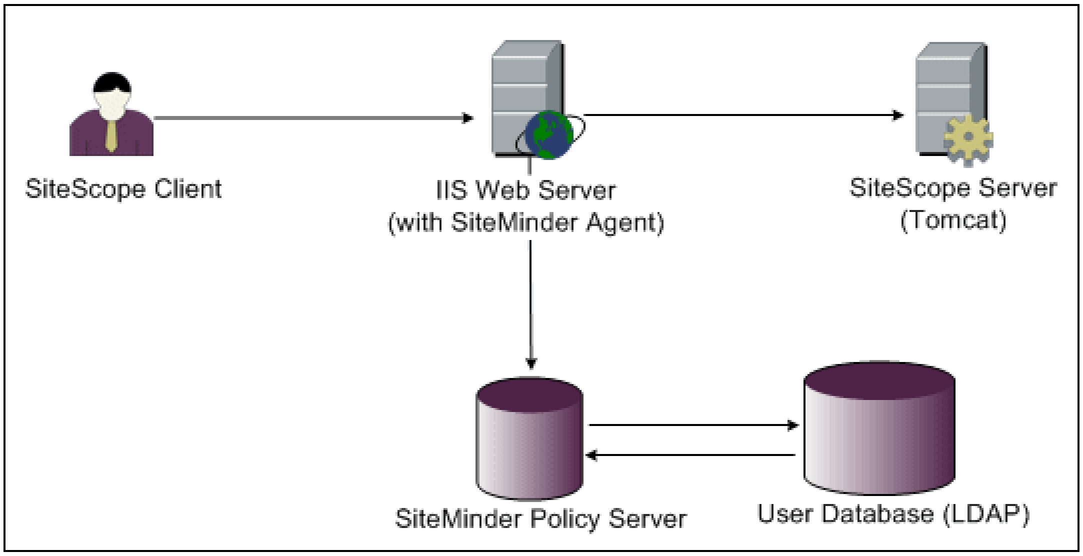
Integrating SiteScope with SiteMinder

SiteScope can be integrated with SiteMinder, a security access management solution, to leverage customer's user and access management configurations.

This chapter includes:

Understanding Integration with SiteMinder

The following diagram illustrates how SiteScope integrates with SiteMinder to authenticate and authorize SiteScope users.



In this architecture, a SiteMinder agent is configured on the IIS Web server which is placed in front of SiteScope's Tomcat application server. The SiteMinder agent must reside on a Web server. The

IIS Web server is connected to the SiteMinder policy server that manages all SiteScope users (over an LDAP or any other similar repository).

The SiteMinder agent intercepts all SiteScope's related traffic, and checks the user's credentials. The user's credentials are sent to the SiteMinder policy server for authentication and authorization. If SiteMinder authenticates the user, it sends SiteScope a token (using a special HTTP header) that describes the exact user that managed to log on and pass SiteMinder's authorization.

> **Note:** It is recommended that the SiteScope client, IIS Web server, and the SiteScope's Tomcat application server are configured on the same machine.

Integration Requirements

This section displays the system requirements for integrating SiteScope with SiteMinder.

Operating System	Windows 2000, Windows 2003 Standard/Enterprise SP1
Web Server	IIS 5.0, IIS 6.0
Application Server	Tomcat 5.0.x
Java Connector	Java Connector jk-1.2.21 or later

The Integration Process

This section describes the SiteMinder integration process.

To integrate SiteScope with SiteMinder:

1. **Prepare and configure the SiteMinder Policy Server.**

   Your SiteMinder administrator needs to prepare the SiteMinder policy server for installing the Web agent, install the Web agent on the IIS Web server, and configure the Web agent.

   In addition, your SiteMinder administrator needs to configure the SiteMinder policy server. For the recommended SiteMinder configuration details, see "Configuring the SiteMinder Policy Server" on next page.

2. **Configure SiteScope for using SiteMinder.**

   To enable SiteScope to integrate with SiteMinder, you need to make changes to the configuration files used by the Tomcat server. For details, see "Configuring the Apache Tomcat Server Files" on page 181.

3. **Configure IIS.**

   You need to create the virtual directory in the corresponding Web site object in the IIS configuration. For details, see "Configuring IIS" on page 183.

4. **Define permissions for the different SiteScope roles.**

After you enable the SiteMinder integration, you must define the permissions for the different roles in SiteScope. For details, see "Defining Permissions for the Different SiteScope Roles" on next page.

Configuring the SiteMinder Policy Server

You configure the SiteMinder policy server by creating a SiteScope realm object, two SiteScope rules objects for authentication and forwarding the cookie with additional attributes, a SiteScope response object that transfers the additional LDAP attributes to SiteScope, and by adding SiteScope rules and responses to the Security policy object.

Before creating a SiteScope realm object on the policy server, make sure that:

- A special administrator above a domain (that in turn is bound to one or more User Directories) has been configured.
- One or more User Directories objects have been configured. These objects represent the users in the LDAP directory, or any other repository.
- You have defined an authentication scheme.

  A domain is connected to one or more of User Directory objects. There is no need to create a special domain for the realm. You can use an existing domain.

To configure the SiteMinder policy server:

1. Log on to SiteMinder Administration.
2. Create a realm and enter the following information:
   - **Name.** Enter a name for the realm. For example, **SiteScope realm**.
   - **Resource Filter.** Enter **/SiteScope**. Everything under SiteScope is part of our realm.
3. Right-click the new realm and click **Create rule under realm**.
   - Create a rule for authentication purposes. Enter a meaningful name for the rule, such as **SiteScope rule**. In the **Action** section, select the **Web Agent Action** option and choose all HTTP request schemes (**Get**, **Post** and **Put**).
   - Create a second rule for forwarding cookies and other attributes to SiteScope. Enter a meaningful name for the rule, such as **Users role**. In the **Action** section, select the **Authentication events** option and select **OnAuthAccept** from the drop-down list.
4. Create a SiteScope response object to transfer the additional LDAP attributes to SiteScope with the relevant authentication information.
   a. Right-click **Responses** to open the Response Properties window.
   b. Enter a meaningful name for the Response. For example, **SiteScope Role**.
   c. Under the **Attribute List** section, click the **Create** button to open a new window to configure an attribute list.
   d. In the **Attribute Kind** section, select the **User Attribute** option.
   e. In the **Attribute Fields** section, choose **SITESCOPE_ROLE** as a variable name, and choose the attribute name to be the chosen field from the predefined User Directory to be

sent in the header to SiteScope. This is the User Directory attribute to be sent on authentication.

> **Note:** If you are using LDAP group objects or a nested group object to define the SiteScope role, special SiteMinder variables should be used for the **Attribute Name** field. You should use the **SM_USERGROUPS** variable for regular groups and **SM_USERNESTEDGROUPS** if you want the **SITESCOPE_ROLE** HTTP header to contain the nested groups' information.

5. Add SiteScope rules and responses to the Security policy object.

   a. Click the **Policies** option to create a new security policy.

   b. Enter a meaningful name for the policy. For example, **SiteScope Policy**.

   c. Click the **Users** tab and add or remove the entities to which the policy applies. (You can choose entities only from the User Directories that are part of the same domain of the realm.)

   d. Click the **Rules** tab and choose the two rules described in step 3, **Users Role** and **SiteScope Rule**. In addition, add the **SiteScope Role** response that was defined earlier to be the response of the Users Role in step 4.

Configuring SiteScope for Using SiteMinder

To enable SiteScope to integrate with SiteMinder, you need to make changes to the configuration files used by the Tomcat server. For information on configuring the Tomcat server files, see "Configuring the Apache Tomcat Server Files" on page 181.

Configuring IIS

After you make changes to the configuration files used by the Tomcat server, you need to configure IIS. For information on configuring IIS, see "Configuring IIS" on page 183.

Defining Permissions for the Different SiteScope Roles

After you enable the SiteMinder integration, you must define the permissions for the different roles in SiteScope (using the SiteScope regular users permissions model). The association of the users to these roles is done outside of SiteScope, such as in LDAP groups. When a new SiteScope user is added, it only has to be defined in SiteMinder, since the user automatically inherits the permissions from the relevant SiteScope role.

> **Note:** You must ensure that the SiteScope user account used by SiteMinder does not require a password, otherwise SiteMinder is unable to log on. For details on creating user accounts, see the User Management Preferences section in Using SiteScope in the SiteScope Help.

Logging On to SiteScope

When a user attempts to log on to SiteScope, SiteMinder intercepts the request. If it authenticates the user's credentials, it sends an assigned SiteScope user name and role (group) to SiteScope (for example, `User: Fred, Role: Accounting`). If SiteScope fails to recognize the name as a valid user name, but it recognizes the role, the user is logged on to SiteScope using the role (in this instance, `User: Accounting`).

To logon to SiteScope:

Open your Web browser and type the following URL:

```
http://<IIS_machine_name>/SiteScope.
```

> **Note:** If IIS and SiteScope reside on the same machine, you should connect to the default port 80, and not port 8080.

After SiteMinder successfully authenticates the user and logs on to SiteScope, SiteScope opens directly to the Dashboard view.

Notes and Guidelines

- The names of all users logged in to SiteScope are listed in the audit log, which is located in the **<SiteScope root directory>\logs** directory. This is the case even when a user is logged in under a role name. For example, if user `Fred` is logged on under a role because SiteScope did not recognize `Fred` as a valid user but recognized the role, all operations are still listed with user name `Fred` in the audit log.
- You can specify a page where the browser is redirected after logging out the SiteMinder environment (this is the page that opens after you click the **LOGOUT** button in SiteScope). To enable the logout page, open the **master.config** file located in **<SiteScope root directory>\groups**, and add the following line:

  ```
  _siteMinderRedirectPageLogout=<url_to_go_to_after_logout>
  ```

- The user account that SiteMinder uses to log on to SiteScope must not require a password, otherwise SiteMinder is unable to log on. For details on setting up a user account in SiteScope, see the User Management Preferences section in Using SiteScope in the SiteScope Help.
- To prevent users trying to access SiteScope directly using the SiteScope URL, you should consider disabling HTTP port 8080 and 8888 on the Tomcat server during SiteScope installation.
- To prevent users from being logged out of SiteScope after 30 minutes of inactivity in the Web browser, change the "`_keepAliveFromJSP=`" property to "`=true`" in the **master.config** file.

Appendix C

Accessing SiteScope via HTTPS Using the Classic SiteScope User Interface

You can setup the SiteScope Web server to use an SSL connection with access via the https protocol. The steps you need to take to do this are described in this section.

This section describes:

- "About Working with Certificates in SiteScope" below
- "Using a Certificate from a Certificate Authority" below
- "Using a Self-Signed Certificate" on page 194

About Working with Certificates in SiteScope

SiteScope is shipped with **Keytool.exe**. Keytool is a key and certificate management utility. It enables users to administer their own public/private key pairs and associated certificates for authentication using digital signatures. It also allows users to cache the public keys of the parties they communicate with. This is installed in **<SiteScope install path>\SiteScope\java\bin** directory.

> **Note:** The process for creating, requesting, and installing a digital certificate requires close attention to detail. Be sure to make a note of the parameters and command line arguments that you use in each step of the process as it is very important that you use the same values though out the procedure.

You can find out more about Keytool at the Sun Microsystems site:

http://java.sun.com/j2se/1.3/docs/tooldocs/win32/keytool.html

Using a Certificate from a Certificate Authority

You use the following steps in you plan to use a digital certificate issued by a Certificate Authority. In order to use this option, you need a digital certificate that can be imported into the key storage file used by Keytool. If your organization does not currently have a digital certificate for this purpose, you will need to make a request to a Certificate Authority to issue you a certificate.

To use a certificate from a Certificate Authority:

1. Remove the serverKeystore file that is located in the **<SiteScope root>\groups** directory. You can delete it or simply move it to a different directory.

   > **Note:** This file must be removed before performing the steps listed below.

2. Next, you must create a key pair. To do this you need to run the command line listed below from the **<SiteScope root>\java\bin** directory.

   > **Note:** Values in italics are variables that you fill in with information specific to your organization.
   >
   > This command and all others you use must be entered on a single line. The line is divided here to fit on this page.

   keytool -genkey -dname "CN=www.yourDomain.com, OU=yourDepartment, O=yourCompanyName, L=yourLocation, S=yourState, C=yourCountryCode" -alias yourAlias -keypass keypass -keystore ..\..\groups\serverKeystore -storepass passphrase -keyalg "RSA" -validity valdays

   This command will create a file called "serverKeystore" in the SiteScope\groups directory. SiteScope will use this KeyStore file to store the certificates used in your secure sessions. Make sure you keep a backup copy of this file in another location.

   The value of a -dname option must be in the following order where the italicized values are replaced by values of your choosing. The keywords are abbreviations for the following:

   CN = commonName - Common name of a person (for example, "Warren Pease")

   OU = organizationUnit - Small organizational unit (for example, "NetAdmin")

   O = organizationName - Large organization name (for example, "ACMe-Systems, Inc.")

   L = localityName - Locality (city) name (for example, "Palo Alto")

   S = stateName - State or province name (for example, "California")

   C = country - Two-letter country code (for example, "US")

   Note: The subcomponents within the -dname (distinguished name string) variable are case-insensitive and they are order-sensitive, although you do not have to include all of the subcomponents. The -dname variable should represent your company and the CN is the domain name of the Web server on which SiteScope is installed.

   Note: The value of -storepass is a password used to protect the KeyStore file. This password must be at least 6 characters long. You will need to use this password to import to and remove certificate data from the KeyStore file.

   Note: The -alias variable is an alias or nickname you use to identify an entry in your KeyStore.

3. Create a certificate request file. To do this, run the following command also from the **<SiteScope root>\java\bin** directory:

   keytool -certreq -alias yourAlias -file ..\..\groups\filename.csr -keypass keypass -keystore ..\..\groups\serverKeystore -storepass passphrase -keyalg "RSA"

   This command will generate a .csr to be used as a request file. You need to send this file to a Certificate Authority (CA) along with your request for a certificate. After you receive your certificate from a Certificate Authority (the reply should include a file called cert.cer), you need to import this certificate into the KeyStore file you created using the steps above. The file should be called serverKeystore. Use the following steps to import the certificate.

4. To import the certificate data into the KeyStore file, run the following command also from the

SiteScope\java\bin directory:

keytool -import -trustcacerts -alias yourAlias -file cert.cer -keystore ..\..\groups\serverKeystore

5. To change SiteScope to use a secured connection, you need to add or modify the following parameters in the **<SiteScope root>\groups\master.config** file:

   _httpSecurePort=8899

   The number you use for the _httpSecurePort parameter can be set to any available port number. It is recommended that you use a port number other than 8888, which is the default port for the accessing SiteScope using HTTP (unsecured).

   In order to access SiteScope using HTTPS exclusively, you will need to modify the following parameters in the master.config file as shown below, substituting the applicable values for those items in italics.:

   _httpPort=

   _httpSecurePort=8899

   _httpSecureKeyPassword=passphrase

   _httpSecureKeystorePassword=keypass

   Note: All the parameters in the **master.config** file are case and syntax sensitive. Be sure not to add any extra spaces or lines to the file.

6. Save the changes to the master.config file.

7. Stop and restart the SiteScope service for the changes to become effective.

You should now be able to access SiteScope using HTTP for example, for access from inside the firewall, at the default address of:

```
http://server_IP_address:8888
```

You should also be able to access SiteScope using HTTPS at the following address, based on steps in the example above:

```
https://server_IP_address:8899
```

Using a Self-Signed Certificate

Alternatively, you also can generate a self signed certificate. To do this, you use the -selfcert option to have the Keytool utility generate a self-signed certificate.

To use a self-signed certificate:

1. Remove the serverKeystore file that is located in the **<SiteScope root>\groups** directory. You can delete it or simply move it to a different directory.

   Note: This file must be removed before performing the steps listed below.

2. Next, run the following command from the **<SiteScope root>\java\bin** directory.

   Note: values in italics are variables that you fill in with information specific to your organization

Note: This command and all others you use must be entered on a single line. The line is divided here to fit on this page.

```
keytool -genkey -dname "CN=www.yourDomain.com, OU=yourDepartment,
O=yourCompanyName, L=yourLocation, S=yourState, C=yourCountryCode" -alias yourAlias
-keypass keypass -keystore ..\..\groups\serverKeystore -storepass passphrase -keyalg
"RSA" -validity valdays
```

3. Next run the following command, also from the SiteScope\java\bin directory:

   ```
   keytool -selfcert -alias yourAlias -sigalg "MD5withRSA" -keypass password -dname
   "CN=www.yourDomain.com, OU=yourDepartment, O=yourCompanyName, L=yourLocation,
   S=yourState, C=yourCountryCode" -keystore ..\..\groups\serverKeystore
   ```

4. To change SiteScope to use a secured connection, you need to add or modify the following parameters in the **<SiteScope root>\groups\master.config** file:

   ```
   _httpSecurePort=8899
   ```

   The number you use for the _httpSecurePort parameter can be set to any available port number. It is recommended that you use a port number other than 8888, which is the default port for the accessing SiteScope using HTTP (unsecured).

   In order to access SiteScope using HTTPS exclusively, you will need to modify the following parameters in the master.config file as shown below, substituting the applicable values for those items in italics.:

   ```
   _httpPort=

   _httpSecurePort=8899

   _httpSecureKeyPassword=passphrase

   _httpSecureKeystorePassword=keypass
   ```

   Note: All the parameters in the master.config file are case and syntax sensitive. Be sure not to add any extra spaces or lines to the file.

5. Save the changes to the **master.config** file.

6. Stop and restart the SiteScope service for the changes to become effective.

You should now be able to access SiteScope using HTTP for example, for access from inside the firewall, at the default address of:

```
http://server_IP_address:8888
```

You should also be able to access SiteScope using HTTPS at the following address, based on steps in the example above:

```
https://server_IP_address:8899
```