HP Performance Center

for the Windows® operating systems

Software Version: 9.00

Administrator's Guide

hp ®

i n v e n t

Legal Notices

Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Third-Party Web Sites

HP provides links to external third-party Web sites to help you find supplemental information. Site content and availability may change without notice. HP makes no representations or warranties whatsoever as to site content or availability.

Copyright Notices

Trademark Notices

Java™ is a US trademark of Sun Microsystems, Inc.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

Oracle® is a registered US trademark of Oracle Corporation, Redwood City, California.

UNIX® is a registered trademark of The Open Group.

Documentation Updates

This manual's title page 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

To check for recent updates, or to verify that you are using the most recent edition of a document, go to:

http://ovweb.external.hp.com/lpe/doc_serv/

Support

Mercury Product Support

You can obtain support information for products formerly produced by Mercury as follows:

- If you work with an HP Software Services Integrator (SVI) partner (**www.hp.com/ managementsoftware/svi_partner_list**), contact your SVI agent.

- If you have an active HP Software support contract, visit the HP Software Support Web site and use the Self-Solve Knowledge Search to find answers to technical questions.

- For the latest information about support processes and tools available for products formerly produced by Mercury, we encourage you to visit the Mercury Customer Support Web site at: **http://support.mercury.com**.

- If you have additional questions, contact your HP Sales Representative.

HP Software Support

You can visit the HP Software Support Web site at: **www.hp.com/go/hpsoftwaresupport**

HP Software online support provides an efficient way to access interactive technical support tools. As a valued support customer, you can benefit by using the support site to:

- Search for knowledge documents of interest

- Submit and track support cases and enhancement requests

- Download software patches

- Manage support contracts

- Look up HP support contacts

- Review information about available services

- Enter into discussions with other software customers

- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract. To find more information about access levels, go to:
http://h20230.www2.hp.com/new_access_levels.jsp

To register for an HP Passport ID, go to:
http://h20229.www2.hp.com/passport-registration.html

Table of Contents

Table of Contents

Welcome to This Guide

Welcome to the *HP Performance Center Administrator's Guide*. This guide describes how to use the Performance Center Administration Site to monitor and supervise load testing by multiple users.

Performance Center is HP's Web-enabled global load testing tool, which is specially designed to streamline the testing process and increase the test efficiency for multiple concurrent load tests across multiple geographic locations.

Performance Center consists of two modules:

➤ **User Site**. Used for conducting and monitoring load tests.

➤ **Administration Site**. Used for overall resource management, technical supervision, and for managing user and project access rights throughout Performance Center.

This guide covers the Administration Site. For information about the User Site, see the *HP Performance Center User's Guide*.

This chapter describes:	On page:
How This Guide Is Organized	12
Who Should Read This Guide	13
Performance Center Online Documentation	13
Additional Online Resources	14
Typographical Conventions	15

How This Guide Is Organized

This guide contains the following parts:

Part I   **Introduction**

Introduces you to the Performance Center Administration site.

Part II   **Performance Center Resources**

Includes information about managing the Performance Center system user and other Performance Center resources, including host machines and servers.

Part III   **Site Management**

Includes information about managing test runs, timeslot reservations, and events.

Part IV   **System Configuration**

Describes the System Configuration pages of the Performance Center Administration Site, where you configure and view license key information, general settings, HP Diagnostics, server configuration information, server authentication, and email alerts.

Part V   **Performance Center Reports**

Describes how to work with Performance Center reports to get an overall analysis of Performance Center site users, system resource usage, load test runs, and autostart load tests.

Part VI   **User and Project Management**

Describes the User Management module, which is used for managing user information, user roles and privileges, project information, and project-user-role assignments.

Part VII   **Appendixes**

Includes instructions for configuring the Performance Center system user manually, as well as Performance Center troubleshooting information.

Who Should Read This Guide

This guide is for the following users of Performance Center:

➤ Performance Engineers

➤ Performance Center Administrator

This document assumes that you are moderately knowledgeable about enterprise application development and highly skilled in enterprise system and database administration.

Performance Center Online Documentation

HP Performance Center includes the following online documentation:

Readme provides last-minute news and information about Performance Center. You access the Readme from the **Start** menu.

What's New gives a brief description of the new features in this release of Performance Center, including links to video walkthroughs. Select **Miscellaneous** > **What's New** in the User site.

Books Online/Printer-Friendly Documentation includes PDF versions of the Performance Center guides. Select **Start** > **Programs** > **HP Performance Center** > **Documentation** and select the relevant book.

HP Performance Center Online Help is available by clicking the **Help** button at the top of the Performance Center site page or in a dialog box.

HP Performance Center System Configuration and Installation Guide explains how to install and configure Performance Center. You access this guide from the root directory of the installation disk.

Additional Online Resources

Knowledge Base. This site enables you to browse the Customer Support Knowledge Base and add your own articles. The URL for this Web site is http://support.mercury.com/cgi-bin/portal/CSO/kbBrowse.jsp.

Customer Support Web site. This site enables you to access the Knowledge Base, post to and search user discussion forums, submit support requests, download patches and updated documentation, and more. The URL for this Web site is http://support.mercury.com.

HP Software Web site. This site provides you with the most up-to-date information on HP Software products. This includes new software releases, seminars and trade shows, customer support, and more. The URL for this Web site is www.hp.com/go/software.

Typographical Conventions

This guide uses the following typographical conventions:

UI Elements and **Function Names**	This style indicates the names of interface elements on which you perform actions, file names or paths, and other items that require emphasis. For example, "Click the **Save** button." It also indicates method or function names. For example, "The **wait_window** statement has the following parameters:"
Arguments	This style indicates method, property, or function arguments and book titles. For example, "Refer to the *HP User's Guide*."
<**Replace Value**>	Angle brackets enclose a part of a file path or URL address that should be replaced with an actual value. For example, <**MyProduct installation folder**>**bin**.
Example	This style is used for examples and text that is to be typed literally. For example, "Type Hello in the edit box."
CTRL+C	This style indicates keyboard keys. For example, "Press ENTER."
[ ]	Square brackets enclose optional arguments.
{ }	Curly brackets indicate that one of the enclosed values must be assigned to the current argument.
...	In a line of syntax, an ellipsis indicates that more items of the same format may be included. In a programming example, an ellipsis is used to indicate lines of a program that were intentionally omitted.
|	A vertical bar indicates that one of the options separated by the bar should be selected.

Part I

Introduction

1

Introducing the Administration Site

The Performance Center Administration site is the Web site for administrating load tests.

The customer defines, runs, and analyzes load tests for its Web site from the Performance Center User Web site. For details, see the *HP Performance Center User's Guide*.

For details on installing the User site and Administration site, see the *HP Performance Center System Configuration and Installation Guide*.

For details on setting up and configuring HP Diagnostics, see the *HP Diagnostics Installation and Configuration Guide*.

About the Administration Site

The Performance Center Administration site includes various pages to help you manage resources, system configuration, reports, and maintain the site. These pages are always available from the left navigation menu. You can expand or collapse the menu to show or hide menu links. Click the sideward arrow next to a menu item to display the menu links; click the downward arrow to collapse the menu.

Performance Center provides context-sensitive help which enables you to get specific information about whatever part of the Administration site you are using at any given moment. Context-Sensitive Help is available from the **Help** link at the top of the page, or from the **Help** button in a dialog box.

Performance Center version and patch information is available from the **About** link at the top of the page.

From the Administration site, you can:

➤ Manage Performance Center servers, monitor the server status, edit server information, and check server performance

➤ Manage Performance Center hosts, controlling how hosts are allocated to test runs

➤ Manage timeslots, view user reservations, and monitor availability of time and resources

➤ Manage test runs, view all the tests in the system, and see which ones are running at any time

➤ Manage any events that occur during test runs

➤ Manage your license information

➤ Manage user requests

➤ Manage general system configuration information

➤ View and supply specific System Configuration information

➤ Analyze Performance Center reports

➤ Manage users and user privileges

Logging On and Off

You log on to the Administration site from the URL of the directory on which you installed Performance Center.

Important: If this is the first time you are logging on to the system, you need to perform some initial system configuration. In this case, the Performance Center system user must have administrative privileges.

To log on to the Administration site:

1 Type the path to the Performance Center Administration Site installation directory, for example, http://<Server_Name>/admin.

If this is the first time you are entering the system, a system configuration page opens:

The page asks you to supply some basic information that is used to configure your system.

The System Configuration page displays the following information:

Database

➤ **DB host**. The machine on which the database resides. If you are using Oracle, enter the TNS name defined in your **tnsnames.ora** file.

➤ **DB type**. The type of Database installed on the server—either SQLServer or Oracle.

➤ **User**. The user name to connect to the Database.

➤ **Password**. The password to connect to the Database.

File Server

➤ **Name**. The name of the machine that contains the File Server installation where system files such as scripts are stored.

After you supply the necessary information, click **Save**.

Note: If Performance Center detects an existing database, a message is displayed asking you if you want to use the existing database as part of your configuration. Click **Continue** to use the existing database.

A log listing details of the system configuration process is displayed in the lower-left corner of the page.

```
Trying to login to Database Server - mister
Installing Database
Database installed successfully
Updating connection string on Admin Server (locally)
Updating Database with system details
System details were updated in Database successfully
System initial configuration completed successfully
  Log to Site
```

If the configuration is not successful, the log provides a detailed message to help you correct the problem. After correcting the problem, repeat the save process.

If the configuration is successful, click the **Log to Site** button. The Performance Center Administration Site Login page opens.

2 In the **User Name** box, type your user name. The first time you log on, use the default user name "Admin". After you have logged on, you will be able to modify your user name and password for the future.

3 In the **Password** box, type your password. The first time you log on, use the default password **Admin**.

4 Click **Login**. The Administration Site opens.

Note: If this is the first time you are logging on to the system, you are redirected to the System Configuration page and asked for additional details to complete your system configuration. For more details, see "Supplying Server Configuration Information" on page 148.

To log off:

Click the **Logout** button in the upper-right corner of the Administration site window.

Moving Around the Site

To move to a page, click the page name in the left navigation menu. The available pages are:

Resources

➤ **Hosts**. Displays the allocation and availability of Performance Center host machines. You can add and remove hosts from the system, define each host's testing function, prioritize host allocation, and monitor host state. For details, see Chapter 3, "Managing Hosts."

➤ **MI Listeners**. Displays an editable list of MI Listeners that enable you to run Vusers over a firewall. For details, see Chapter 4, "Managing MI Listeners."

➤ **Host Locations**. Displays an editable list of host locations and whether they are within or over the firewall. For details, see "Managing Host Locations" on page 72.

➤ **Host Pools**. Displays groups of hosts that you defined in order to control which hosts may be accessed by which projects. For details, see Chapter 5, "Managing Host Pools."

➤ **Servers**. Displays information about the Performance Center server machines. You can monitor server status, edit server information, and check server performance. For details, see Chapter 6, "Managing Servers."

Site Management

➤ **Test Runs**. Displays the state of test runs. For details, see Chapter 7, "Managing Test Runs."

➤ **Timeslots**. Displays timeslot reservations and availability. For details, see Chapter 8, "Managing Timeslots."

➤ **Event Log**. Displays reported events and errors. For details, see Chapter 9, "Managing Events."

System Configuration

➤ **License**. Displays license information. For details, see Chapter 11, "Configuring and Viewing License Information."

➤ **General Settings**. Displays general system configuration information. For details, see Chapter 12, "Configuring General Settings."

➤ **Diagnostics**. Displays a list of mediator machines upon which you can run ERP/CRM Diagnostics and information about the J2EE/.NET Diagnostics server environment. You can add additional mediators or configure the J2EE/.NET Diagnostics server environment from this page. For details, see Chapter 14, "Configuring Diagnostics."

➤ **Server Configuration**. Displays where key components of Performance Center are located. For details, see Chapter 13, "Configuring Server Information."

➤ **Authentication Server**. Displays the authentication configuration details for logging on to Performance Center. For details, see Chapter 15, "Configuring Server Authentication."

➤ **Alerts Configuration**. Displays the alert conditions and email preferences. For details, see Chapter 16, "Configuring Alerts."

Reports

➤ **Site Users**. Displays individual user information.

➤ **Resource Usage**. Displays system resource usage information.

➤ **Test Run Information**. Displays general information about the test run.

➤ **Autostart Viewer**. Displays information about autostart load tests.

For details, see Chapter 18, "Understanding Performance Center Reports."

User Management

➤ **Personal Information**. Displays the personal information of the currently logged on user. For details, see "Managing Your Personal Information" on page 201.

➤ **Users**. Displays a list of users and user information. For details, see "Managing User Information" on page 202.

➤ **Roles**. Displays a list of user roles and the permissions included in each role. For details, see Chapter 20, "Defining User Roles."

➤ **Privilege Management**. Displays a list of Performance Center containers and user-role assignments in these containers. For details, see Chapter 21, "Managing User Privileges."

➤ **Projects**. Displays a list of Performance Center projects and project information. For details, see Chapter 22, "Managing Performance Center Projects."

Refreshing the Page

You can refresh and alter the auto-refresh frequency for the Resources and Site Management pages in the Administration Site.

To refresh the page:

➤ Click the **Refresh Now** button in the upper-right corner of the page. The information on the page is updated.

To modify the default refresh rate:

1 Click the **Refresh Frequency** button in the upper-right corner of the page. The Refresh Frequency dialog box opens.
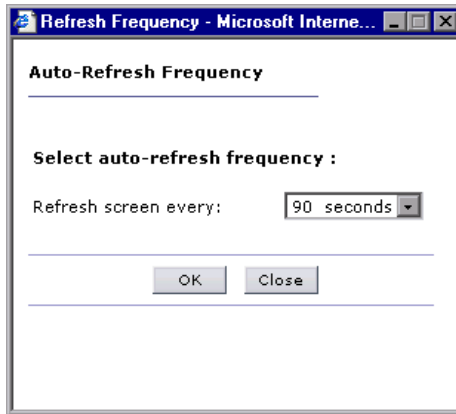
2 Select an auto-refresh frequency from the list and click **OK**. By default, the page is refreshed every 90 seconds.

To close the Refresh Frequency dialog box without altering the refresh rate, click **Close**.

Part II

Performance Center Resources

2

Performance Center System User

The Performance Center Administration Site server is installed with the System Identity Utility. Using this utility, you can manage the Performance Center system user (by default, **IUSR_METRO**) for all servers and hosts in the Performance Center environment from one convenient centralized location.

This chapter describes:	On page:
About Performance Center System User	29
Changing the System User	31
Checking Host Status	36
Remote Performance Center Server and Host Administration	37

About Performance Center System User

During installation of Performance Center servers and hosts, a default Performance Center system user, **IUSR_METRO**, is created in the Administrators user group of the server/host machines.

To prevent security breaches, you can replace Performance Center's default system user by creating a different local system user, or by using a domain user.

For stronger security, you can create a non-administrator Performance Center system user in a local group under the Users group. This system user has the permissions granted to any user in the Users group with extended rights to Web services and the HP file system and registry.

With these limited permissions, such a system user cannot perform all administrative system tasks. You need to specify a configuration user (a user with administrative privileges that is defined on all the Performance Center servers and hosts) that Performance Center uses when administrative tasks are required on the system. After the tasks are complete, the system user reverts back to itself, with its limited Performance Center User permissions.

Note: You can save the configuration user in the database so that whenever an administrative-level system user is required to perform a task, the system automatically uses the configuration user, without asking for its credentials.

The Performance Center Administration Site server is installed with the System Identity Utility that enables you to manage the Performance Center system user for all servers and hosts in the Performance Center environment from one centralized location.

Using this utility, you can periodically update the Performance Center system user name and password. For more information, see "Changing the System User" below.

For information about troubleshooting the Performance Center system identity, see "Troubleshooting System Identity" on page 304.

Changing the System User

You use the System Identity Utility, installed with Performance Center, to change the system user for all servers and hosts in the Performance Center environment.

When you change the system user, or a user's password, the System Identity Utility updates all the Performance Center servers and host machines.

Notes:

➤ You cannot change the system user while a load test is running.

➤ For Windows 2000, the login user on the Administration site server must have the **Act as part of the operating system** policy to run this System Identity Utility.

Important: In the case of a domain user, when the domain IT team notifies you that the password is to be changed, you need to temporarily change the Performance Center system user on all the servers and hosts to a different user. After the domain IT team has changed the password of the domain user and has notified you of this change, you need to change the Performance Center system user back to the domain user on all the servers and hosts.

To change the system user:

1 In the Performance Center Administration site server installation's **bin** directory, open the System Identity Utility (**<PC Admin Site Server Installation directory>/bin/IdentityChangerUtil.exe**).

The System Identity Utility opens and displays the Performance Center system user name and status for all server and host machines in the Performance Center environment.
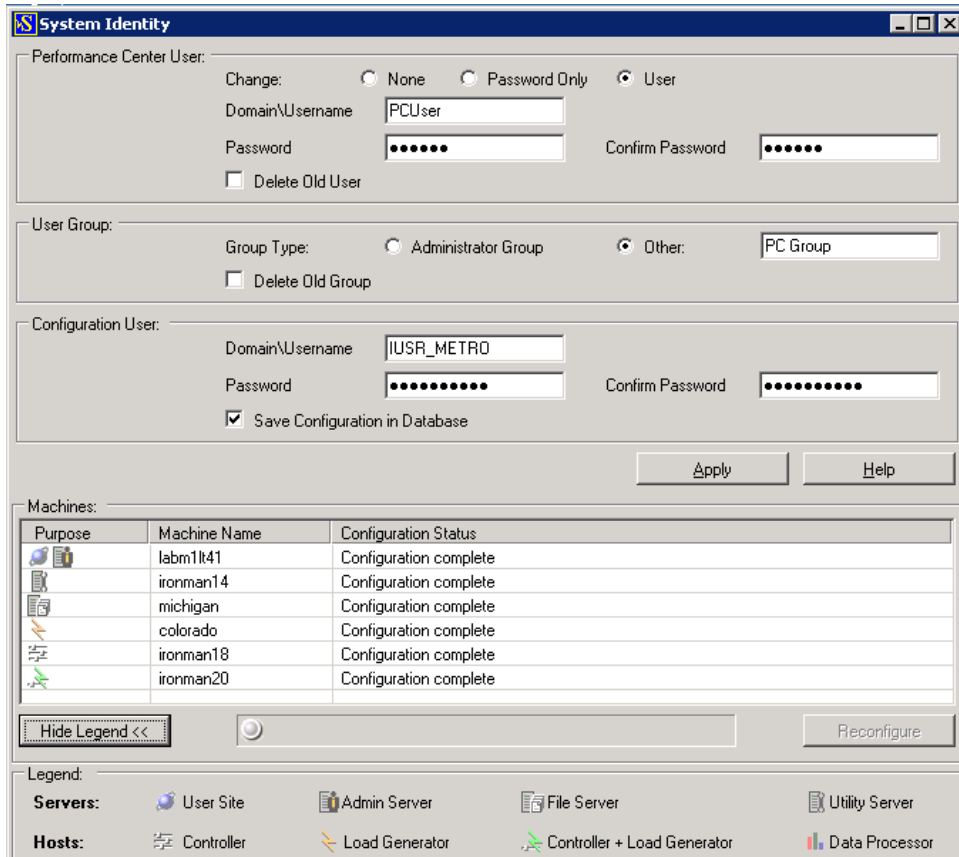
Note: The System Identity Utility does not display UNIX machines, or machines that are located over the firewall.

2 In the **Performance Center User** area:

   a Select the type of change that you want to make to the user.

   ➤ **Password Only.** Select this option to change the current user's password only. (Regarding change the password of a domain user, see note before this procedure.)

   ➤ **User.** Select this option to change the Performance Center system user.

   b Enter the required information according to the type of change you selected.

   c If you are changing the user, you can delete the previous user from the computer. To delete the previous user, select **Delete Old User**.

   Note: You cannot delete a domain user.

3 In the **User Group** area, select the type of group to which the user is to belong:

   ➤ **Administrator Group.** Creates a user in the Administrators group with full administrator policies and permissions.

   ➤ **Other.** Creates a local group under the Users group, granting User policies and permissions as well as other Performance Center permissions.

   If you selected **Administrator Group**, continue with step 5.

4 If you are creating a non-administrator Performance Center system user, you need to configure a configuration user (a system user with administrative privileges) that the Performance Center system user can impersonate when it needs to perform administrative tasks (see "About Performance Center System User" on page 29).

   a In the **Configuration User** area, enter the name and password of a system user that has administrator privileges on all the Performance Center servers and hosts.

   b To save the configuration user on the Performance Center database, select **Save Configuration in Database**. If you save the configuration user in the database, the Performance Center user automatically impersonates this user whenever necessary, without asking for credentials each time.

   Note: For the Task Manager to perform IIS Reset, the configuration user must be saved in the database.

5 Click **Apply**. The utility updates all the Performance Center servers and hosts, starting with the Administration Site server.

In the lower part of the utility window, the **Machines** table displays the status of each machine during the configuration process:

Status	Description
Configuration complete	The system user configuration was completed
Needs to be configured	The server/host is pending configuration
	Displayed only after the Administration Site server configuration is complete
Configuring....	The server/host in being configured
Configuration failed	The server/host configuration failed
	The utility displays the reason for failure together with this status

If the utility is unable to change the user on the Administration Site server, it stops the configuration, rolls back the change on that server, and issues a message explaining why the change cannot be made. Correct the error and click **Apply** again.

After successful configuration of the Administration site server, if the utility is unable to change the user on a particular server, the utilty stops, rolls back the change on that server, and issues a message explaining why the change cannot be made. Correct the error and click **Reconfigure**. The utility starts running again.

When configuration completes successfully on all the servers, Performance Center proceeds with the configuration of the hosts. The utility attempts to configure all the hosts, even if the configuration on one or more hosts is unsuccessful. In this case, after the utility has attempted to configure all the hosts, correct the errors on the failed hosts, and click **Reconfigure**. The utility runs again on the whole system.

Note: If the configuration continues to fail, you can configure servers and hosts manually. However, all attempts should be made to correct errors that cause the configuration to fail. Manual configuration should be left as a last resort. For details on configuring servers and hosts manually, see Appendix A, "Configuring Performance Center System User Manually."

---

6 When configuration is complete on all the servers and hosts, close the System Identity Utility window.

In the Performance Center Administration site, the name of the new user is displayed on the General Settings page under the **Global** settings.

Note: To run a load test after changing the system user password, you need to wait approximately 20 minutes, or reboot all of the hosts.

Chapter 2 •** Performance Center System User

Checking Host Status

You can check that the system user name and password are properly configured on the host machines from the Check Hosts dialog box.

To check the host machines:

1 From the Hosts page, select the hosts that you want to check and click the **Check Hosts** button. The Check Hosts dialog box opens displaying the selected hosts together with an icon next to the host name indicating the host's purpose.
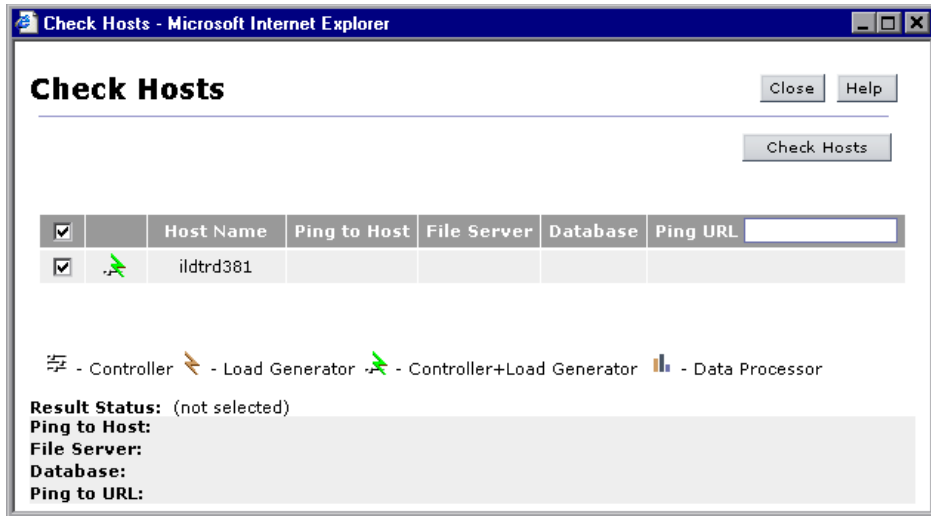
2 Click **Check Hosts**.

If the system user name and password are properly configured, green checkmarks are displayed in the **File Server, Database**, and **Ping URL** columns.

Note: To ping to a host or to a URL, the system user must be a user with administrator privileges.

For additional host checks, see "Checking Hosts" on page 70.

Remote Performance Center Server and Host Administration

To perform administrative tasks on Performance Center servers or hosts (such as adding, configuring, or resetting a Performance Center server/host), Performance Center must use a user with administrative privileges. This must be the Performance Center system user with administrative privileges or a configuration user.

When the Performance Center system user has administrative privileges and is defined on the remote machine, the task is performed upon request.

However, in the following cases you are prompted for a configuration user:

➤ If the Performance Center system user has administrative privileges, but is not defined on the remote machine

➤ If the Performance Center system user does not have administrative privileges, and the configuration user is not saved in the database (see step 4 of "Changing the System User" on page 31)

Note: When the configuration user is a domain user, you must supply the fully qualified domain name.

After validating the Performance Center system user or configuration user, Performance Center can perform the required task. If the Performance Center system user is not defined on the remote machine, it is created at this point. (If the Performance Center system user is a domain user, the required task is performed but the user is not created on the remote machine.)

Important: If the Performance Center system user is a non-administrative user and the configuration user is not saved in the database, Performance Center prompts you for the configuration user credentials every time it needs to perform an administrative task. To avoid having to enter the credentials each time, save the configuration user in the database as described in step 4 of "Changing the System User" on page 31.

3

Managing Hosts

Host machines are used for test runs. Managing the host machines involves adding and removing hosts from the system, defining each host's testing function, prioritizing host allocation, monitoring host conditions, and identifying the host location.

This chapter describes:	On page:
About Managing Performance Center Hosts	40
Understanding the Hosts Page	40
Adding Hosts	46
Editing Host Details	53
Managing Host Details	54
Rebooting Hosts	63
Uploading and Installing Patches	64
Understanding Host Allocation	68
Handling Resource Failure	69
Checking Hosts	70
Managing Host Locations	72
Removing Hosts	74

About Managing Performance Center Hosts

The Administrator manages the information stored in the system about the hosts. Performance Center uses the information to allocate hosts to load test runs. This involves defining the purpose of each host, controlling which projects can use which hosts, prioritizing the use of certain hosts over others, monitoring host performance, checking the condition of the hosts, and following up on any operation problems.

Performance Center gives a user the ability to create a load test from the main site. The load test specifies how many hosts it requires and reserves the necessary number of hosts for a specific time period. Since the availability of hosts is limited, Performance Center allocates specific time periods called timeslots. Reserving a timeslot, actually reserves the required hosts for the specified timeslot.

When the user tries to reserve a timeslot, Performance Center allocates hosts according to parameters that you control from the Hosts page in the Administration site.

Understanding the Hosts Page

The Hosts page displays information about the host machines in the Performance Center system, and enables you to reboot hosts, install patches, check host connectivity, add and delete hosts, and modify host details.

To access the Hosts page:

➤ On the Performance Center left menu, select **Resources** > **Hosts**. The Hosts page opens.

The Hosts page is comprised of the following areas:

➤ **Filter area**. Enables you to set the number of hosts displayed, and filter the Hosts table according to pool, location, name, and run status criteria. For more information, see "Filter Area" on page 41.

➤ **Hosts table**. Displays information about the hosts in the Performance Center system, and enables you to perform actions on the hosts. For more information, see "Hosts Table" on page 42.

➤ **Edit Details for Host area**. Enables you to modify host details. For more information, see "Editing Host Details" on page 53.

Filter Area

The Filter area of the Hosts page enables you to customize the host information displayed. You can set the number of hosts displayed on the page, and filter the host display.

Setting the Number of Hosts Displayed

You can set the number of hosts that are displayed on the page. You can choose to display 10, 20, 50, 100, or all hosts on a page.

To set the number of hosts displayed:

1 In the **Filter by** section, in the **Per Page** list, select the number of hosts to display per page.

2 Click **Filter**. The display updates according to the option you choose.

Filtering the Hosts Display

You can use the filter lists to display a specified subset of the hosts, according to pool, location, name, and run status criteria.

To filter the display:

1 From one or more of the filter lists, select the desired filtering options.

Note:

➤ In the **Pool** list, pool names that are marked with an asterisk (*****) are merged pools. For more information about merged pools, see "Assigning Merged Pools to Projects" on page 84.

➤ The **Run Status** options are:

➤ **All Statuses**. Displays all hosts regardless of status.

➤ **Idle**. Displays hosts in the following states: **Finished**, **Run Failure**, **Failed Collating Results**, **Failed Creating Analysis Data**, **Deleting Temporary Results**, **Temporary Results Deleted**. A short time after the run, it also displays hosts in the **Collating Results**, **Creating Analysis Data**, **Before Collating Results**, and **Before Creating Analysis Data** state.

➤ **Run**. Displays hosts in the following states: **Ready**, **Running**, **Stopping**. Immediately after the run, it also displays hosts in the **Collating Results**, **Creating Analysis Data**, **Before Collating Results**, and **Before Creating Analysis Data** state.

2 Click **Filter**. The display updates according to the options you choose.

Hosts Table

The Hosts table displays the host details. You can sort the table by any of the columns. For instructions on sorting the table, see "Sorting the Hosts Table" on page 45.

The Host table displays the following information about the hosts:

➤ **Status light**. An indicator of the current system performance of the host, represented by a color. A combination of the State and the SiteScope measurement determines the indicator color. A color other than green is a warning that the system performance is less than optimal and warrants investigation. The performance is assessed according to four parameters: CPU usage, memory usage, disk space, and running services. There is a threshold for each parameter. If a Performance Center service stops for any reason, the machine state turns red (Error). For an explanation of the indicator color and the associated host state, see the table in the **State** description below.

➤ **Name**. The host name that you assign when you add a new host. You can click the name to open the Host Details page for the host. For details, see "Managing Host Details" on page 54.

➤ **Purpose**. The type of purpose configuration on the host machine.

Icon	Purpose	Description
릁	Controller	The Controller host manages the load test. Each test requires one host as a Controller.
⚡	Load Generator	Load generator hosts run the Vusers in a load test. There can be any number of load generators in a given test.

Icon	Purpose	Description
	Controller + Load Generator	Enables you to use the host as a Controller and a load generator. You can use the Controller as a load generator, and assign Vusers to run on the Controller. This type of configuration is not recommended.
	Data Processor	The data processor is used for publishing information to the Dashboard. Although it is possible to configure a machine as a Controller and a data processor, it is not recommended.

➤ **Pool**. The host pool to which the host is assigned. Host pools allow you to control which hosts are allocated to which projects. When allocating hosts for a test, the system allocates hosts with the pool specified for the project in the project profile. For more information about host pools, see Chapter 5, "Managing Host Pools."

➤ **Location**. Describes the location of the host so that you can determine if the host is within or outside the firewall.

➤ **State**. The state of the host. An indicator is displayed next to the host name, according to its current state. The following table lists the possible states and the associated indicator color.

Indicator	Host State	SiteScope Status
(green)	Operational	Host is operational.
(yellow)	Operational	Some measurements are out of range, but the host is still operational.
(red)	Operational	Indicates that at least one of the performance parameters is outside of its threshold, and it is not recommended to run tests on this host.
(red)	Resource Failure	Host is not operational. You should try to fix the problem, then change the condition back to **Operational**. If the system detects that the host is still not working, the condition reverts to **Resource Failure**.

Indicator	Host State	SiteScope Status
(gray)	Unavailable	The user manually changed the host status to **Unavailable**.
(gray)	Maintenance	An installation is taking place.
(gray)	Rebooting	Host reboot is taking place. Displays the time (MM:SS) since the rebooting process started.
(gray)	Transferring X%	A patch is being transferred from the File Server to the host. The percentage shows the progress of the patch transfer.
(gray)	Installing X%	A patch installation is taking place. The percentage shows the progress of the patch installation.

➤ **Run Name**. The name of the load test that is currently running on the host.

➤ **Run Status**. The status of the load test that is currently running on the host. This field applies only to hosts that are in the **Running** state. Click the **Running** link to display information for the current run. The Last Run Information page contains data only if there is an active run.
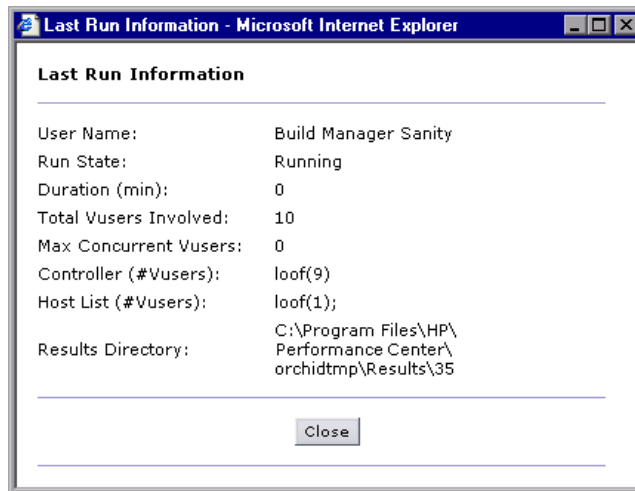
➤ **Run Time**. The start time of the load test that is currently running on the host.

➤ **Project**. The name of the project that is currently running in the load test on the host.

➤ **User**. The name of the user that is currently running the load test on the host.

Below the Hosts table, you can perform the following actions:

➤ **Reboot**. Enables you to remotely reboot host machines from the Administration site. For more information, see "Rebooting Hosts" on page 63.

➤ **Install Patch**. Enables you to remotely install patches on hosts. For more information, see "Uploading and Installing Patches" on page 64.

➤ **Check Hosts**. Enables you to check the connections between various host machines within your system. For more information, see "Checking Hosts" on page 70.

➤ **Delete**. Enables you to remove hosts from the Hosts list. For more information, see "Removing Hosts" on page 74.

➤ **Add Host**. Enables you to add hosts to the Hosts list. For more information, see "Adding Hosts" on page 46.

To perform actions on all the Performance Center hosts, select all hosts by selecting the check box at the top of the check box column. To clear all check boxes at once, clear the check box at the top of the check box column.

Sorting the Hosts Table

You can sort the hosts according to the values in any column.

To sort the hosts:

Click the column heading of your choice. A downward facing arrow is displayed next to the column heading. The hosts are sorted in descending order of the values in that column.

When you click the heading again, the arrow reverses direction, and the hosts are sorted in ascending order of the values in that column.

Adding Hosts

You can add hosts in the Hosts page. When you add a host and enter its details, the system uses these values to allocate hosts for test runs. For details, see "Understanding Host Allocation" on page 68.

To add a new host:

 1 In the Hosts page, click **Add Host**. The Add Host dialog box opens.

 2 In the **Name** box, type a unique name for the host.

 3 In the **OS Type** box, select the operating system of the host. This can be either Windows 2000/2003/XP or UNIX. If you select a UNIX operating system, you must provide the UNIX configuration information as described in "Configuring Remote UNIX Machines" on page 49.

4 In the **Purpose** box, select a purpose to assign to the host. That is:

> ➤ **Controller**

> ➤ **Load generator**

> ➤ **Controller + load generator**

For more information about host purposes, see "Assigning a Purpose to a Host" on page 52.

Note: If the host is located over the firewall or is a UNIX machine, the only purpose it can be assigned is **Load Generator**.

---

5 In the **Priority** box, type a priority number.

You assign a priority to each host. The system allocates hosts with higher priority in preference to those with lower priority. There are a number of criteria to consider when assigning priority. The main considerations are whether the host a dedicated machine or a shared resource and the type of hardware installed on the machine.

6 In the **Location** list, select the host's location. When you select the location, if it is over a firewall, the **MI Listener** list becomes enabled. For more information about host locations, see "Managing Host Locations" on page 72.

7 If you selected a location over a firewall, you need to select an MI Listener that will enable data collection. In the **MI Listener** list, select an MI Listener. For information about adding MI Listeners, see Chapter 4, "Managing MI Listeners."

Note: The MI Listener list is available only when the host is located over a firewall.

---

8 In the **Host Pool** list, select a host pool to which to assign the host. A host can be assigned to a single pool only. For more information on host pools, see "Adding New Pools" on page 87.

9 In the **State** list, select the appropriate description of the host state (possible states are **Operational**, **Unavailable**, **Resource Failure**, or **Maintenance**).

10 In the **Comments** box, type any relevant information about the host.

11 To enable SiteScope monitoring of the host, select **Enable SiteScope Monitoring**.

Note:

➤ SiteScope must be installed on a server in the Performance Center environment. You can install SiteScope on the same machine as the Controller, or on a dedicated server.

➤ Disk performance counters are disabled by default in standard Windows 2000 installations. To monitor disk drives using the SiteScope Disk monitor on machines running Windows 2000, you must enable these disk counters. Run the diskperf -y command line on each Windows 2000 machine you want to monitor disk space, then reboot the machine. Select the disk drives to monitor from the machine's Resource Status tab.

---

12 If you selected a UNIX operating system, the Add Hosts dialog box includes a **Configuration for Unix** section. Provide the UNIX configuration information as described in "Configuring Remote UNIX Machines" on page 49.

13 Click **Save** to add the host.

If you are prompted for the configuration user credentials, enter them and click **OK**.

Note:

➤ For more information about the configuation user prompt, see "Remote Performance Center Server and Host Administration" on page 37.

➤ When supplying the credentials of a domain system user, you must enter the fully qualified domain name.

Configuring Remote UNIX Machines

You configure the remote machine according to the platform your machine is running on. If you selected a UNIX operating system, the **Configuration for UNIX** section is displayed in the Add Hosts dialog box.

```
Configuration For Unix
User Name:                  IUSR_METRO
Password:                   **********
OS:                         AIX
Connection method:          Telnet
Prompt:
Login Prompt:
Password Prompt:
Secondary Prompt:
Secondary Response:
Initialize Shell Environment:
```

Provide the following information to configure the remote UNIX machine:

➤ **User Name**. Type the user name of the UNIX host machine.

➤ **Password**. Type the user password of the UNIX host machine.

➤ **OS**. Select the operating system running on the remote server. The following versions of UNIX are supported: AIX, HP/UX, HP/UX 64-bit, Linux, and Sun Solaris.

➤ **Connection Method**. Select the method of connecting to the host machine. The supported methods are:

   ➤ **Telnet**. Log in to the remote server using Telnet.

   ➤ **Rlogin**. Log in to the remote server using the Rlogin protocol.

   ➤ **HTTP**. Connect to an HTTP server on the remote server and run the command using a CGI. For this method, the Login and Password are optional and are used for authorizing the log on to the remote machine if required.

➤ **Prompt**. Type the prompt to be displayed when the system is ready to handle a command - the default is #.

➤ **Login Prompt**. Type the prompt to be displayed when the system is waiting for the login to be entered - the default is "login:".

➤ **Password Prompt**. Type the prompt to be displayed when the system is waiting for the password to be entered - the default is "password:".

➤ **Secondary Prompt**. Type the prompt to be displayed if the telnet connection to the remote server causes the remote server to prompt for more information about the connection. Separate multiple prompt strings by commas (,). For example, for Telnet connections to some remote servers, the remote server may ask what terminal type should be emulated for the connection. In this case you might need to type Terminal type? as the secondary prompt. The response to the secondary prompt is entered in the Secondary Response field below.

➤ **Secondary Response**. Type the responses to secondary prompts required to establish connections with this remote server. Separate multiple responses with commas (,).

➤ **Initialize Shell Environment**. Type any shell commands to be executed at the beginning of the session. Separate multiple commands with a semicolon (;). This option allows you to specify shell commands to be executed on the remote machine directly after a Telnet or SSH session has been initiated. These commands can be used to customize the shell for each SiteScope remote.

Examples:

➤ The remote shell may not have the correct path set for SiteScope scripts to run. The following command will add the directory **/usr/local/bin** into the PATH of the current shell on the remote machine:

```
export PATH=$PATH:/usr/local/sbin
```

➤ The remote shell may not be initializing the pseudo terminal correctly. Type the following command to increase the terminal width to 1024 characters:

```
stty cols 1024;${SHELL}
```

Note: Commands after a shell invocation will not be executed.

➤ There have been cases where the remote Telnet Server does not echo back the command line properly. This may cause strange behavior for monitors that rely on this behavior.

Type the following command to force the remote terminal to echo:

```
stty echo
```

➤ Certain UNIX shells have been known to behave erratically with SiteScope. This includes bash, ksh, and csh. Type the following command to change the shell to sh for the SiteScope connection:

```
/bin/sh
```

Assigning a Purpose to a Host

The purpose is the function that you assign to each host. A host can be allocated any of the following purposes:

➤ **Controller**. The Controller host manages the load test. Each test requires one host as a Controller.

➤ **Load Generator**. The Load Generator hosts run the Vusers in a load test. There can be any number of load generators in a given test.

➤ **Data Processor**. The Data Processor host is used for publishing information to the Dashboard.

Note:

➤ To provide greater flexibility (especially where resources are scarce), you can allocate a host with dual purposes as a Controller and Load Generator. It is not recommended to use Controllers as Load Generators. When allocating machines, the system tries to use single function machines before dual purpose Load Generator and Controller machines.

➤ Although it is possible to set a machine as a Controller and a Data Processor, it is recommended to set up a separate Data Processor machine.

➤ A machine that is located over the firewall or is a UNIX machine can only be assigned the purpose of Load Generator.

Editing Host Details

You can view and edit host information for one or multiple hosts in the Edit Details for Host area on the Hosts page.

This area displays the following settings:

➤ **Priority**. A rank assigned to the host. The higher the priority you give the host, the more likely the host will be allocated to a test. In this case, you would set the priority according to the performance of the hosts. You assign this value when you add a host, and you can edit it for any host.

➤ **State**. The state of the host. The possible states are: **Operational**, **Unavailable**, **Resource Failure**, and **Maintenance**. Additionally, temporary states of **Rebooting**, **Transferring**, or **Installing** are assigned while a machine goes through a rebooting or patch installation process.

If the host is in the **Resource Failure** state, try to fix the problem, then change the condition back to **Operational**.

➤ **Pool**. The host pool to which the host is assigned. For more information, see "Understanding Pool Resources" on page 82.

➤ **Comments**. Relevant information about the host.

➤ **OS**. The host operating system.

➤ **Details**. Opens the Host details pages, allowing you to view and edit host properties, statuses, processes, logs, and runs. For more information, see "Managing Host Details" on page 54.

To edit host settings from the Edit Details for Host area:

1 Select the desired hosts in the Hosts table. The selected hosts are displayed in the **Edit Details for host** list.

2 Edit the desired settings. You can edit the host's priority, state, and pool, and any comments related to the host. To edit other details, click the **Details** link, or click the name of the host in the Hosts table. For more information, see "Managing Host Details" on page 54.

Note: If multiple hosts are selected, Performance Center displays only those settings that are identical for all the selected hosts. If settings differ, the box remains empty. The **Details** link is not available when multiple hosts are selected.

---

3 Click **Save** to save changes to the hosts. Performance Center displays a message informing you that the details were successfully saved. If you move away from the page without saving the changes, the settings are not saved.

Managing Host Details

You view and manage host details from the Host details page. In the Host details page you can view and edit host properties, status, processes, logs, and runs.

To access the Host details page:

1 From the Hosts page, click the name of any host, or select a host and click the **Details** link in the **Edit Details for host** area. The Hosts page displays the details for the selected host.

2 Select a tab to view or edit the Host information, as follows:

➤ **Properties tab**. Allows you to view and edit host properties.

➤ **Status tab**. Allows you to view the host status and to perform host connectivity checks.

➤ **Processes tab**. Allows you to view and end processes on a host.

➤ **Logs tab**. Allows you to view detailed information about the tasks performed on the host, the action status, and a description of any errors.

➤ **Runs tab**. Allows you to view runs on a specific host.

To return to the Hosts page:

Click the **Hosts** link at the top of the **Hosts** detail page.

Host Properties Tab

The Properties tab provides general information about the host. In this tab you can edit host information, and enable SiteScope monitoring.
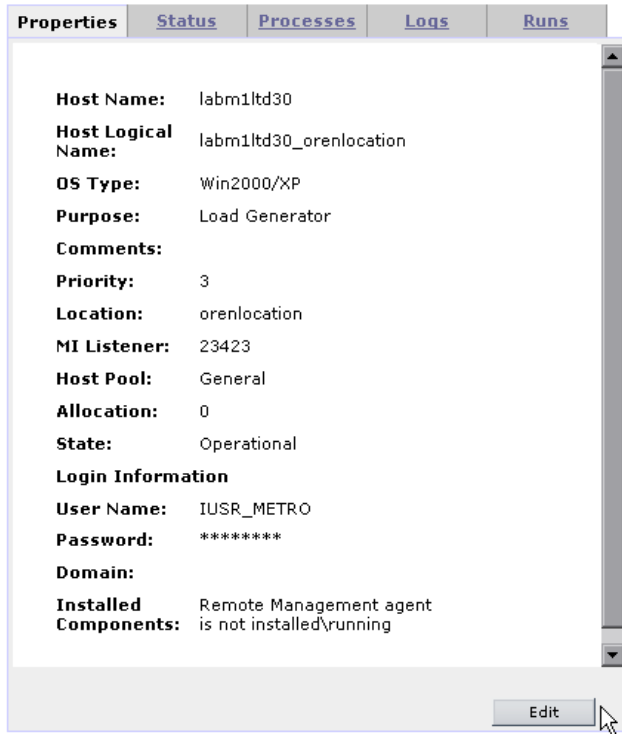
The Host Properties tab displays the following details:

➤ **Host Name**. The name given to the host when it was added to the system.

➤ **Host Logical Name**. The logical name given to the host when it was added to the system.

➤ **OS Type**. The host operating system.

➤ **Purpose**. The function the host performs in a test run. You define a host as a Controller, Load Generator, Controller + Load Generator, or Data Processor.

➤ **Comments**. Any relevant information about the host.

➤ **Priority**. A rank assigned to the host. The higher the priority you give the host, the more likely the host will be allocated to a test.

➤ **Location**. The geographical location of the host.

➤ **MI Listener.** For hosts located over a firewall, the IP address or name of the MI Listener that enables data collection.

➤ **Host Pool**. The host pool to which the host is assigned.

➤ **Allocation**. The number of timeslot to which the host is allocated. **0** means the host is not allocated.

➤ **State**. The state of the host. The possible states are; **Operational**, **Unavailable**, **Resource Failure**, and **Maintenance**. Additionally, temporary states of **Rebooting**, **Transferring**, or **Installing** are assigned while a host goes through a rebooting or patch installation process.

When the Remote Machine Agent or SiteScope Monitoring are enabled, the following **Login information** is displayed:

➤ **User Name**. The user name of the host.

➤ **Password**. The password of the host.

➤ **Domain**. The host domain.

➤ **Installed Components**. A list of components installed on the host, including version and patches.

To edit host properties:

1 Click the **Properties** tab, and click **Edit**. The Properties tab is displayed with editable fields.

2 Edit the desired fields, as described in "Adding Hosts" on page 46.

3 Click **Save** to update the host properties, or click **Cancel** to disregard any changes made.

4 Click the **Hosts** link at the top of the page to return to the Hosts page.

Host Status Tab

The **Check Host** area of the Status tab provides information about the connections between the selected host and various machines within your system. You can also check whether the host is able to create an active session. For more details on checking connections, see "Checking Hosts" on page 70.

If SiteScope monitoring is enabled, the **SiteScope Data** table displays detailed information about the host, as collected by the SiteScope monitor. For more information, see "Adding Hosts" on page 46 and the *HP Performance Center System Configuration and Installation Guide*.

All functions are automatically performed when the tab is opened, the page is refreshed, or when you click the **Check Host** button.

If you want the selected host to ping a remote site, type the URL address in the **Ping to URL** box and click **Check Host**. Performance Center displays the results in the **Ping to URL Status** field.

Note: To ping to a host or to a URL, the Performance Center system user must have administrator privileges.

Click the **Hosts** link at the top of the page to return to the Hosts page.

Host Processes Tab

The Processes tab provides detailed information about the processes and resource usage of the selected host.

Name	% Processor Time	Mem. Usage (Bytes)	Elapsed Time (Hours)	PID	Kill
ALWRAP~1	3.077	5570560	15.421	2868	✖
Babylon	0	10264576	41.142	2528	✖
CSRSS	0	2363392	41.201	208	✖
CSRSS~1	0	1921024	19.57	3800	✖
CTFMON	0	1720320	41.156	2408	✖
Collator	0	5652480	0.003	2660	✖
DLLHOST	0	5758976	41.14	2632	✖
DLLHOST~1	0	28258304	1.513	2208	✖
DefWatch	0	1708032	41.195	768	✖
Idle	100	16384	41.203	0	✖
LLSSRV	0	798720	41.195	836	✖
LSASS	0	4075520	41.2	272	✖
MANAGM~1	0	11239424	0.001	3752	✖
MDM	0	5386240	41.195	884	✖
MSDEV	0	9715712	11.917	3408	✖
ORCHID~2	0	13938688	1.283	1716	✖
OrchidScheduler	0	9748480	17.784	3016	✖

Tabs: Properties | Status | **Processes** | Logs | Runs

Page will reload in 55 secs. [Refresh Now]

To end a process, click the **Kill Process** button in the process's **Kill** column.

Click the **Hosts** link at the top of the page to return to the Hosts page.

Note: Performance Center is unable to display processes and resource usage information for UNIX machines.

Host Logs Tab

The Logs tab provides detailed information about the tasks performed on the selected host, the action status, and a description of any errors.

You can filter the information by a specific time frame, refresh the table to view the most current tasks, and clear the log.

To view log files for the action, click the error description link.

Click the **Hosts** link at the top of the page to return to the Hosts page.

Host Runs Tab

The Runs tab provides detailed information about load test runs performed on the selected host.

Properties	Status	Processes	Logs	**Runs**

View run details for [Last Month ▼]   [Apply Filter]

Currently showing: 1 - 14 / 14

Run Id ▲	Date	LoadTest	Project	User	State	Duration
2	3/8/2005 1:15:53 PM	igor_test_1	Default	Admin	Finished	0
3	3/8/2005 1:23:05 PM	igor_test_1	Default	Admin	Finished	0
6	3/8/2005 1:28:13 PM	igor_test_1	Default	Admin	Finished	0
7	3/8/2005 1:33:37 PM	igor_test_1	Default	Admin	Finished	0
8	3/8/2005 1:35:28 PM	igor_test_1	Default	Admin	Finished	4
9	3/8/2005 1:40:02 PM	igor_test_1	Default	Admin	Finished	2
10	3/8/2005 1:43:46 PM	igor_test_1	Default	Admin	Finished	2
11	3/8/2005 1:48:48 PM	igor_test_1	Default	Admin	Finished	4
15	3/8/2005 1:59:12 PM	igor_test_1	Default	Admin	Run Failure	0
16	3/8/2005 2:27:29 PM	igor_test_1	Default	Admin	Run Failure	0
18	3/8/2005 2:42:44 PM	igor_test_1	Default	Admin	Run Failure	4
19	3/8/2005 2:59:18 PM	igor_test_1	Default	Admin	Run Failure	2
20	3/8/2005 3:06:30 PM	igor_test_1	Default	Admin	Run Failure	1
23	3/8/2005 3:39:01 PM	igor_test_1	Default	Admin	Run Failure	6

You can filter the information by a specific time frame and refresh the table to view the most current tasks. You can also sort the information by clicking the header of any column in the table.

The Run Details table displays the following details about each test run:

➤ **Run ID**. The identification number of the test run. This number is automatically generated by the system when the load test starts running.

➤ **Date**. The start date and time of the test run.

➤ **Load Test**. The name given to the test when it was created.

➤ **Project**. The name of the project running the test.

➤ **User**. The name of the user running the test.

➤ **State**. The state of the test run. If a test is stuck in a particular state, you can change it.

➤ **Duration**. The time the load test took to run.

Click the **Hosts** link at the top of the page to return to the Hosts page.

Rebooting Hosts

Performance Center enables you to reboot hosts remotely from the Administration site. The following conditions and limitations determine whether a particular host can be rebooted from the Administration site.

➤ The Remote Management Agent must be installed on the host. For more information, see the *HP Performance Center System Configuration and Installation Guide*.

➤ You cannot reboot Controller and Load Generator hosts while they are in the **Running** state. You can only reboot these hosts when they are idle.

➤ You cannot reboot a UNIX host.

To reboot hosts:

1 From the Hosts page, select the hosts you want to reboot.

2 Click **Reboot**. The Reboot Hosts window opens.

If Performance Center is unable to reboot the host—for example, because the selected host is the Administration Site server or a task is running on the host—a message is displayed in the **Message** column.

3 Supply login information for all hosts that should be automatically logged on after the hosts reboot. If you leave the boxes empty, you must log on to these hosts at startup.

Note: If you supplied login information when the host was configured, it is displayed in the appropriate column.

---

4 Click **Reboot**.

You can follow the progress of the reboot from the Hosts page. During reboot, the state of the host changes to **Rebooting** and the time (MM:SS) since the rebooting process started is displayed.

Uploading and Installing Patches

Performance Center allows you to upload a patch to the system and then install the patch on the appropriate Performance Center host.

The process consists of two stages: uploading the patch and installing the patch. The following conditions and limitations apply to installing patches on a particular host from the Administration site.

➤ The Remote Management Agent must be installed on the host. For more information on installing the Remote Management Agent, see the *HP Performance Center System Configuration and Installation Guide*.

➤ The Install Patch feature is not available for the Administration Site and Database servers.

➤ You cannot use the Install Patch feature on Controller and Load Generator hosts if they are in the **Running** state. You can only install patches when these hosts are idle.

➤ You should use this feature to install Performance Center certified patches only.

To install patches on hosts:

1 From the Hosts page, select the hosts on which you want to install patches.

2 Click **Install Patch**. The Install Patch - Step 1 dialog box opens displaying any patches that were previously uploaded to the File Server.

3 If a patch you want to install is not displayed in the Existing Patches list, click **Browse**, select the patch, and click **Upload**. The patch is added to the list.

4 Select the patches you want to install from the Existing Patches list and click
Next. The Install Patch - Step 2 dialog box opens.

Machine	Login	Password	Domain	Message
warrant	IUSR_METRO	**********	PC_Group	

Install Patch - Step 2

Enter machine login and domain details

Install   Cancel   Help
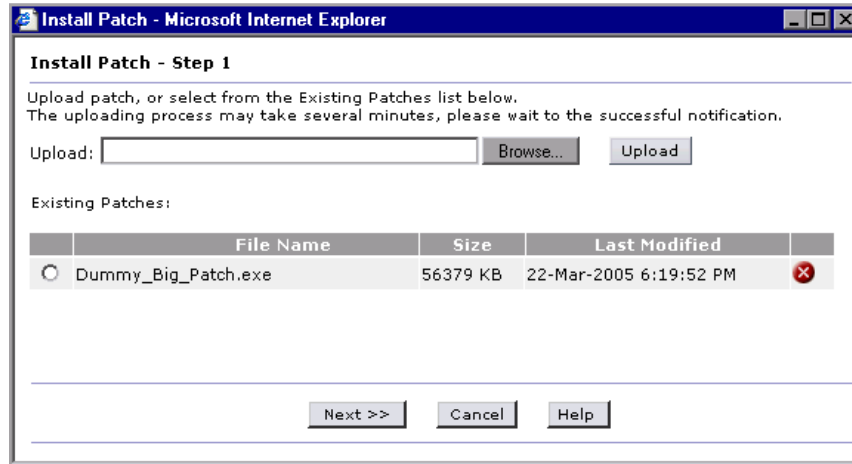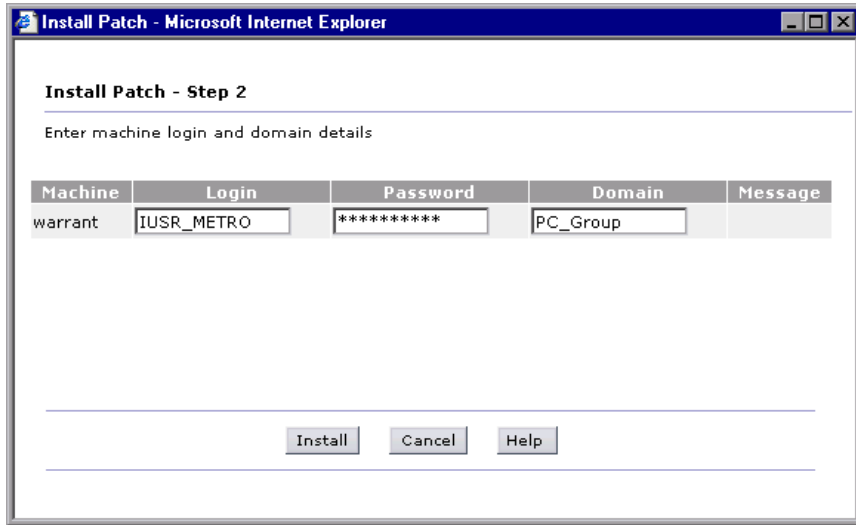
If Performance Center is unable to install a patch (for example, because the
selected host is the Administration Site server or a task is running on the
host), a message is displayed in the **Message** column.

5 Supply the login information for all hosts.

Note: If you supplied the login information when the host was configured,
it is displayed in the appropriate column.

6 Click **Install**. The installation process begins.

You can follow the progress of the patch installation from the Hosts page. When the patch is being transferred from the File Server to the host, the state of the host is **Transferring**. During the patch installation, the state of the host is **Installing**. The percentage shows the progress of the patch transfer/installation. If the installation fails, select the host's Log tab and click the **Fail to create task** link to view the log file.

Note: If the log file opens in binary instead of .txt format, you should close the file and reopen it using Notepad.

---

7 After installation is complete, if a reboot is required Performance Center prompts you to reboot the host.

To uninstall a patch:

1 From the Hosts page, select the hosts from which you want to uninstall a patch.

2 Click **Install Patch**. The Install Patch dialog box opens and displays any patches that were previously uploaded to the hosts.

3 Click the **Delete** button at the end of the line for the patch that you want to uninstall.

The patch is now removed from the list and deleted from the File Server.

Understanding Host Allocation

When creating a test, the user specifies the number of hosts required for the test, and reserves a timeslot. To successfully reserve a timeslot, the required number of hosts needed for the test must be available.

When the user tries to reserve a timeslot, the system uses some of the information that is displayed on the Hosts page to determine if the required number of hosts, with the proper purposes, are available. If the required hosts are found, and are available for the requested time period, the timeslot is successfully reserved and the hosts are allocated. If the system cannot find suitable hosts to allocate for the requested time period, the timeslot cannot be reserved.

Each test requires one host as a Controller, one or more hosts that are load generators (it is possible to designate one host as a Controller + Load Generator), and one host for data processing. Performance Center uses different criteria to allocate hosts for each of these purposes, and out of all the hosts that meet the requirements, allocates those with highest priority. The two allocation methods are described below.

Allocating Controller and Load Generator Hosts

For load generation, Performance Center uses the following criteria for allocating hosts.

➤ **Run ID**. **null** means the host is not currently running.

➤ **Allocation**. **0** means the host is not allocated to the timeslot.

➤ **State**. **Operational**.

➤ **Purpose**. **Controller**, **Controller + Load Generator**, or **Load Generator** as indicated.

➤ **Pool**. The same pool as specified for the project for which the test is being run. For each project, Performance Center assigns hosts from a specific pool. This pool is specified in the project information page. For details, see the *HP Performance Center User's Guide*.

➤ **Project**. Either **none** or the name of the test's project for which the test is being run. Priority goes to hosts already assigned to the project.

Allocating Data Processor Hosts

For data processing, Performance Center allocates a host with the following values:

➤ **State. Operational**.

➤ **Purpose. Data Processor**.

➤ **Pool.** The same pool as specified for the project for which the test is being run.

➤ **Allocation. 0 - 5**, because one host can be used for up to 5 concurrent operations.

Handling Resource Failure

If any of the hosts fail when Performance Center tries to run a test on the set of allocated hosts, the condition of the failed hosts changes from **Operational** to **Resource Failure**, and an error log describing the problem is sent to the main site.

You can try to fix the problem according to the description in the error log, then change the condition back to **Operational**. If the host is still not operational, the condition automatically returns to **Resource Failure** in the next test run.

If you are using the Host Checkup Service (enabled from the General Settings of the Administration site), Performance Center automatically detects host resource failure and attempts to restore the host to the **Operational** state.

Checking Hosts

You can check the connections between your project's hosts and the various machines within your system. You can also check whether a load generator host is able to create an active session.

To check hosts:

1 From the Hosts page, select the hosts that you want to check and click the **Check Hosts** button. The Check Hosts dialog box opens displaying the selected hosts together with an icon next to the host name indicating the host's purpose.
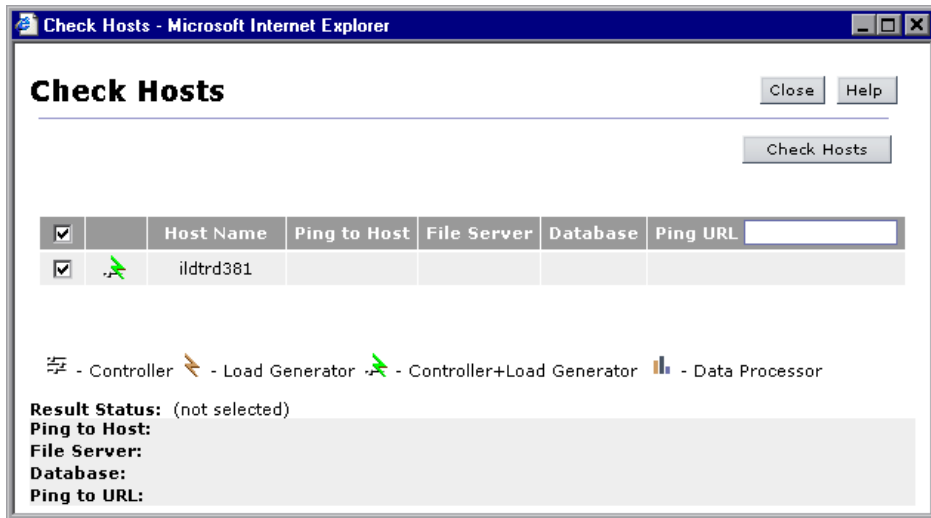
By default, all the selected hosts are enabled. If you not do want to check a specific host, clear that host's check box.

Tip: Selecting or clearing the check box in the check box column header selects or clears all the check boxes respectively.

---

2 If you want the selected hosts to ping a remote site, in the **Ping URL** column header, type the URL address.

3 Click **Check Hosts**. Performance Center performs the following actions for the selected hosts:

> ➤ **Ping to Host**. The Administration Site server pings the selected host.

> ➤ **File Server**. The selected host attempts to write, read, and delete from the File Server.

> ➤ **Database**. The selected host connects to the Database Server.

> ➤ **Ping URL**. The selected host pings the listed URL.

The Check Hosts table displays the success or failure of the actions.

Note: To ping to a host or to a URL, the Performance Center system user must be a user with administrator privileges.

---

4 Select a host to view the results of the host check. Details for each action are listed in the **Result Status** area.
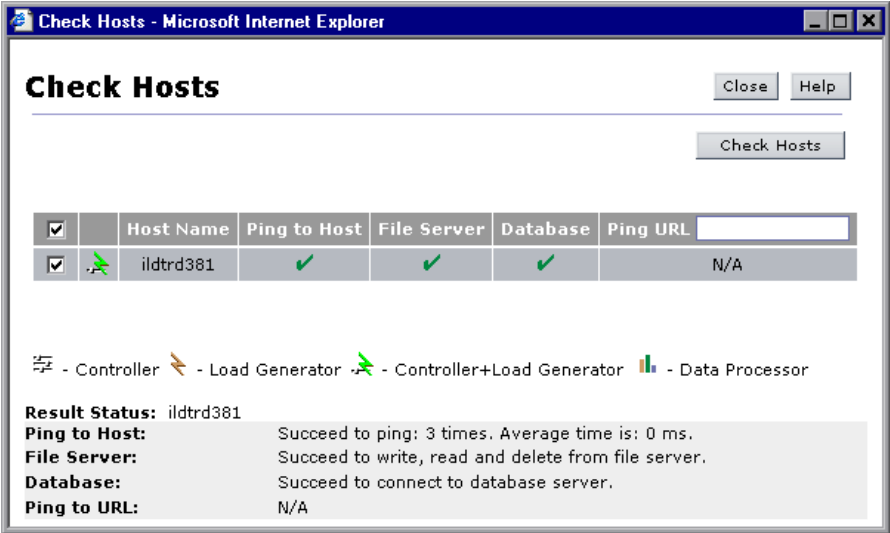
5 Click **Close** to return to the Hosts page.

Managing Host Locations

The Host Locations page displays the location information about the hosts available for load testing.

When a user creates a load test from the main Performance Center site, the user specifies which hosts to use for the test. It is possible for the hosts to be located across a wide physical area. The location of the host might be a consideration when creating a test.

The Host Locations page also specifies whether a host is over or within the firewall. This information is crucial when assigning a purpose for the host. Hosts over the firewall can be designated as load generators only.

To view the Host Locations page:

➤ On the Performance Center left menu, select **Resources** > **Host Locations**. The Host Locations page opens.

Host Locations   Page will reload in 69 secs. | Refresh Now | | Refresh Frequency... |

Add Host Location

Currently Showing :   1 - 4 / 4

Id	Name	Over Firewall	
1	Default	No	
2	OFW	Yes	✖
4	Tokyo	Yes	✖
5	Chicago	Yes	✖

Edit Location Details:

Location ID (not selected) **Name:** [   ]   **Located Over Firewall:** ○ Yes ○ No

Save

The page displays the following information about the hosts:

- ➤ **ID**. The host location ID number. This is automatically assigned when you add a host location.

- ➤ **Name**. The name of the location of the host. This is the name that you assign when you add a host location.

- ➤ **Over Firewall**. This indicates whether or not the location of the host is over the firewall. Hosts that are located over the firewall may be designated as load generators only.

To add a host location:

1 In the Host Locations page, click **Add Host Location**. The Add Host Location dialog box opens.

2 Type a location name. The name should have a logical connection to the location.

3 Indicate whether or not the location is over the firewall.

4 Click **OK**. The location is added to the list of host locations.

To edit a host location:

1 In the Host Locations page, select the location you want to edit.

2 In the **Edit Location Details** area in the lower part of the page, type a new name, or indicate whether it is located over a firewall.

3 Click **Save**. The host location information is updated.

Removing Hosts

You can remove a host from the Hosts page. If you remove a host, it is no longer available for allocation to a test run, even if the host still has the Performance Center software installed.

To remove a host from the Hosts table:

1 In the Hosts table, select the host you want to delete.

2 Click **Delete**. A message appears asking you to confirm this action.

3 Click **OK** to confirm.

The host is removed from the list, and is no longer available to the system to be used for a test.

4

Managing MI Listeners

This chapter describes how to manage MI Listener resources in Performance Center. MI Listeners enable running of Vusers over a firewall and collecting server monitor data and application diagnostics data over a firewall.

This chapter describes:	On page:
MI Listeners Page	76
Running Vusers over a Firewall	77
Collecting Data From Outside a Firewall	78

MI Listeners Page

You manage the MI Listeners from the MI Listeners page (**Resources** > **MI Listeners**).

The MI Listeners page comprises the following areas:

➤ **Firewall Vusers Communicators.** Specify one or more MI Listener machines that enable you to run Vusers over the firewall. See "Running Vusers over a Firewall" on page 77.

➤ **Firewall Monitoring Communicator.** Specify the MI Listener machine that is configured to collect server monitor data from over the firewall. See "Collecting Data From Outside a Firewall" on page 78.

➤ **Firewall Diagnostics Communicator.** Specify the MI Listener machine that is configured to collect application diagnostics data from over the firewall. See "Collecting Data From Outside a Firewall" on page 78.

Running Vusers over a Firewall

You can specify one or more MI Listeners that will enable running Vusers over a firewall. You can specify these MI Listeners in the MI Listeners page, in the Firewall Vusers Communicators MI Listeners table. You can add, edit, and delete MI Listeners in this table.

The MI Listeners table displays the following details:

➤ **MI Listeners.** The IP address or name of the MI Listener.

➤ **Comments.** Information and comments about the MI Listener.

To add an MI Listener (running Vusers):

1 On the Performance Center left menu, select **Resources** > **MI Listeners** to open the MI Listeners page.

2 In the **Firewall Vusers Communicators** area, click **Add**. The Add New MI Listener dialog box opens.

3 In the **IP Address / Name** box, type the IP address or name of the MI Listener.

4 In the **Comments** box, type any comments that you want to note about the MI Listener.

5 Click **OK**. The MI Listener is added to the table.

6 Click **Save** at the bottom of the page.

To edit an existing MI Listener (running Vusers):

1 On the Performance Center left menu, select **Resources** > **MI Listeners** to open the MI Listeners page.

2 In the **Firewall Vusers Communicators** area, select an MI Listener in the table.

3 Click **Edit**. The Edit MI Listener dialog box opens.

4 Edit the details, and click **OK**. The changes that you made are updated in the table.

5 Click **Save** at the bottom of the page.

To delete an MI Listener (running Vusers):

Important! Deleting an MI Listener from Performance Center permanently removes it from the system, and may influence hosts that use the MI Listener.

---

1 On the Performance Center left menu, select **Resources > MI Listeners** to open the MI Listeners page.

2 In the **Firewall Vusers Communicators** area, select an MI Listener in the table.

3 Click **Delete**.

4 In the message box that opens, click **OK** to proceed.

5 Click **Save** at the bottom of the page.

Collecting Data From Outside a Firewall

You can specify MI Listeners to collect monitoring or diagnostics data from outside a firewall.

To specify an MI Listener for collecting server monitor data:

1 On the left menu, select **Resources > MI Listeners** to open the MI Listeners page.

2 In the **Firewall Monitoring Communicator** area, in the **IP Address / Name** box, type the IP address or name of the MI Listener that is configured to collect server monitor data from over the firewall.

3 Click **Save** at the bottom of the page.

To specify an MI Listener for collecting application diagnostics data:

1 On the left menu, select **Resources** > **MI Listeners** to open the MI Listeners page.

2 In the **Firewall Diagnostics Communicator** area, in the **IP Address / Name** box, type the IP address or name of the MI Listener that is configured to collect application diagnostics data from over the firewall.

3 Click **Save** at the bottom of the page.

5

Managing Host Pools

Host pools are groups of hosts that you define in order to control which hosts may be accessed by a particular project. Managing host pools involves adding, deleting, editing, and assigning pools to projects.

Understanding Pool Resources

A *host pool* is a single pool made up of multiple hosts. When managing a pool, it is important to understand the total available resources. That is, how many Controllers, load generators, or other machines are a part of a pool.

Note: A host can be assigned to a single pool only.

As hosts are added to a pool, the statistics for that pool are increased accordingly. Suppose you have a pool named **General**, and the pool consists of one Controller and two load generators. If you assign a new Controller host to the pool, the number of Controllers is increased by one, and a quantity of two Controllers is displayed.

Aquantity is displayed for each type of machine (Controller, load generator, Controller + load generator).

Assigning Pools to Projects

You can assign single pools or merged pools to a project. If you assign a single pool to a project, the project can use only the machines available in that pool. Assigning a single pool limits flexibility in managing the Performance Center, and the utilization of shared resources.

When a customer is assigned to a project, he has access only to those pools assigned to his projects.

Typically, host pools are divided according to a variety of schemes that include geographical location, type of machine, machine properties, and software installed on the machine.

For example, say you have two pools—**Pool 1** (machines in New York) and **Pool 2** (machines in Los Angeles), and two projects—**Project 1** and **Project 2**. If you want **Project 1** to access only the machines in New York, and **Project 2** to access the machines both in New York and in Los Angeles, you can either:

➤ **Split Pool 1 and assign some of its resources to Pool 2.**

Pool 1 is assigned to **Project 1**, and **Pool 2** is assigned to **Project 2**. However, both projects have access to fewer machines, and lose the benefit of shared resources.
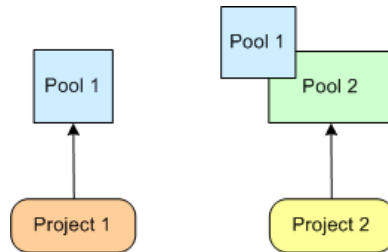
➤ **Merge Pool 1 and Pool 2 into a new pool, Pool 3, and assign it to both projects.**

This gives **Project 1** access to machines in Los Angeles—which it need not have.
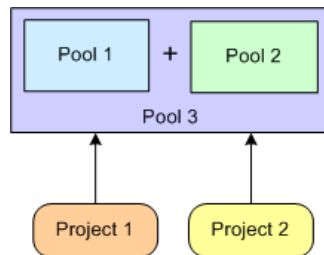
Assigning Merged Pools to Projects

To increase the flexibility and utilization of Performance Center resources, you can assign a *merged pool* to one project. A *merged pool* is a logical pool that combines the physical resources of existing host pools. This enables the project to access and utilize the resources of a number of different pools.

Using the example discussed above, to maximize resource usage, you can create a merged pool, **Pool 3**, that combines the resources of the existing host pools, **Pool 1** and **Pool 2**. You can assign **Pool 3** to **Project 2**, allowing access to New York and Los Angeles machines, and, at the same time, you can assign **Pool 1** to **Project 1**, allowing access to New York machines only.
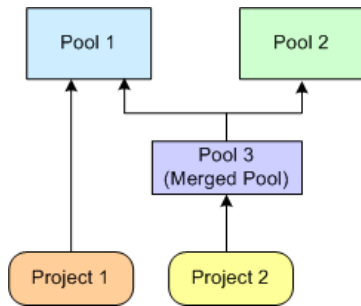
Merged pools allow projects, and customers working on those projects, to access resources from an unlimited number of pools.

Understanding the Host Pools Page

Host pools are groups of hosts. You define host pools in order to control which hosts may be accessed by which projects. You can view a list of host pools and merged pools, and their total resources, in the Host Pools page. To access the Host Pools page, on the Performance Center left menu, select **Resources** > **Host Pools**.

Host Pools

Currently Showing: 1 - 3 / 3

	Pool Id	Pool Name	Total C	Total L	Total C + L	Merged	Host Count	Description
☐	1	General	0	2	0	N	2	
☐	2	pool_1	0	0	0	N	0	pool_1
⊞ ☐	3	merged	0	2	0	Y	2	merged

Delete Pools   Create Merged Pool   Add Pool

'C' - Controllers   'L' - Load Generators   'C + L' - Controllers and Load Generators

Edit Pool Details:

Pool ID: (not selected)   **Included In:** (not merged)

Name: [ ]   **Description:** [ ]   Edit Merged Pool   Save

The Host Pools page is comprised of the following areas:

➤ **Host Pools table.** Displays information about the host pools in the Performance Center system. You can add and delete pools, and merge pools that are listed in the table. For more information, see "Host Pools Table" on page 86.

➤ **Edit Pool Details area.** Displays the details of a selected host pool or merged pool.

Host Pools Table

The Host Pools table displays the following information about the pools:

➤ **Pool ID.** The ID that was assigned to the pool when it was created.

➤ **Pool Name**. The name that was assigned to the pool when the pool was created.

If a pool is a merged pool, you can expand it to see which host pools it comprises, and the total physical resources contained in each pool.

➤ **Total C**. The total number of Controller hosts in the pool.

➤ **Total L**. The total number of load generator hosts in the pool.

➤ **Total C + L**. The total number of Controller and load generator hosts in the pool.

➤ **Merged**. **Y** indicates that the pool is a merged pool—a pool comprised of existing host pools. **N** indicates that the pool is not a merged pool.

➤ **Host Count**. The total number of machines in the pool.

➤ **Description.** A description of the pool.

You can sort table by any column.

To sort the table:

Click a column heading. The arrow indicates whether the column is sorted in ascending or descending order.
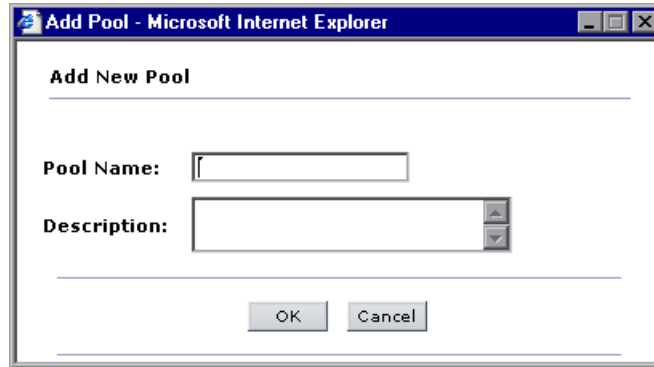
Clicking the column again reverses the arrow's direction and the entries are displayed in the opposite order.

Adding New Pools

You can add new pools and create merged pools in the Host Pools page.

To add a new host pool:

1 Click **Add Pool**. The Add New Pool dialog box opens.

2 In the **Pool Name** box, type a unique name for the pool.

The name may contain up to 128 characters, excluding spaces, periods, and any of the following characters: : ; * \ / " ~ & ? { } $ % | < > + = ^ [ ] ( )

3 In the **Description** box, type a description for the pool.

4 Click **OK** to add the new pool.

To create a merged pool:

1 At the bottom of the Hosts Pools table, click the **Create Merged Pool** button. The Create Merged Pool dialog box opens.
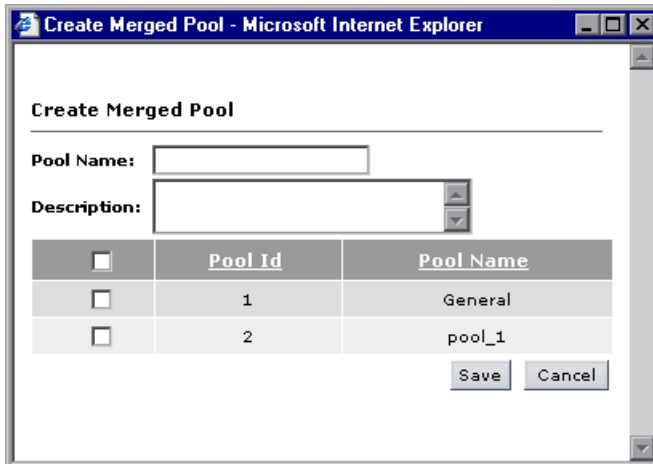
2 In the **Pool Name** box, type a unique name for the merged pool.

The name may contain up to 128 characters, excluding spaces, periods, and any of the following characters: : ; * \ / " ~ & ? { } $ % | < > + = ^ [ ] ( )

3 In the **Description** box, type a description for the merged pool.

4 Select the host pools to include in the merged pool. To select all the host pools at once, select the check box at the top of the check box column.

5 Click **Save** to add the merged pool.

Editing Pools

You edit pools in the Edit Pool Details area of the Host Pools page.

To edit a pool:

1 In the Host Pools table, select a pool to edit.

2 The Edit Pool Details area displays the following:

➤ **Pool ID.** Identifies the pool.

➤ **Included In/Merged Pools**.

➤ If you selected a host pool that is included in one or more merged pools, then **Included In** lists those merged pools.

➤ If you selected a merged pool, then **Merged Pools** list the host pools included in the merged pool.

➤ **Name.** Displays the name of the pool. To rename the pool, type a new name.

➤ In the **Description** box, edit the description of the pool.

Click **Save**.

3 If you are editing a merged pool, to edit the selection of pools included in the merged pool:

a Click the **Edit Merged Pool** button. The Edit Merged Pool dialog box opens.

b Select the host pools to include in the merged pool, or clear selected host pools if you do not want to include them, and click **Save**.

Deleting Pools

You can delete a host pool or merged pool from the Performance Center system, provided the pool has no hosts assigned to it.

To delete a pool:

1 Select the pool you want to delete.

2 Click **Delete Pool**. Performance Center validates whether the pool can be deleted.

➤ If the pool is a merged pool, Performance Center deletes the pool.

➤ If the pool is a host pool, Performance Center checks the following:

➤ If the pool has any hosts assigned to it, it cannot be deleted.

➤ If the pool has future timeslots assigned to it, Performance Center warns you that if you delete the pool, tests scheduled to use that pool will fail.

➤ If the pool is included in any merged pools, it cannot be deleted.

6

Managing Servers

Servers are configured machines that provide information and resources needed for Performance Center functionality. Managing servers involves monitoring the server status, editing server information, and checking server performance.

About Managing Servers

The Administrator manages server performance to ensure that the required server resources are available for Performance Center. The Servers page provides information on server performance, status, and properties.

Using the Servers Page

The Servers page displays information about the Performance Center servers. It also enables you to reboot machines, install patches, and check server connectivity.

When performing administrative tasks on the any of the servers, if you are prompted for the configuration user credentials, enter them and click **OK**.

Note: When supplying the credentials of a domain system user, you must enter the fully qualified domain name.

To open the Servers page:

On the Performance Center left menu, select **Resources** > **Servers**. The
Servers page opens.

The Servers page displays the following information about the servers:

➤ **Status**. An indicator of the current system performance of the server,
represented by a color. A combination of the state and the SiteScope
measurement determines the indicator color. A color other than green is a
warning that the system performance is less than optimal and warrants
investigation. The performance is assessed according to four parameters:
CPU usage, memory usage, disk space, and running services. There is a hard-
coded threshold for each parameter. If a Performance Center service stops
for any reason, the machine state turns red (Error). The following table lists
the possible combinations and the associated indicator color.

Indicator	Server State	SiteScope Status
(green)	Operational	OK
(yellow)	Operational	Warning
(red)	Operational	Error - Measurement Problem
(gray)	Unavailable	Any

Indicator	Server State	SiteScope Status
(gray)	Maintenance	Any
(gray)	Operational	Not Defined
(gray)	Rebooting	Any
(gray)	Transferring	Any
(gray)	Installing	Any

➤ **Name**. The server name that you assign when you configure a new server. You can click the name to view server details. For details, see "Managing Server Information" on page 95.

➤ **Purpose**. The type of servers configured on the machine. A server symbol indicates each type of configured server. For more information on Performance Center servers, see the *HP Performance Center System Configuration and Installation Guide*.

➤ **State**. The condition of the server. The possible conditions are:

   ➤ **Operational**. The server is working.

   ➤ **Unavailable**. The server is not available.

   ➤ **Maintenance**. The server is not working.

   ➤ **Rebooting**. The server is rebooting and is temporarily unavailable. The time (MM:SS) since the rebooting process started is displayed.

   ➤ **Transferring**. The installation patch is being transferred from the File Server to the host, and the server is temporarily unavailable. The percentage shows the progress of the patch transfer.

   ➤ **Installing**. The installation patch is being installed on the server, and the server is temporarily unavailable. The percentage shows the progress of the patch installation.

The various states are descriptive in nature and provide clues as to where a problem has occurred. You should try to fix the problem, and then change the condition back to **Operational**. If the system detects that the server is still not working, the condition reverts to its prior state.

In addition, you can perform the following actions from the Servers page:

➤ **Reboot**. Enables you to reboot server machines remotely from the Administration Site. For more information, see "Rebooting Servers" on page 102.

➤ **Install Patch**. Enables you to install patches remotely on servers. For more information, see "Uploading and Installing Patches" on page 64.

➤ **Check Servers**. Enables you to check the connections between various servers and machines within your system. For more information, see "Checking Servers" on page 107.

To perform actions on all the Performance Center servers, select the check box at the top of the check box column. A check is displayed in the check box for each server. Click the check box again to clear all the check boxes.

Managing Server Information

You can manage servers by entering the Server details tabs. The tabs enables you to view and edit server properties, status, processes, and logs.

To enter the Servers details tabs:

1 On the Performance Center left menu, select **Resources** > **Servers**. The Servers page opens.

2 Click the name of a server to view server details. Server information is divided into the following tabs:

➤ **Properties tab**. Allows you to view and edit server properties.

➤ **Status tab**. Allows you to view server status and to perform server connectivity checks.

➤ **Processes tab**. Allows you to view and kill processes on a server.

➤ **Logs tab**. Allows you to view detailed information about the tasks performed on the server, the action status, and a description of any errors.

To return to the Servers page:

Click the **Servers** link at the top of the page to return to the Servers page.

Servers - Properties Tab

The Properties tab provides general information about the properties of the server. The tab enables you to change a server's state, add comments, and enable SiteScope monitoring.

➤ **Server Name**. The server name.

➤ **OS Type**. The server operating system.

➤ **Purpose**. The function the server performs. Purposes include: User Site Server, File Server, Utility Server, Administration Site Server, and Database Server.

➤ **Comments**. Relevant information about the host.

➤ **State**. The state of the server. Possible states are: **Operational**, **Unavailable**, and **Maintenance**. Additionally, temporary states of **Rebooting**, **Transferring**, or **Installing** are assigned while a machine goes through a rebooting or patch installation process.

Login Information

➤ **User Name**. The user name of the server machine.

➤ **Password**. The password of the server machine.

➤ **Domain**. The server machine domain.

➤ **Installed Components**. A list of components installed on the server machine, including version and patches.

To change the server state or enable SiteScope monitoring:

1 Click the **Properties** tab, and click **Edit**. The Properties tab is displayed with editable fields.

2 Select the desired server state. The available states are: **Operational**, **Unavailable**, and **Maintenance**.

3 If you are editing the properties of your database server, the **Database Instance** field is displayed. Type the database instance name.

Note: Do not enter the instance port number as the service name will always be the instance name.

---

4 If you are editing the properties of a UNIX server, the UNIX login configuration details are displayed. For more details, see "Configuring Remote UNIX Machines" on page 49.

5 To enable SiteScope monitoring, select **Enable SiteScope Monitoring**.

Note:

➤ SiteScope must be installed on a server in the Performance Center environment. You can install SiteScope on the same machine as the Controller, or on a dedicated server.

➤ Disk performance counters are disabled by default in standard Windows 2000 installations. To monitor disk drives using the SiteScope Disk monitor on machines running Windows 2000, you must enable these disk counters. Run the diskperf -y command line on each Windows 2000 machine for which you want to monitor disk space, then reboot the machine. Select the disk drives to monitor from the machine's Resource Status tab.

---

6 Click **Save**. The dialog box closes and the properties are updated.

To return to the Servers page:

Click the **Servers** link at the top of the page to return to the Servers page.

Servers - Status Tab

The Status tab provides information on the connections between the selected machine and various servers and machines within your system. For more details on checking connections, see "Checking Servers" on page 107.

All functions are automatically performed when the tab is opened, the page is refreshed, or you click the **Check Servers** button.

The Status tab displays the following results:

➤ **State**. Displays the status of the server check (**Done**, **Refreshing**, **Succeeded**).

➤ **Ping to Server**. Displays the results of the Administration Site server pinging the selected server.

➤ **File Server**. Displays whether the selected server is able to write, read, and delete from the file server.

➤ **Database**. Displays the results of the selected server's attempts to connect to the database server.

➤ **Ping to URL**. If you want the selected server to ping a remote site, type the URL address, and click **Check Servers**.

➤ **Ping URL Status**. Displays the results of the selected server pinging the listed URL.

➤ **SiteScope Data**. Displays detailed information about the server, collected by the SiteScope monitor. Information is displayed in this section only if SiteScope monitoring has been enabled (see "Servers - Properties Tab" on page 96).

To return to the Servers page:

Click the **Servers** link at the top of the page to return to the Servers page.

Servers - Processes Tab

The Processes tab provides detailed information about the processes and resource usage of the selected server.

Name	% Processor Time	Mem. Usage (Bytes)	Elapsed Time (Hours)	PID	Kill
ALWrapperServer	1.538	9195520	2.157	1788	⊗
AWHOST32	0	9162752	44.892	696	⊗
Babylon	0	11280384	44.446	2696	⊗
CMD	0	1142784	44.883	1200	⊗
CSRSS	0	2707456	44.895	204	⊗
DEVENV	0	19963904	23.18	4604	⊗
DLLHOST	0	9768960	44.458	2332	⊗
DLLHOST~1	0	18513920	6.859	5876	⊗
DLLHOST~2	0	41353216	6.857	2880	⊗
DefWatch	0	2387968	44.891	744	⊗
Idle	87.692	16384	44.899	0	⊗
LLSSRV	0	2232320	44.89	852	⊗
LSASS	0	6672384	44.894	268	⊗
MANAGM~1	0	10326016	0.001	6628	⊗
MDM	0	4919296	44.456	2472	⊗
MSDEV	0	5066752	11.085	2616	⊗
OrchidScheduler	1.538	8871936	44.882	1256	⊗
OrchidStatusMon	0	6926336	44.881	1288	⊗

To kill a process, click the button in the Kill column for the process.

To return to the Servers page:

Click the **Servers** link at the top of the page to return to the Servers page.

Server - Logs Tab

The Logs tab provides detailed information about the tasks performed on the selected server, the action status, and a description of any errors.

| Properties | Status | Processes | **Logs** |

Show action preformed in [Last Week ▾]   [Apply Filter]   [Clear Log]

Showing: 1-4/4

Action	Time	Status	Error Description
Reboot	6/6/2005 11:08:24 AM	Passed	
Reboot	6/6/2005 10:18:23 AM	Failed	Failed to reboot due to invalid user details for LogOn
Reboot	6/6/2005 10:20:21 AM	Passed	
Install	6/6/2005 11:17:22 AM	Failed	**Failed to create task**

The tab enables you to filter the information by selecting a specific time frame, refresh the table to view the most current tasks, and clear the log.

Click the Error Description link to view log files for the action.

To return to the Servers page:

Click the **Servers** link at the top of the page to return to the Servers page.

Rebooting Servers

Performance Center enables you to remotely reboot server machines from the Administration Site. The following conditions and limitations determine if a particular machine can be rebooted from the Administration Site.

➤ The Remote Management Agent must be installed on the machine. For more information on the Remote Management Agent, see the *HP Performance Center System Configuration and Installation Guide*.

➤ The Administration Site and Database servers cannot be rebooted using this feature.

➤ You cannot reboot the File or Utility servers if they are in the **Running** state. You can only reboot these servers when they are idle.

   To reboot servers:

1 Select the servers you want to reboot.

2 Click **Reboot**. The Reboot Servers dialog box opens.
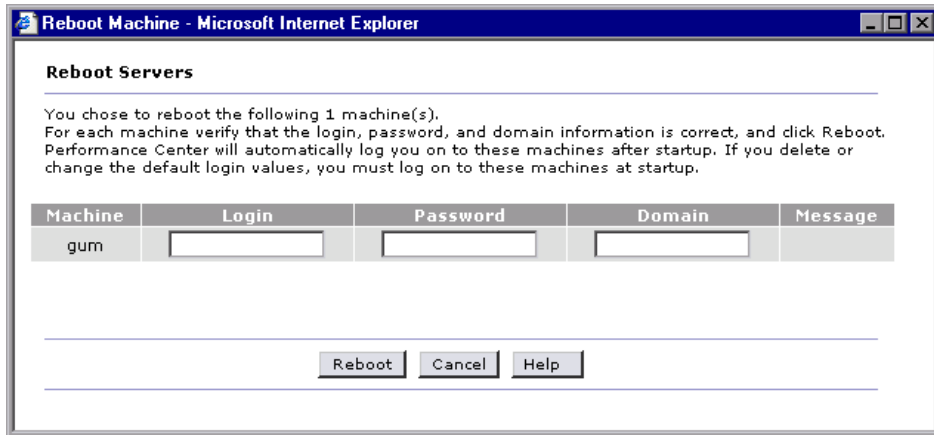
If Performance Center is unable to reboot the machine (for example, because the selected server is the Administration Site server or a task is running on the machine), a message is displayed in the Message column.

3 Supply login information for all machines you want automatically logged on after the reboot. If you leave the fields empty, you must log on to these machines at startup.

Note: If you supplied login information when the machine was configured, it is displayed in the appropriate fields.

---

4 Click **Reboot**.

You can follow the progress of the reboot from the Servers page. During reboot, the server state changes to **Rebooting** and the time (MM:SS) since the rebooting process started is displayed.

Uploading and Installing Patches

Performance Center allows you to upload a patch to the system and then install the patch on the appropriate Performance Center server machines.

The process consists of two stages: uploading the patch and installing the patch. The following conditions and limitations apply to installing patches on a particular machine from the Administration Site.

➤ The Remote Management Agent must be installed on the machine. For more information on installing the Remote Management Agent, see the *HP Performance Center System Configuration and Installation Guide*.

➤ The Install Patch feature is not available for the Administration Site and Database servers.

➤ You cannot install patches on the File or Utility servers if they are in the running state. You can only install patches when these machines are idle.

➤ You should use this feature to install HP certified patches only.

To install patches on servers:

1 From the Servers page, select the servers on which you want to install a patch.

2 Click **Install Patch**. The Install Patch - Step 1 dialog box opens, displaying any patches that were previously uploaded to the File server.

3 If the patch you want to install is not displayed in the Existing Patches list, click **Browse**, select the patch, and click **Upload**. The patch is added to the list.

4 Select the patches you want to install from the Existing Patches list and click **Next**. The Install Patch - Step 2 dialog box opens.

If Performance Center is unable to install the patch (for example, because the selected server is the Administration Site server or a task is running on the machine), a message is displayed in the Message column.

5 Type the login information for all machines.

Note: If you supplied login information when the machine was configured, it is displayed in the appropriate fields.

---

6 From the Install Patch - Step 2 dialog box, click **Install**. The installation process begins.

You can follow the progress of the patch install from the Servers page. When the patch is being transferred from the File server to the host, the server state is **Transferring**. During the patch installation, the server state is **Installing**. The percentage shows the progress of the patch transfer/installation. If the installation fails, select the Server's Log tab and click the **Fail to create task** link to view the log file.

Note: If the log file opens in binary instead of .txt format, you should close the file and reopen it using Notepad.

---

7 After installation is complete, Performance Center will prompt you to reboot the machine if a reboot is required.

To delete a patch file:

1 From the Servers page, select the servers from which you want to delete a patch.

2 Click **Install Patch**. The Install Patch dialog box opens and displays any patches that were previously uploaded to the servers.

3 Click the **Delete File** button at the end of the line for the patch that you want to delete.

The patch is removed from the list and deleted from the File server.

Checking Servers

You can check the connections between Performance Center servers and the File server and Database server. You can also check server connections to selected URLs.

To check servers:

1 On the Servers page, select the servers that you want to check and click **Check Servers**. The Check Servers dialog box opens displaying a check next to each server. The icon next to the servers name indicates the purpose of the server.
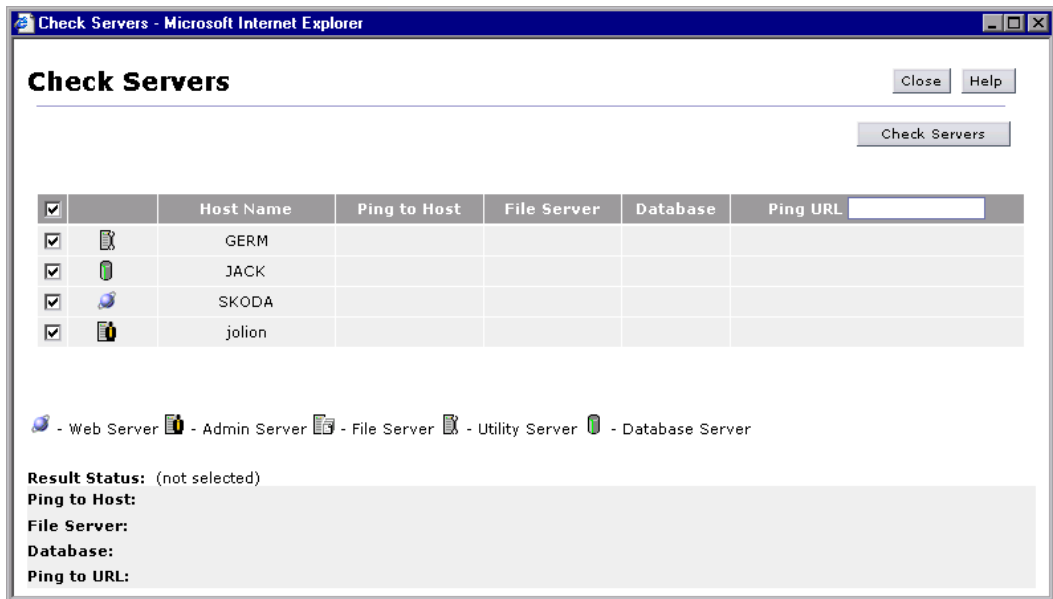
By default, all the selected servers are enabled. If you not do want to check a server, clear that server's check box.

Tip: Selecting/clearing the check box in the column header, selects/clears all the check boxes in the column respectively.

---

2 If you want the selected servers to ping a remote site, type the URL address.

3 Click **Check Servers**. Performance Center performs the following actions:

➤ **Ping to Host**. The Administration Site server pings the selected server machines.

➤ **File Server**. The selected servers attempts to write, read, and delete from the file server.

➤ **Database**. The selected servers connects to the database server.

➤ **Ping URL**. The selected host pings the listed URL.

The Check Servers table displays the success or failure of the actions.

4 Select a server to view the results of the server check. Details for each action are listed in the Result Status area.
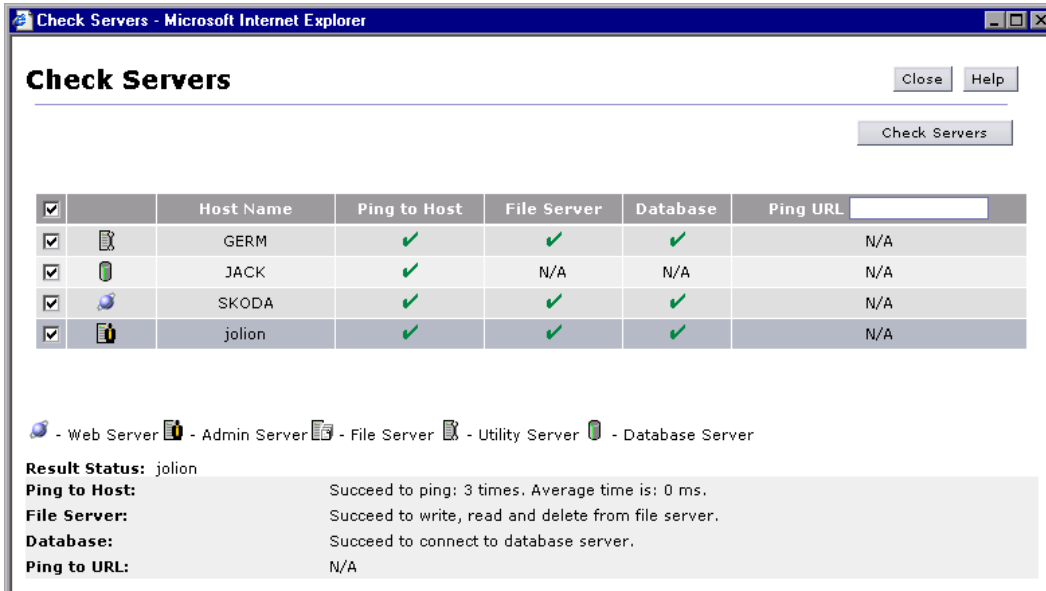
5 Click **Close** to close the Check Servers dialog box.

Part III

Site Management

7

Managing Test Runs

You can view all the test runs in the system and monitor their progress.

This chapter describes:	On page:
About Managing Test Runs	111
Test Runs Page	112
Using the Fast Recovery	115
Changing a Test Run State	116
Deleting a Test Run	119
Checking the Collator Process	120
Deallocating Hosts from a Test Run	121

About Managing Test Runs

A test run is the actual execution of a load test. You can view all the test runs in the system to see when each test is supposed to run, whether it is currently running, and to which project it belongs.

During a test run, there are several stages, called **states**. The Test Runs page enables you monitor the test runs, and check the state of each run. Examples of test run states include **Running**, **Before Collating Results**, and **Finished**. You can change the state of a test run where necessary.

Test Runs Page

The Test Runs page displays the test runs and the run details. The Test Runs table displays test runs according to your user login context. Users at the Performance Center level can view all test runs in the system. Users at the customer level can view only customer test runs. Users at the project level can view only test runs in the project.

To open the Test Runs page:

On the Performance Center left menu, select **Site Management** > **Test Runs**. The Test Runs page opens:

➤ **Run ID**. The identification number of the test. This number is automatically generated by the system when the load test starts.

➤ **Test Name**. The name given to the test when it was created. The test name links to the Event Log filtered by the Run ID. For more information, see "Managing Events" on page 129.

➤ **Project Name**. The name of the project running the test.

➤ **State**. The state of the test run. If a test is stuck in a state, you can change it. For details, see "Changing a Test Run State" on page 116.

➤ **# Vusers**. The current number of Vusers running in the test. The number is updated when the test finishes.

➤ **Analysis Start Time**. The start time of the analysis process. (If the test results analysis is not complete, the value is displayed as "null.")

➤ **Run Date**. The date and start time of the test run.

➤ **Test duration**. The duration of the test run.

The Test Runs page also displays the total number of all runs in the Performance Center database.

When you select a test run, additional details are displayed in the lower part of the page. For more information, see "Selecting a Test Run" on page 114.

Action Buttons

In addition to viewing the test run details, you can perform the following:

➤ **Delete**. Allows you to delete the selected test runs. For more information, see "Deleting a Test Run" on page 119.

➤ **Deallocate Host**. Allows you to detach all hosts that are allocated to a particular test run. For more information, see "Deallocating Hosts from a Test Run" on page 121.

Sorting the Test Runs

You can sort the test runs according to the values in any column whose heading is underlined.

To sort the test runs:

1 Click an underlined column heading of your choice. A downward facing arrow is displayed next to the column heading. The test runs are sorted in descending order of the values in that column.

2 When you click the heading again, the arrow reverses direction, and the test runs are sorted in ascending order of the values in that column.

Filtering the Display

There are three lists for filtering the display:

➤ **Time**. Displays test runs that ran within a specified time period. The options are **All Runs** (default), **Last Hour**, **Last 12 Hours**, **Last 24 Hours**, **Last Week**, or **Last Month**.

➤ **State**. Displays test runs for all states (default), or for a specific state. The options are:

  ➤ **All States**. Displays test runs of all states.

  ➤ **Run**. Displays only test runs that are currently running.

  ➤ **Collate**. Displays only test runs whose results are currently being collated.

  ➤ **Error**. Displays only test runs with errors.

➤ **Project**. Displays test runs for all projects (default), or for a specific project.

To filter the display:

1 From one or more of the filter lists, select filtering options.

2 Click **Filter**. The table displays test runs according to the selected filter options.

Selecting a Test Run

When you select a test run, the following test run details are displayed in the lower part of the page, as well as a button which allows you to change the test run's state:

➤ **Duration**. The duration of the test.

➤ **Max concurrent Vusers**. The maximum number of concurrent virtual users allowed during the test run.

➤ **Load Generator (Vusers)**. A list of the hosts used to run virtual users.

➤ **Results Directory.** The directory that stores the test run results.

➤ **Vusers involved**. The total number of Vusers used in the run.

➤ **Controller machine**. The host machine used as the Controller. In the Performance Center system, one of the hosts is a Controller, and the others are load generators.

➤ **User name**. The name of the user who ran the test.

➤ **Collator Status**. Tells you whether or not the collator is running.

Action Buttons

Additionally, the following buttons are displayed:

➤ **Change State**. Allows you to change the state of the load test. For example, you can change the state from **Before Collating Results** to **Fatal Error**. For more information, see "Changing a Test Run State" on page 116.

➤ **Fast Recovery**. Allows you to stop a test when it has a status of **Ready**, **Running**, or **Stopping**. Clicking **Fast Recovery** abruptly terminates the test, resulting in a deallocation of resources and a resetting of the pointers to the active object. For more information, see "Using the Fast Recovery" on page 115.

Using the Fast Recovery

When viewing the details of a test run, the **Fast Recovery** button may be displayed in the lower-right corner of the **Details** area. This button should only be used if the test is frozen and unable to continue, for example, if the host connection fails and the processing cannot continue for a particular run.

Clicking **Fast Recovery** frees all the system resources, stops the test run, and resets the run state to **Before Collating Results**.

At this point, the Administrator should contact the user about the fast recovery.

Changing a Test Run State

Changing the state of a test run provides a great deal of flexibility for running and processing your tests.

Changing the state of the test run is another way to handle a frozen test. For example, if the test is stuck in the **Running** state, you can change to the **Before Collating Results** state. Since the **Before Collating Results** state occurs after the **Running** state, by changing the test to this new state, you have placed the test at a point beyond the problem. The test restarts and proceeds to the end of the test.

Note: Where the temporary result files for a run have been deleted (after results were successfully collated), you cannot change the state of the test run to **Before Collating Results**, **Finished**, or **Collating Results**.

Test Run Flowchart

Knowing the flow of states allows you to change a test's state to the appropriate position. Use the following flowchart to study the relationship between states.
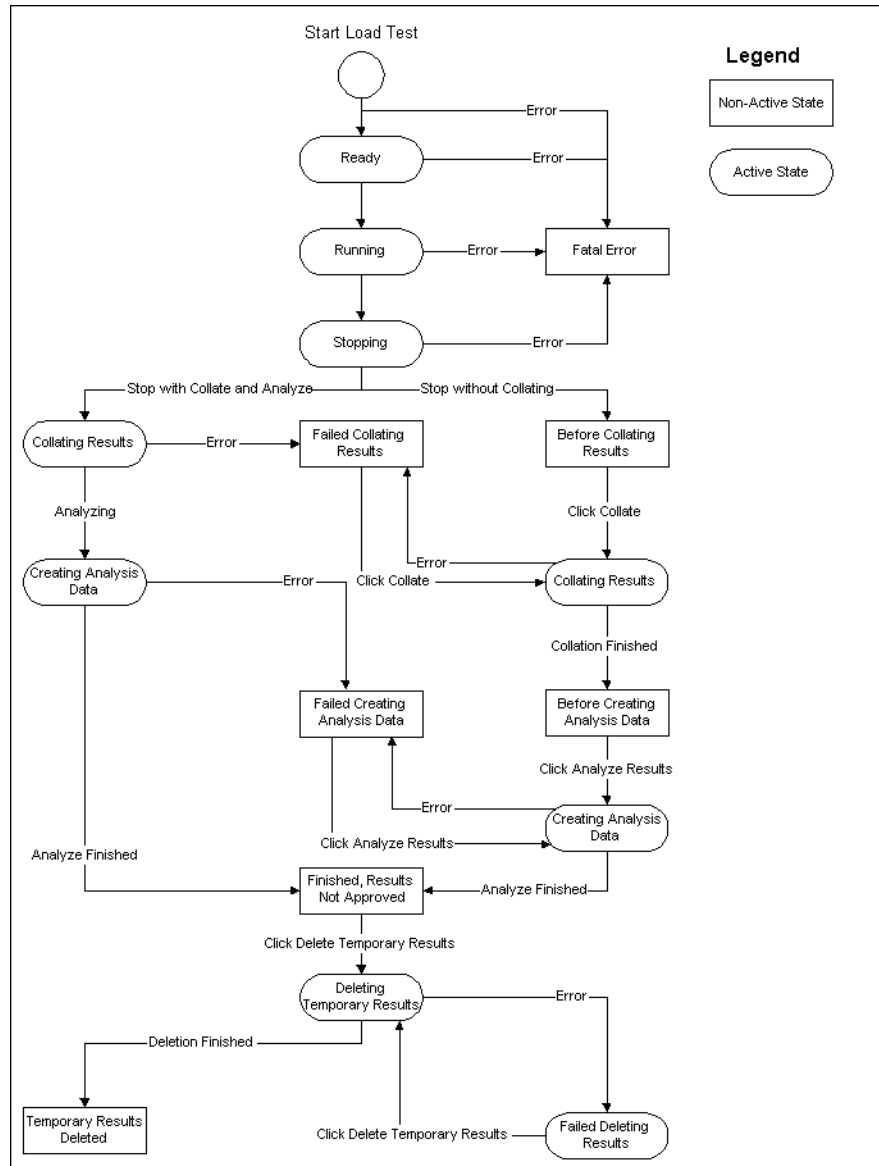
When viewing the flowchart, note the following:

➤ The Active state is a temporary state indicating that the system is performing an operation.

➤ The Non-Active state is a static state which only changes when the user performs an action.

Note: When a user deletes a test run in the User Site, the test is no longer displayed on the page. In the Administration Site, however, the test is still displayed with **Deleted** state. The administrator can change the state and the test will be redisplayed in the User Site.

To change the state of a test run:

1 Select the test run. The **Change State** button is displayed at the lower-right corner of the page.

Details for Run ID 209 :

Duration (min):	12	Vusers Involved:	2	User Name:	PC User
Max Concurrent Vusers:	2	Controller Machine:	cr2cltgapa4	Collator Status:	Inactive
Load Generator (Vusers):	cr2cltgapa4(2);				
Results Directory:	C:\Program Files\HP\Performance Center\orchidtmp\Results\209 ,209			Change State	

2 Click **Change State**. The Set state of run dialog box opens.
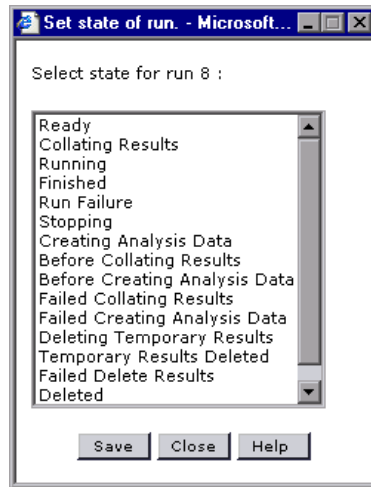
3 Select the correct state.

4 Click **Save**.

Deleting a Test Run

You can delete test runs from Performance Center. This is useful for deleting old runs that no longer need monitoring.

To delete a test run:

Select the test run you want to delete, and click the **Delete** button at the end of the test run's row in the table. The test run is deleted from the database and file server, and is no longer displayed in the table.

Checking the Collator Process

After a test has finished running, the collator process in the database may still be active. As long as the process is still active, the user is able to reconnect the test. If collator process is active, you should reset the process for the run.

To check if the collator process is active:

1 Select the test run. The additional details for the test run are displayed in the lower part of the page.

2 If the Collator Status is **Active**, the process is still running. If not, **Inactive** is displayed.

To reset the collator status for the run:

1 Click the **Active** link in the Collator Status field for the selected test run. A dialog box opens.
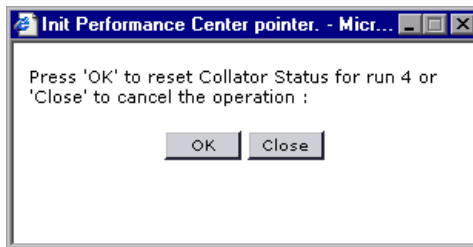
2 Click **OK**. A dialog box opens confirming the process value has been set to zero.
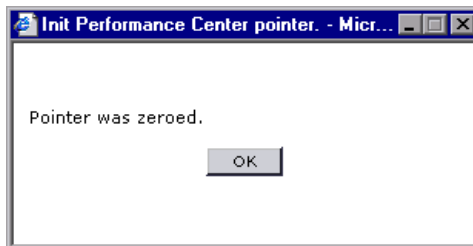
3 Click **OK** to close the dialog box.

Deallocating Hosts from a Test Run

You can detach all the hosts that are allocated to a particular test run. You should do this if a host is stuck in the **Running** status after the test is finished.

To deallocate hosts from a test run:

1 In the Test Runs page, click **Deallocate Hosts**. The Deallocate Hosts dialog box opens.
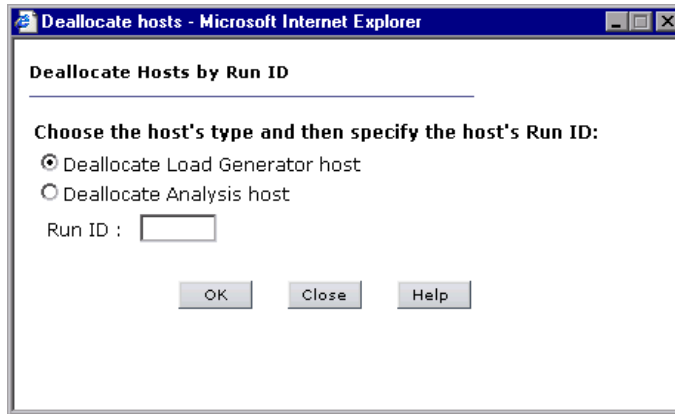
2 Specify the type of host you are deallocating (Load Generator or Analysis), and the run ID of the test run from which you want to deallocate hosts, and click **OK**.

3 A dialog box opens confirming the host's deallocation. Click **Close** to close the dialog box.

8

Managing Timeslots

From the Administration Site, you can monitor timeslot reservations.

This chapter describes:	On page:
About Managing Timeslots	123
Viewing Timeslot Allocations	124
Viewing Timeslot Availability	127

About Managing Timeslots

When a user creates a load test from the Performance Center User Site, the user specifies how many hosts the test requires and reserves the necessary number of hosts for a specific time period. The availability of the required hosts for a specific time period is called a timeslot, and the user is said to have reserved a timeslot.

From the timeslots page, you can see details of all timeslot reservations and how many hosts remain available for any given timeslot. If necessary, you can delete reservations.

Viewing Timeslot Allocations

The timeslots table displays details of all reserved timeslots. Use the table to see which projects have reserved which timeslots, and how many hosts are reserved for each timeslot.

To view the Timeslots page:

On the Performance Center left menu, select **Site Management** > **Timeslots**. The Timeslots page opens, displaying the Timeslots table and Timeslot details.

Note: To display timeslot availability, click the **Switch to Resources Availability Table** link. For details, see "Viewing Timeslot Availability" on page 127.

The **Timeslots table** displays the following information about the timeslots:

➤ **ID**. The identification number of the timeslot.

➤ **Project Name**. The name of the project.

➤ **User Name**. The name of the user.

➤ **From Time, To Time**. The start and end of the timeslot. Due to the Autostart feature, the start and end times are displayed in half- and whole-hour increments. For details on Autostart, see the section in the *HP Performance Center User's Guide* that describes viewing Autostart load tests.

➤ **Machines**. The number of host reserved for the test that runs during the timeslot.

➤ **Vusers**. The number of Vusers reserved for the test that runs during the timeslot.

Note: The Vusers column is displayed only if Vuser Scheduling is enabled in the General Settings. For details, see Chapter 12, "Configuring General Settings."

➤ **Host Pool**. The host pool assigned to the project. The project is allocated hosts from that pool only. For details, see "Understanding the Host Pools Page" on page 85.

➤ **Run ID**. The ID of the load test using the timeslot. This number is automatically generated by the system when the load test starts.

There is also a **Delete** button displayed for each timeslot.

The **Timeslot details** display the following information about the timeslots:

➤ **Duration**. The total length of time (in hours) reserved for the timeslot.

➤ **User Name**. The name of the user who reserved the timeslot.

➤ **Post-run Analysis**. The post-run analysis option selected in the **Options** tab of the Timeslots page. For details, see the section in the *HP Performance Center User's Guide* that describes configuring post-run Analysis settings.

➤ **Run Vusers on Controller**. Specifies whether the load test is configured to run Vusers on the Controller machine. For details, see the section in the *HP Performance Center User's Guide* that describes running Vusers on the Controller.

➤ **Machines**. The names of the hosts assigned to the load test. If no hosts were specified when the timeslot was reserved, a message is displayed.

➤ **Comments**. Users can add comments when they reserve a timeslot. When a timeslot is selected, comments for that timeslot are displayed.

Sorting Timeslots

You can sort timeslots according to the values in any column of the Timeslots table whose heading is underlined.

To sort timeslots:

1 Click an underlined column heading of your choice. A downward facing arrow is displayed next to the column heading. The timeslots are sorted in descending order of the values in that column.

2 When you click the heading again, the arrow reverses direction, and the timeslots are sorted in ascending order of the values in that column.

Deleting a Timeslot

You can delete a timeslot reservation.

To delete a timeslot reservation:

➤ Select a timeslot and click the corresponding **Delete** button. The timeslot is removed from the table.

Note: You can delete future timeslots only.

Viewing Timeslot Availability

You can switch from the Timeslots table to the Resources Availability table to display the distribution of available hosts and Vusers over any time period.

Note: Vuser availability is displayed only if Vuser Scheduling is enabled in the General Settings. For details, see Chapter 12, "Configuring General Settings."

To view the Resources Availability table:

Click the **Switch to Resources Availability Table** link at the top of the Timeslots page. The Resources Availability table opens:
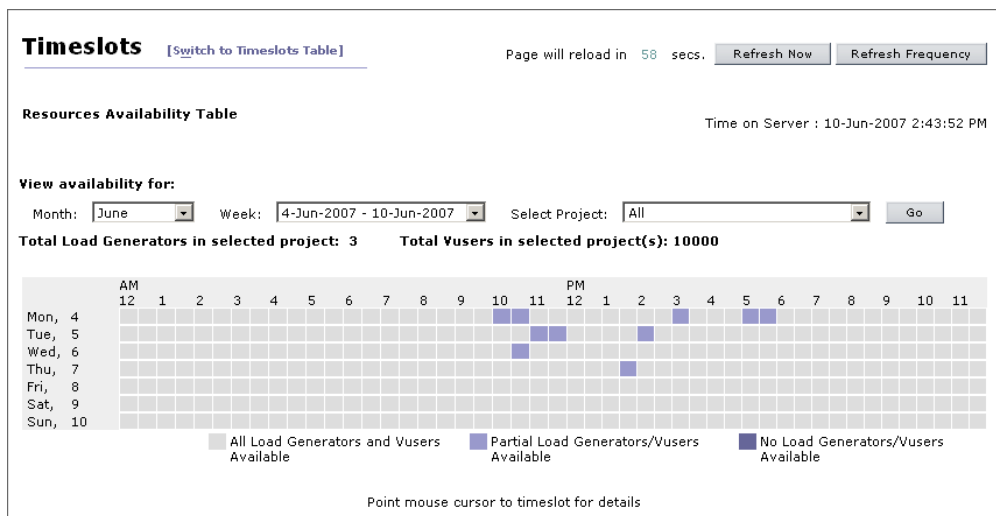
The Resources Availability table contains the following elements:

➤ **Time on Server**. The current time according to the server.

➤ **Total Load Generators in selected projects**. The number of load generator hosts available in the selected projects, and therefore, the maximum number of hosts that could be available for the project at any one time.

➤ **Total Vusers in selected project(s)**. The number of Vusers available in the selected projects, and therefore, the maximum number of Vusers that could be available for the project at any one time.

To configure the Resources Availability table:

1 Click **Month** and select the month for which you want to display resource availability.

2 Click **Week** and select the specific week for which you want to display resource availability.

3 Select the project for which you want to display resource availability. Click **Go** to show available timeslots for the selected host pool.

The Calendar displays how many resources are available for each timeslot period selected.

The table is divided into half-hour timeslots. Each timeslot is represented by a rectangle, which indicates the number of resources available during that hour. Place the mouse cursor over a timeslot for resource availability details.

The three types of availability are listed below the table:

➤ **All Load Generators and Vusers Available**. All the hosts and Vusers are available for the timeslot. For the total number of hosts and Vusers, refer to the **Total hosts in selected project** and **Total Vusers in selected project(s)** number above the table.

➤ **Partial Load Generators/Vusers Available**. The number on the rectangle is the number of hosts and Vusers available.

➤ **No Load Generators/Vusers Available**. There are no hosts or Vusers available.

To return to the Timeslots table:

Click the **Switch to Timeslots Table** link at the top of the Timeslots page.

9

Managing Events

In case of an event during a test run, you can see a description of the event and its source in the Event Log page. An event can be informational or generated by an error.

This chapter describes:	On page:
Viewing the Event Log	130
Filtering and Sorting Events	132

Viewing the Event Log

The Event Log page displays all the events, reporting the source and severity of each event, as well as showing which host and test run it occurred on, and the time it occurred.

To view events:

On the Performance Center left menu, select **Site Management** > **Event Log**. The Event Log page opens:

The following information is displayed for each event:

➤ **ID**. The identification number of the event.

➤ **Time**. The time the event was recorded.

➤ **Description**. A description of the event.

➤ **Event**. An internal identifier for the event.

➤ **Source**. The system element where the event originated.

➤ **Severity**. The severity of the event (Info, Error, Fatal Error).

➤ **Run ID**. The identification number of the test run.

➤ **Host**. The host from which the event was generated.

The page also displays:

➤ **Total Events in Database**. The total number of events in the system.

➤ **Export Event Log**. Prepares and downloads a text file of all the events that occurred in the past week or of all the events in the log.

To prepare and export an event log:

1 Click the **Export Event Log** button. The Export Event Log dialog box opens.
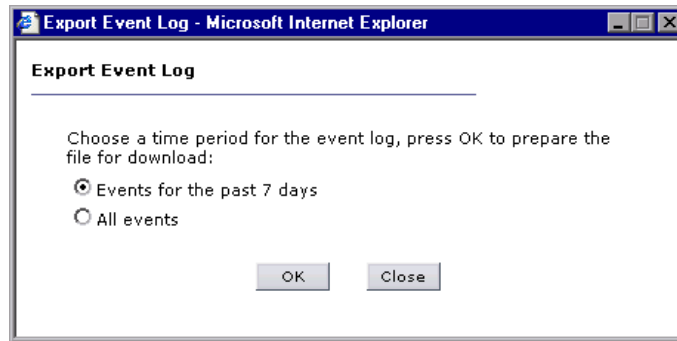
2 Choose the desired time period and click **OK**. The event log is prepared for download and the size of the download file is displayed.

3 Click **Download**, and choose the location to save the file.

4 Click **Close** to close the Export Event Log dialog box.

Filtering and Sorting Events

You can use the filter lists to display a specified subset of the events. In addition, you can sort the events according to the values in any column whose heading is underlined.

To filter the display:

1 From one or more of the filter lists, select filtering options.

➤ **Time**. Displays only test runs that ran within a specified time period.

➤ **Severity**. Displays test runs with specific severity levels.

➤ **Host**. Displays test runs that were performed on a specified host.

➤ **Run ID**. Displays test runs with a specific run ID.

2 Click **Go**. The table displays test runs specified by the selected filtering options.

To sort the events:

➤ Click an underlined column heading of your choice. A downward facing arrow is displayed next to the column heading. The events are sorted in descending order of the values in that column.

When you click the heading again, the arrow reverses direction, and the events are sorted in ascending order of the values in that column.

Part IV

System Configuration

10

Introducing System Configuration

You configure and view license key information, general settings, HP Diagnostics (J2EE and .NET), server configuration information, server authentication details, and email alerts from the System Configuration pages of the Performance Center Administration Site.

Important: If you are performing the initial system configuration, the Performance Center system user must have administrative privileges. For more information on performing the initial system configuration, see the *HP Performance Center System Configuration and Installation Guide*.

➤ **License page.** You can view your Performance Center and host license details in the License page. The Performance Center license, which is required for using the entire product and running load tests, provides details of your Vuser limit, concurrent runs limit, and expiry date. You can view these details, and update your license key number from this page. The Performance Center host license allows access to different kinds of protocols and monitors.

➤ **General Settings page.** This page provides information about the system configuration. On this page, you can set the time zone, the alert threshold, the auto-refresh rate, and the autostart options.

➤ **Diagnostics page.** Use this page to set up the ERP/CRM and J2EE/.NET Diagnostics modules to generate transaction breakdown data for ERP/CRM and J2EE/.NET environments.

➤ **Server Configuration page.** This page provides details as to where key components of Performance Center are located.

➤ **Authentication Server page.** From this page you configure the Performance Center server authentication information.

➤ **Alerts page.** From this page you define alert conditions and set email preferences.

11

Configuring and Viewing License Information

You configure and view license key information from the System Configuration pages of the Performance Center Administration Site.

This chapter describes:	On page:
Viewing License Information	137
License Types	140

Viewing License Information

You can view your Performance Center license and host license details, and, if necessary, update your license key number from the License page.

The **Performance Center License** enables you to use the product and run load tests. It provides details of your Vuser limit, concurrent runs limit, expiry date, and the license key.

➤ **Vuser Limit**. The maximum number of Vusers a project can run at once. The total number used by all of the project's concurrent load tests must not exceed this maximum.

➤ **Concurrent Runs Limit**. The maximum number of concurrent runs allowed within a project.

➤ **Valid**. Displays the time limitation of the license key.

➤ **License Key**. The Performance Center license key.

The **Host License** allows you to access the Vuser protocols and server monitors that are available for the specified host license key. For more information on the licenses available for Performance Center, see "License Types" on page 140.

To view the License page:

On the Performance Center left menu, select **System Configuration** > **License**. The License page opens.

To update your Performance Center license key:

1 On the Administration site **System Configuration** menu, click **License**. The License page opens.

2 Under **Performance Center License**, click **Set New License**. The Set License dialog box opens.
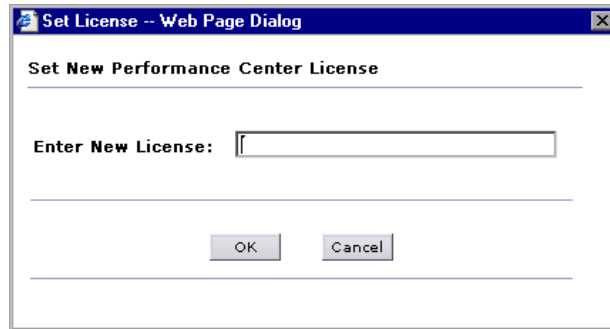
3 Type the new Performance Center license key.

4 Click **OK** to set the new license key. Performance Center checks the validity of the license key and closes the dialog box.

To update the host license key:

1 On the Administration Site **System Configuration** menu, click **License**. The License page opens.

2 Under **Host License**, click **Set New License**. The Set License dialog box opens.

3 Type the new host license key.

4 Click **OK** to set the new license key. Performance Center checks the validity of the license key and closes the dialog box.

License Types

There are two types of licenses available for Performance Center:

➤ **Regular**. This type of license is limited by time and by the total number of concurrent runs and Vusers.

➤ **VUD–based**. This type of license is limited by the total number of Vusers that you can run concurrently during a Virtual User Day (VUD). A VUD license enables you to use the product an unlimited number of times within a period of 24 hours. After that time, the remaining number of Vusers equals the total number of licensed Vusers minus the maximum number of Vusers that ran concurrently that day.

For example, a user has a VUD-based license for a total of 1000 Vusers and creates a test that uses 200 hundred Vusers and lasts for forty-five minutes. The user runs the test at 8:00 AM, 10:00 AM, 2:00 PM, and 4:00 PM. In each case, the test finishes before the new one begins. Since there is no concurrent use, 200 VUDs are deducted at the end of the day, leaving 800.

Let's say however, that the user starts the second run of the day at 8:30 AM. In this case, the first test does not complete the run before the second test initializes. There are now 400 Vusers running concurrently. At the end of the day, 400 VUDs are deducted because that is the highest number of concurrent Vusers. The total left for future use is now 600 VUDs.

12

Configuring General Settings

You view and configure general settings from the System Configuration pages of the Performance Center Administration Site.

The General Settings page provides information about the system configuration. For example, you can set the time zone, the alert threshold, the autostart options, and the Performance Center maintenance services.

This page also provides read-only information, such as the upload directory path and the temporary graph directory.

This chapter describes:	On page:
Viewing General Settings	141

Viewing General Settings

To view the General Settings page:

On the Performance Center left menu, select **System Configuration** > **General Settings**. The General Settings page opens.

General Settings

Save   Cancel

Global		
Upload Directory	\\ironman20\LRFS\UploadDir	Specifies the path to the folder to which scripts are uploaded.
Temporary Graph Directory	\\ironman20\LRFS\graphs	Specifies the path to the folder in which analysis graphs are stored.
Time Zone	(GMT -8) PST	Specifies the time zone used by the system (default is PST).
License VUD Alert threshold	5000	Specifies the license VUD threshold for giving an alert.
PC System user	IUSR_METRO	Specifies the name of the Performance Center user.
Performance Center Installation Name		Specifies the name of the Performance Center installation (Specifying a name is optional).

Autostart		
Maximum Number of Autostart Retries	5	Specifies the maximum number of attempts allowed by the Autostart mechanism to start a load test in case of failure.
Autostart Retries Interval (min)	1	Specifies the interval, in minutes, that the Autostart mechanism waits between retry attempts.

Project		
Use Routing	⊙ Enable ○ Disable	Enables projects to use configured target IPs (which prevent targeting load tests outside the run scope).
Vuser Scheduling	○ Enable ⊙ Disable	Enables users to reserve and schedule Vusers in the Timeslots page.
Collate Timeout	5	Specifies the maximum length of time to wait for collating results (in minutes)
Diagnostics Collate Timeout	30	Specifies the maximum length of time to wait for collating diagnostics results (in minutes)

System Check		
Host Checkup Service	⊙ Enable ○ Disable Run service every [30] minutes Discontinue host recovery after [10] consecutive resource failures	Detects host resource failures and recovers hosts to the operational status. If enabled, specifies the service frequency and the number of consecutive host resource failures before it discontinues the service.
IIS Maintenance Service	⊙ Enable ○ Disable Run service every [10] minutes Application Memory limit [250] MB	Verifies that IIS is operational, that a pre-defined memory limit for IIS has not reached, and will restart IIS if necessary. Running tests will not be affected.
Restart IIS Daily	⊙ Enable ○ Disable Restart at [03:00] (HH:MM 24h) For example: 23:50	Restarts IIS at a set time every day. Restarting IIS increases Performance Center stability. When IIS is restarted, running tests are not affected and users can reconnect to tests and view progress. If enabled, specifies the restart time.

Save   Cancel

You can view the following General Settings, and update any editable settings in the boxes provided.

Global Settings

➤ **Upload Directory**. Specifies the path to the directory to which virtual user (Vuser) scripts are uploaded.

➤ **Temporary Graph Directory**. Specifies the path to the directory in which analysis graphs are stored.

➤ **Time Zone**. Specifies the time zone used by the server (default is PST). You select the string that you want displayed within the Performance Center system.

➤ **License VUD Alert Threshold**. Specifies the threshold for issuing a VUD license alert. A VUD license limits the total number of Vusers that can be run concurrently within a period of 24 hours. The default alert setting is 5000 Vusers.

➤ **PC System User**. Specifies the name of the Performance Center user. To change the system user, see "Changing the System User" on page 31.

➤ **Performance Center Installation Name**. (Optional) Specifies the name of the Performance Center installation.

Autostart Settings

➤ **Maximum Number of Autostart Retries**. Specifies the maximum number of attempts allowed by the Autostart mechanism to start a load test in case of failure.

➤ **Autostart Retries Interval (min)**. Specifies the interval, in minutes, that the Autostart mechanism waits between retry attempts.

Project Settings

➤ **Use Routing**. Enables projects to use configured target IPs (which prevent targeting load tests outside the run scope). For more information, see "Using IP Addresses" on page 237. Select **Enable** to enable use of target IPs (default) or select **Disable** to disable their use.

➤ **Vuser Scheduling**. Enables users to schedule and reserve Vusers in the Timeslots page. Select **Enable** to enable use of Vuser Scheduling, or select **Disable** to disable use (default).

Note: If you attempt to change this setting, Performance Center performs a test to see if there are any autostart tests scheduled or future timeslots reserved. If there are, Performance Center displays an alert that you must delete all autostart tests and cancel all future timeslots before changing this setting.

➤ **Collate Timeout**. Specifies the maximum length of time (in minutes) to wait for collating results. Performance Center issues an error message about the timeout, and recommends that you increase the timeout value.

➤ **Diagnostics Collate Timeout**. Specifies the maximum length of time (in minutes) to wait for collating diagnostics results. Performance Center issues an error message about the timeout, and recommends that you increase the timeout value.

System Check Settings

➤ **Host Checkup Service**. Enables Performance Center to detect hosts in the **Resource Failure** state and, if possible, recover them to **Operational**. Select **Enable** to enable use of the Host Checkup Service (default), and to specify the checkup service frequency and the number of consecutive host resource failures before the service is discontinued, or select **Disable** to disable use.

Note: Host recovery currently supports only Controllers and load generators installed on Windows machines for an English environment, and only load generators installed on Windows machines for a non-English environment.

➤ **IIS Maintenance Service**. Enables Performance Center to verify that IIS is operational and to restart IIS if necessary. Running tests are unaffected when IIS is restarted. It also restarts Performance Center when its memory limit is reached. Select **Enable** to enable use of the IIS Maintenance Service (default) and to specify the service frequency and Application Memory limit, or select **Disable** to disable use.

➤ **Restart IIS Daily**. Enables Performance Center to restart IIS at a set time every day. Restarting IIS increases Performance Center stability and is highly recommended. Running tests are unaffected when IIS is restarted, and users can reconnect to tests and view progress. Select **Enable** to enable use of Restart IIS Daily (default) and to specify restart time, or select **Disable** to disable use.

13

Configuring Server Information

You supply, view and edit Server details from the Performance Center Administration Site.

This chapter describes:	On page:
About Server Configuration	148
Supplying Server Configuration Information	148
Viewing and Editing Server Configuration Information	150

About Server Configuration

The Server Configuration page provides details as to where key components of Performance Center are located. You can use the Server Configuration page for mapping information, to establish where information should be stored and from where it should be retrieved.

Supplying Server Configuration Information

Important: To perform initial system configuration, the Performance Center system user must have administrative privileges.

The first time you log on to the Administration Site, you are redirected to the Server Configuration page.

The **Database** information and **File Server** name are supplied during the product installation and are displayed as read-only.

To complete the server configuration (the first time you log on to the Administration Site):

Important: For all servers, it is recommended to provide the **name** of the machine, rather than the IP address.

---

 1 Click the **Test Connection** button to ensure that the specified connection works properly.

 2 In the **Utility Server** box, enter the name of the machine that hosts the Performance Center license.

Note: The Utility Server needs to be available at all times. When choosing a Utility Server, it is advisable to choose a machine that is not a host.

---

 3 In the **User site Servers** section, enter the names of the computers on which the User Site will be installed.

 4 If you are using SiteScope to monitor a server, enter the relevant values for the SiteScope server used by Performance Center to monitor its own resources.

   ➤ **SiteScope Server**. Enter the name of the SiteScope server.

   ➤ **SiteScope Port**. Enter the SiteScope port (default:8888).

   ➤ **Use HTTPs**. Select this option to use a secure HTTP connection.

   ➤ **Use Account**. Select this option to use a specific SiteScope user account, and enter the SiteScope account details—name/number, user name, and password.

 5 Click **Save** to save the server configuration settings.

Viewing and Editing Server Configuration Information

You can view and edit server configuration information at any time from the Server Configuration page.

To view and edit server configuration information:

 1 On the Performance Center left menu, select **System Configuration** > **Server Configuration**. The Server Configuration page opens.

 2 Edit any information that is not read-only. The Server Configuration page displays the following information:

Important: For all servers, it is recommended to provide the **name** of the machine, rather than the IP address.

➤ **Database**. The name of the machine on which the system database is installed (read-only). Click **Test Connection** to test the connection to the database using the previously supplied system details.

➤ **File Server**. The machine that contains the file server installation where system files such as scripts are stored.

➤ **Utility Server**. The machine that hosts the Performance Center license.

➤ **User Site Servers**. The Web servers on which the User Site will be installed.

   SiteScope Configuration

➤ **SiteScope Server**. The name of the SiteScope server used to monitor your servers.

➤ **SiteScope Port**. The port of the SiteScope server used to monitor your servers (default:8888).

➤ **Use HTTPs**. Select this to use a Secure HTTP connection.

> ➤ **Use Account**. Select this to use a specific SiteScope user account. Enter the following account details:

>> ➤ **Account**. The SiteScope account name or number.

>> ➤ **Username**. The user name defined to log on to the SiteScope account.

>> ➤ **Password**. The password defined to log on to the SiteScope account.

3 Click **Save** to update the server information.

Click **Reset** to update the server connections.

14

Configuring Diagnostics

You configure and view HP Diagnostics from the System Configuration pages of the Performance Center Administration Site.

This chapter describes:	On page:
Setting Up the Diagnostics Modules	153
Configuring ERP/CRM Mediators	154
Setting Up the HP Diagnostics (J2EE & .NET) Environment	156

Setting Up the Diagnostics Modules

You set up the Performance Center J2EE/.NET and ERP/CRM diagnostics modules from the Diagnostics page of the Administration Site.

You configure the ERP/CRM Diagnostics modules by defining the mediators that communicate with the Load Testing Server. For more information, see "Configuring ERP/CRM Mediators" on page 154.

You configure the J2EE/.NET Diagnostics module by defining the J2EE/.NET Diagnostics server environments. For more information, see "Setting Up the HP Diagnostics (J2EE & .NET) Environment" on page 156.

Before setting up the diagnostics modules:

If you are monitoring over a firewall, make sure that you perform the following:

➤ Install an MI Listener on a machine outside of the firewall. For installation instructions, see the *HP Performance Center System Configuration and Installation Guide*.

➤ Define the MI Listener in the **MI Listeners** page. For information on defining MI Listeners, see Chapter 4, "Managing MI Listeners."

Note: MSXML 3.0 and later (this is included in Internet Explorer 6.0) should be installed on the client. You can install MSXML 3.0 from the Microsoft MSDN Web site (http://msdn.microsoft.com/library/default.asp?url=/downloads/list/xmlgeneral.asp).

Configuring ERP/CRM Mediators

To generate Siebel/Oracle/SAP diagnostics data, you must set up the Siebel/Oracle/SAP diagnostics module to communicate with the mediators.

Before setting up the Siebel/Oracle/SAP Diagnostics modules:

Make sure that you have installed an ERP/CRM mediator in the same LAN as the monitored Siebel/Oracle/SAP server. For installation instructions, see the *HP Performance Center System Configuration and Installation Guide*.

To set up the ERP/CRM mediators:

1 On the Performance Center left menu, select **System Configuration >
Diagnostics**. The Diagnostics page opens.

Diagnostics

Siebel/Oracle/SAP Mediators

☐	Name	Over Firewall	Status
☐	superman	No	

Delete Test   Add Mediator...

Setting J2EE/.Net Environment

J2EE/.Net Diagnostics Server Name

Server Name:

Port Number: 2006

Login Name:

Password:

Use HTTPS: ☐   Save

2 To add a new mediator to the Mediators list, click **Add Mediator**. The Add
Mediator dialog box opens.

Add Mediator - Microsoft Internet Expl...

Add Mediator

Name:

☐ Enable Firewall

OK   Close

Type the name of a new mediator.

If you are monitoring over a firewall, select **Enable Firewall**.

Note: Before you can add a mediator over the firewall, you need to define an MI Listener in the MI Listeners page. For details, see "Removing Hosts" on page 74.

---

3 Click **OK**. The new mediator is added to the list of mediators and the following properties are displayed:

➤ **Name**. The name of the mediator used to collect and process the diagnostics data.

➤ **Over Firewall**. **Yes** denotes that monitoring over firewall is enabled. **No** denotes that monitoring over firewall is not enabled.

➤ **Status**. The connection status between the Web server (Admin) and the mediator. The possible statuses are: **Test passed**, **Test failed**, and **Testing connection**.

4 To test the connection between the Web server (Admin) and the mediator, select a mediator and click **Test**. The Web server attempts to connect to the mediator. The connection status is displayed.

If the test fails, the **Error Details** button is displayed. Click the button for details of the error.

5 To delete a mediator, select it in the list of mediators and click **Delete**.

Setting Up the HP Diagnostics (J2EE & .NET) Environment

You can view or edit information about the HP Diagnostics (J2EE and .NET) application host from the Diagnostics page.

Before you can use HP Diagnostics with Performance Center, you need to ensure that you have specified the Diagnostics Server details on the Diagnostics page in the Performance Center Administration Site. For more information, see the *HP Diagnostics Installation and Configuration Guide*.

15

Configuring Server Authentication

This chapter describes configuring authentication details for logging on to Performance Center. When you install Performance Center, the default authentication details required to log on to Performance Center are those of a Performance Center user.

To log on to Performance Center through an LDAP or SSO server, you need to configure the appropriate authentication details.

This chapter describes:	On page:
LDAP Server Authentication	158
SSO Server Authentication	163
Restoring Default Performance Center Server Authentication	171

LDAP Server Authentication

When you install Performance Center, the default authentication required is that of a Performance Center user. To log on to Performance Center through an LDAP server, you need to configure the LDAP server authentication details in Performance Center. After configuring these details, the next time you log on to Performance Center, you provide the LDAP user credentials instead of Performance Center user credentials.

Before you begin, you must obtain the LDAP server authentication details from the LDAP system administrator.

Configuring the LDAP server authentication details in Performance Center is described in the steps below.

Note: If the LDAP server is configured to run in secure mode, you need to install the SSL certificate on the Performance Center Web servers—both on the Administration site and User site servers.

➤ Install the certificate in the Certificates Console of the local computer, under the Trusted Root Certification Authorities category.

➤ When configuring the LDAP server authentication below, the LDAP server name must be identical to the LDAP server name in the certificate's **Issued To** field.

Step 1: Create a Performance Center user that is identical to a valid LDAP user.

Ensure that there is Performance Center user whose user name matches that of a valid LDAP user. The Performance Center user must be an active (non-expired) user, and must have the following permissions:

➤ Manage Servers

➤ Create/Edit/Delete Users

➤ Create/Edit/Delete Roles

➤ Assign Users to Roles

➤ Remove User from Roles

Note: Contact the LDAP system administrator to obtain the name of a valid LDAP user.

If there is no user in Performance Center that matches a valid LDAP user, you need to create one. To create a Performance Center user, see "Adding Performance Center Users" on page 203.

Step 2: Configure the LDAP server authentication.

Configure the LDAP server authentication in Performance Center.

Note: You must obtain the LDAP server authentication details from the LDAP system administrator before you begin this procedure.

After configuring Performance Center to use LDAP server authentication, when you log on to Performance Center, enter the LDAP user credentials.

To configure Performance Center to use LDAP server authentication:

1 On the Performance Center left menu, select **System Configuration** > **Authentication Server**. The Authentication Server page opens.

2 Select **LDAP Server Authentication**.

3 In the **LDAP Server** and **Port** boxes, type the LDAP server name and port number.

Note: When connecting to the LDAP server in secure mode:

➤ the LDAP server name must be identical to the LDAP server name in the SSL certificate's **Issued To** field

➤ the Port must be a secured port

---

4 Select the name of the LDAP Server vendor: **Sun One** or **Active Directory**.

➤ If the vendor is **Sun One:**

In the **Base Distinguish Name** box, type the full base distinguished name of the root directory on the LDAP server where all the LDAP users that need to access Performance Center are maintained.

For example,

```
ou=People,dc=mercury,dc=co,dc=il
```

➤ If the vendor is **Active Directory:**

In the **Users' AD Domain** box, type the fully qualified domain name on the LDAP server where all the LDAP users that need to access Performance Center are maintained.

For example,

> DEVLAB.AD.HP

Important: The LDAP users that need to access Performance Center must all be defined under the same Sun One tree or in the same Active Directory domain. Otherwise they are not recognized and Performance Center returns an error when attempting to log on.

---

5 In the **Unique User Attribute** box, type the unique user attribute defined on the LDAP server—for example, uid or cn.

If the LDAP vendor is Active Directory, continue with step 7.

6 If the LDAP vendor is Sun One, you need to select a user that can perform any type of search on the LDAP server. Depending on the configuration of the LDAP server, select one of the **User for LDAP Search** options, as follows:

➤ **Use anonymous user.** This can be any anonymous user. An anonymous user can run a search on the LDAP server only if the LDAP server is configured to allow this.

➤ **Use other user.** This must be a specified LDAP user who has search privileges on the LDAP server. When a search is requested on the LDAP server, only the user specified here can perform the search.

Type the full base-distinguished user name and password for this LDAP user, and confirm the password by typing it in again.

7 If you want to connect to the LDAP server in secure mode, select **Enable SSL.**

Note: If you enable SSL, the LDAP port must be a secured port.

161

8 The **Local PC Username** list displays of all the active, non-expired Performance Center users.

   a Select the user that matches a valid LDAP user. If there is no such user in this list, you must create one, as described in **Step 1** of this procedure on page 159.

   b In the **Local PC Password** box, type the password of the selected Performance Center user.

9 Click **Save** to save the LDAP authentication details.

   ➤ If the details provided are validated, Performance Center logs off and displays the login page. When you log on to Performance Center again, use the LDAP authentication details.

   ➤ If the details provided are invalid, Performance Center displays an error and the configuration is not saved. Try to configure the authentication again. If the configuration does not succeed, contact the LDAP system administrator.

Step 3: Enter the LDAP users into the Performance Center Database.

After logging on to Performance Center through the LDAP server, all the LDAP users that need to access Performance Center must be added to the Performance Center database. Add the users in the Users page, as described in "Adding Performance Center Users" on page 203. The login user names given to the users must be identical to the login user names on the LDAP server.

Note: When you add LDAP users to the Performance Center database, the **Password** and **Confirm Password** fields are disabled. All users with **Locked** status become **Active**.

SSO Server Authentication

When you install Performance Center, the default authentication credentials required to log on to the system are those of a valid Performance Center user. To log on to Performance Center through an SSO server, you need to configure SSO server authentication details in Performance Center. After this configuration, the next time you log on to Performance Center, you must provide the SSO user credentials.

Note: Performance Center supports SSO server authentication for SSO systems that allow all characters in HTTP requests—that is, if the SSO server's CSSA feature has not been enabled.

Configuring the SSO server authentication details in Performance Center is described in the steps below.

Step 1: Configure the SiteMinder Policy Server and WebAgents.

Set up the SiteMinder Policy Server to communicate with the IIS Web servers where the Performance Center Administration and User sites are installed.

To set up the Policy Server:

1 In SiteMinder, set up the Policy Server for the installation of the WebAgent clients.

2 Install the WebAgent clients on the IIS Web servers where the Performance Center Administration and User sites are installed.

3 On the Policy Server, configure the Web Agent details.

4 On the Policy Server, define the security policies for the Performance Center Administration site and User site resources.

In SiteMinder, these security policies are called **realms** and should be defined for each Performance Center server as follows:

➤ Administration site server resources:

Resource Filter	Authentication Scheme	Default Resource Protection
/Admin	HTML Form Template	Protected
/Admin/Include/GetSession	HTML Form Template	Unprotected
/Admin/MemorySize	HTML Form Template	Unprotected

➤ User site server resources:

Resource Filter	Authentication Scheme	Default Resource Protection
/Loadtest	HTML Form Template	Protected
/Loadtest/Include/GetSession	HTML Form Template	Unprotected
/Loadtest/RequestDispatcher	Basic Template	Protected
/Loadtest/MemorySize	HTML Form Template	Unprotected

5 In the **LogoffURI** field, enter the URL to which to direct the browser when logging off Performance Center. Enter the URL as follows:

➤ If all the SSO system servers are set up with a specified logoff URL, enter this URL in the **LogoffURI** field for the Performance Center Administration site server, and for each of the Performance Center User site servers.

➤ If Performance Center is to use an internal logoff URL:

➤ If the Administration and User sites are installed on different servers, then for each server in the **LogoffURI** field, enter SSOLogoutPage.asp.

➤ If the Administration and User sites are installed on the same server, then in the **LogoffURI** field, enter

```
/Admin/SSOLogoutPage.asp
```

Step 2: Log on to Performance Center and configure the SSO server authentication settings in Performance Center.

When the WebAgents are installed on the Performance Center server, logging on to Performance Center requires the single-sign-on credentials.

To log on to Performance Center and configure the SSO server authentication:

1 Navigate to the Performance Center site. Because of the security policies you defined in **Step 1** above, the SSO server login page opens, requesting the SSO credentials.

2 Enter the SSO credentials, as provided by the SiteMinder administrator. The Performance Center Administration site login page is displayed.

Note: At this point the Policy Server creates a cookie with the SSO credentials and sends it back to local drive where it is saved.

The cookie remains valid for a period of time defined in the Policy Server configuration. While it is valid, any time you try to access one of the Performance Center resources in the domain, the relevant WebAgent checks for the valid credentials in the cookie and allows you to access the resources without requesting authentication credentials.

After this period, the cookie is erased from your local drive, and you must enter the SSO authentication credentials again.

---

3 Log on to the Performance Center Administration site using the Performance Center user's login credentials.

4 Ensure that there is a Performance Center user whose user name matches that of a valid SSO user. The Performance Center user must be an active (non-expired) user, and must have the following permissions:

➤ Manage Servers

➤ Create/Edit/Delete Users

➤ Create/Edit/Delete Roles

➤ Assign Users to Roles

➤ Remove User from Roles

Note: Contact the SSO system administrator to obtain the name of a valid SSO user.

If there is no user in Performance Center that matches a valid SSO user, you need to create one. To create a Performance Center user, see "Adding Performance Center Users" on page 203.

5 On the Performance Center left menu, select **System Configuration** > **Authentication Server**. The Authentication Server page opens.

6 Scroll down the page, and select **SSO Server Authentication**.

7 In the **Login Parameter** box, enter the HTTP header that contains the user's mapping key (see step 9 below).

8 In the **Logout URL** box, enter the URL to which to direct the browser when logging off Performance Center. Enter the URL as follows.

➤ If all the SSO system servers are set up with a specified logoff URL, in the **Logout URL** box enter the fully qualified name of that URL you entered in the **LogoffURI** field in the SiteMinder configuration (in **Step 1** of this procedure above).

➤ If Performance Center is to use an internal logoff URL:

➤ If the Administration and User sites are on different servers, in the **Logout URL** box enter the default logoff URL, SSOLogoutPage.asp.

➤ If the Administration and User sites are on the same server, in the **Logout URL** box enter

http://<machine_name/Admin/SSOLogoutPage.asp

9 Under **User's Mapping** select one of the following:

➤ **Map users according to user's login name.** Maps the user login name in Performance Center to that on the SSO system server.

➤ **Map users according to user's custom field.** Maps the user's custom field in Performance Center to the same field on the SSO system server.

If you select this option, enter the following parameters to create an initial link between the Performance Center database and the SSO system server:

➤ **Local PC Username.** Select a Performance Center user from the list.

The Performance Center user must be an active (non-expired) user, and must have the following permissions:

Manage Servers, Create/Edit/Delete Users, Create/Edit/Delete Roles, Assign Users to Roles, Remove User from Roles

---

Important: The login name of the selected Performance Center user must be identical to the login name of a valid SSO user. If it does not match a valid SSO user, Performance Center displays an error.

To configure a valid user, you must log on to the Performance Center server using the default Performance Center authentication and reconfigure the SSO server authentication. To do this, you need to restore the default authentication. For details, see "Restoring Default Performance Center Server Authentication" on page 171.

➤ **Local PC Custom Field.** Enter the custom field value of the matching SSO user.

For example, if you selected the user's email address to be the mapping field (in the **Login Parameter** box—step 7 above), enter the email address of the SSO user that matches the Performance Center user that you selected here.

10 Click **Save** to save the SSO authentication details. Performance Center automatically closes.

Step 3: Log on to Performance Center.

Open Performance Center. The non-expired cookie containing the SSO credentials allows you to go straight into the Performance Center sites, without requesting authentication credentials.

Step 4: Add the SSO users to the Performance Center database.

All the SSO users that need to access Performance Center must be added to the Performance Center database.

Add the users in the Users page, as described in "Adding Performance Center Users" on page 203.

Important:

➤ If, when defining the SSO Authentication Server details above, you selected **Map users according to user's login name,** enter the exact SSO user (login) name into new Performance Center user's **User Name** box.

➤ If, when defining the SSO Authentication Server details above, you selected **Map users according to user's custom field**, in the User Information (Add mode) form a new mandatory field, **Custom Field**, appears. This field constitutes the mapping field between the user in the Performance Center database and the SSO user. The **Custom Field** value that you enter for the new Performance Center user must be identical to value defined for that user on the SSO server.
For example, if you selected the user's email address to be the mapping field (in the **Login Parameter** box—step 7 above), enter the email address of the SSO user in the **Custom Field** box.

Note: When you add SSO users to the Performance Center database, the **Password** and **Confirm Password** fields are disabled. All users with **Locked** status become **Active**.

Connecting to Performance Center in SSO Authentication Mode from a Standalone Application

When you are working with a standalone application, and you want to connect to Performance Center in SSO authentication mode, you need to log on with valid SSO credentials. The SSO server authenticates the user, creates a cookie, and sends the cookie back to the standalone application host where it is saved. Then the user is authenticated by Performance Center.

The SSO server creates an SSO cookie when:

➤ the user is authenticated by SSO and by Performance Center

➤ the user is authenticated by SSO, but not in Performance Center (user not active, user expired, and so on)

The cookie that is saved on the host of the standalone application remains valid as long as the application is running. As soon as the application is closed, the cookie is removed.

Important: To log on to Performance Center with a different user name, you need to close the standalone application and re-invoke it. As mentioned above, closing the application removes the SSO cookie from the application's host. This prevents a user mismatch when you try to log in with a different user name.

Restoring Default Performance Center Server Authentication

When Performance Center is configured for LDAP or SSO server authentication, you can revert back to the default Performance Center authentication at any time, or you may be forced to restore the default authentication due to connection problems.

Reverting to Default Authentication

You can revert back to default Performance Center server authentication from the Authentication Server page.

To revert back to the default server authentication:

1 On the Performance Center left menu, select **System Configuration** > **Authentication Server**.

2 Select **PC Server Authentication**, and click Save.

Note: Reverting back to the default Performance Center server authentication through the Authentication Server page resets all the users' passwords to **welcome**.

Restore Default Authentication Method Utility

If you are experiencing problems logging on to Performance Center with the LDAP or SSO server authentication configuration, you need to restore Performance Center authentication using the Restore Default Authentication Method utility, provided on the Performance Center installation disk. After restoring default authentication, you can log on to Performance Center using default Performance Center authentication credentials, and reconfigure the relevant server authentication.

To run the Restore Default Authentication Method utility:

 1 From the root folder of the Performance Center installation disk, copy **\Additional Components\Unlock Utility\PCAuthentciationModeUtility.exe** to a local drive on your computer.

 2 Run **PCAuthentciationModeUtility.exe** from the local drive.

   The Restore Default Authentication Method utility opens.

 3 Enter the Database Server name.

 4 Enter the type of Database Server—**MS-SQL** or **Oracle**.

 5 Enter the Database Server login credentials. You can accept the default credentials, or enter customized credentials.

   To customize the Database Server login credentials, select **Customized Database Login**, and enter the user name and password of the Performance Center database user.

Note: The Performance Center database user must have **admin** privileges.

---

 6 Click **Restore Default Authentication Method**. The Performance Center server authentication is restored.

16

Configuring Alerts

You configure and view email alerts from the System Configuration pages of the Performance Center Administration Site.

Performance Center uses alerts to let you know when server performance problems occur during a load test. The alerts provide real-time information about your server performance. Alerts are triggered whenever one of the measurements monitored by SiteScope is out of the defined range (memory, CPU, or disk space), or when a service that is supposed to run is not running.

When configuring SiteScope, you specify the frequency at which alerts should be sent when an event is detected, and the email addresses to which the alert is to be sent. In addition, a warning that system performance is less than optimal or that not all services are running is indicated by a colored light (other than green) in the Hosts/Servers page. You define alert frequency and email preferences from the Alerts Configuration page.

Note: You must configure the SiteScope server on the **Server Configuration** page before you can configure an alert. For more information, see Chapter 13, "Configuring Server Information."

To configure email alerts:

1 On the Performance Center left menu, select **System Configuration** >
Alerts Configuration. The Alerts Configuration page opens.

2 Select one of the following **Alert Frequency** options:

➤ **Once**. This sends an alert once, after the event occurs.

➤ **Every X time(s) that event occurs**. Type the number of times that the
event must occur before sending an alert. This sends an alert after the
event has occurred the specified number of times.

➤ **Each time that event occurs**. This sends an alert each time the event
occurs.

➤ **Never**. An alert is never sent.

3 Under **Initial Alert trigger**, type the number of times an event of this type
must occur before sending an initial alert.

4 Under **E-mail Account Configuration**, enter the following information:

➤ **Alert E-mail Address**. Type the email addresses where the alert is to be sent. You can enter multiple email addresses, separated by commas.

➤ **Mail Server Domain Name**. Type the mail server domain name.

➤ **Backup Mail Server Domain Name**. Type the backup mail server domain name.

➤ **From E-mail Address**. Type the email address from where the alert is generated.

5 Under **Administrator Status Reports**, enter the following information:

➤ **Administrator E-Mail Address**. Type the email address of the administrator.

➤ **SiteScope Status Messages**. You can select the following SiteScope status messages:

➤ **Daily Status**. Provides daily status updates on the SiteScope server.

➤ **SiteScope Starts/Restarts**. Provides information on the SiteScope server starts and restarts.

6 Click **Save** to save your settings.

17

Running Vusers over a Firewall

You can run Vusers within a firewall, while the Controller is outside the firewall.

This chapter describes:	On page:
About Running Vusers over a Firewall	177
Running Vusers Over the Firewall	178

About Running Vusers over a Firewall

Once you set up your environment, as described in the *HP Performance Center System Configuration and Installation Guide,* you need to configure your system to run Vusers over the firewall. You configure your system from the Performance Center Administration site.

Running Vusers Over the Firewall

To enable running Vusers over the firewall, you need to add the host location, and configure your host to run Vusers over a firewall.

To run Vusers over the firewall:

 1 On the Performance Center left menu, select **Resources** > **MI Listeners.**

 2 In the MI Listeners page, click **Add**. The Add New MI Listener dialog box opens.

 3 Type the IP address or name of the MI Listener that enables the running of Vusers over the firewall.

Note: This MI Listener can be the same as your monitoring MI Listener.

---

 4 To add the host location, on the left menu, select **Resources** > **Host Locations** and click **Add Host Location**. The Add Host Location dialog box opens.

➤ Type the location name. The name should have a logical connection to the host location.

➤ Select **Yes** to indicate that the host is over the firewall.

Click **OK** to add the location to the list.

5 To add the host name, on the Performance Center left menu select
   Resources > Hosts. In the Hosts page click **Add Host**. The Add New Host
   dialog box opens.

   a In the **Name** box, type a name for the host to specify the over the firewall
   host location.

   b In the **OS Type** box, select the operating system, and enter your system
   login name if required.

c In the **Purpose** box, select **Load Generator**. This is the only purpose that can be assigned to a host located over a firewall.

d Type a **Priority** number, and select the host details: **Location**, **MI Listener, Host Pool**, and **State.**

Click **Save** to add the host to the list. For more information, see "Adding Hosts" on page 46.

6 Configure the Performance Center agent. For more information, see the section in the *HP Performance Center System Configuration and Installation Guide* that describes monitoring over a firewall.

Note: When specifying the **Local Machine Key**, you must use the format hostname_locationname where hostname is the name of the host in the Hosts page of the Administration Site, and locationname is the name of the host location in the Host Location page.

Your system is now configured to run Vusers over the firewall.

Part V

Performance Center Reports

18

Understanding Performance Center Reports

You can get an overall analysis of Performance Center site users, system resource usage, load test runs, and autostart load tests from the Performance Center Administration Site.

This chapter describes:	On page:
About Reports	183
Working with Reports	184
Site Users Report	186
Resource Usage Report	187
Test Run Information Report	189
Autostart Viewer Report	193

About Reports

The Site Users Report page provides detailed user information, including the projects that each users can access, user privilege levels, user status, and user expiration dates.

The Resource Usage Report page provides details of resource usage by individual users, as well as, overall system resource usage.

The Test Run Information Reports page provides aggregate details of runs on a per-project or per-user basis. The Run Reports page also provides a link to view information on individual runs.

The Autostart Viewer Reports page provides information about all autostart load tests in a project, and provides a link to status reports on tests that have run. The Autostart Viewer Reports page also enables you to cancel scheduled tests.

Working with Reports

This section describes working with the Performance Center reports.

Sorting a Report

You can sort the Performance Center reports according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order.

When you click a column heading, the down arrow appears, indicating that the column is sorted in descending order.

Clicking the column again reverses the arrow's direction and the entries are displayed in the opposite order.

Selecting a Report Time Range

For the Resource Usage and Test Run Information reports, you can select to display the data over a specific time range.

To select a time range for the report:

 1 In the report page, click the **Show usage/information from** browse button. The Calendar dialog box opens.
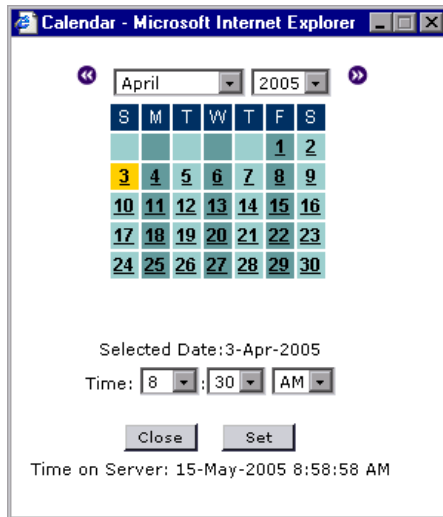
 2 Select a date and time for the start of the range.

 3 Click **Set**. The calendar closes and the **Show usage/information from** box is updated.

 4 To set the end of the range, repeat steps 1 - 3 for the **to** box.

 5 Click **Go.** The report displays the information for the selected time range.

Site Users Report

The Site Users report displays a complete list of users in the Performance Center system. The Site Users report specifies the total number of users in the system, and provides information on each user's project access, privilege level, status, and expiration date. The report is available from the Performance Center left menu.

To open the Site Users report:

On the Performance Center left menu, select **Reports** > **Site Users**. The Site Users report opens.

Site Users

☐ Include expired Users and Projects

Total number of Users : **1**

± Full User Name	User Name	Container	Privilege	Active	Expires At
Admin	Admin	All Projects	Project Manager	☑	Never
Admin	Admin	Performance Center	Administrator	☑	Never

The Site Users report displays the following information:

➤ **Include expired Users and Projects**. The report includes current users and projects, as well as users and projects that expired and were deleted from the system.

➤ **Total Number of Users**. The total number of users that are in the Performance Center system.

➤ **User Name**. The name of the user.

➤ **Project**. The name of the project.

➤ **Privilege**. The user's privilege level.

➤ **Active**. The status of the user in the Performance Center system. The status can be active or non-active. A user with a non-active status cannot log on to the system. This field cannot be edited.

➤ **Expires At**. The date and time that the user is due to be deleted from the system.

Sorting Results

You can sort the Site User report according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. For more information, see "Sorting a Report" on page 184.

Resource Usage Report

The Resource Usage Report provides general information about the usage of your system resources. The report is available from the Performance Center left menu. You can view statistics per user within a project and for total usage by project.

To open the Resource Usage report:

On the Performance Center left menu, select **Reports** > **Resource Usage**. The Resource Usage report opens.

Resource Usage

Show usage from: `10-Mar-2003 10:12:14 AM` `...` to: `10-Apr-2003 10:12:14 AM` `...` `Go`

View by ⦿ Project ○ User

�︎ Project	Total Active Duration	Total Reserved Duration	Avg Hosts per Active Hour	Avg Vusers per Active Hour
Project1	2:24	10:00	0.9	9.9
Project2	4:01	8:30	0.1	0
Default	0:03	1:00	1	2

The Resource Usage report displays the following information:

➤ **Project/User**. The name of the project or user.

➤ **Total Active Duration**. The total time tests were run during reserved timeslots.

➤ **Total Reserved Duration**. The total time reserved, in the Timeslots page, by user or per project.

➤ **Avg Hosts per Active Hour**. The average number of hosts used per active hour.

➤ **Avg Vusers per Active Hour**. The average number of running Vusers per active hour.

Note: An active hour/duration refers to the actual running time of your tests.

Sorting Results

You can sort the Resource Usage report according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. For more information, see "Sorting a Report" on page 184.

Selecting the Resource Usage Report Time Range

Performance Center enables you to select the time range for the Resource Usage report. For details on selecting a time range for the report, see "Selecting a Report Time Range" on page 185.

Selecting the View

The **View by** options allow you to view usage information by project or by user.

Test Run Information Report

The Test Run Information report provides general information about the test runs. The report is available from the Performance Center left menu. You can view statistics per user within a project and for total usage by project.

To open the Test Run Information report:

On the Performance Center left menu, select **Reports** > **Test Run Information**. The Test Run Information report opens.

The Test Run Information report displays the following information:

➤ **Project/User**. The name of the project or user.

➤ **Total Runs**. The total number of runs for the project/user during the specified time range.

➤ **Total Vusers Involved**. The total number of Vusers involved in runs during the specified time range.

➤ **Avg Vusers per Run**. The average number of Vusers used per run.

➤ **Total Duration**. The total time used by the listed runs.

➤ **Avg Duration per Run**. The average time used for the listed runs.

➤ **Avg Hosts per Run**. The average number of hosts used per run.

Sorting Results

You can sort the Test Run Information Report according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. For more information, see "Sorting a Report" on page 184.

Selecting Test Run Information Report Time Ranges

Performance Center enables you to select the time range for the Test Run Information report. For details on selecting a time range for the report, see "Selecting a Report Time Range" on page 185.

Selecting the View

The **View by** options allow you to view usage information by project or by user.

Viewing Test Run Information Report Details

In addition to summary information for your runs, you can also view details on a per-user or per-project basis.

To view run details per project:

1 On the Performance Center left menu, select **Reports** > **Test Run Information**.

2 From the Test Run Information report, select **View by Project**.

3 Click the desired project. The Details for Project page opens and displays run information grouped by user.

Test Run Information

Details for Project Default

⊙ Group Runs by User ○ View all Runs   [Back]

± User	Total Runs	Total Vusers Involved	Avg Vusers per Run	Total Duration	Avg Duration per Run	Avg Hosts per Run
Reese	3	29	9.666666	1:24	0:28	1
Admin	4	34	8.5	1:32	0:23	2

You can sort the table in ascending or descending order by clicking a column heading. Click the column heading again to reverse the sort order.

4 To view all project runs, select **View all Runs**. The table expands and displays all runs for the project.

Test Run Information

Details for Project Default

○ Group Runs by User ◉ View all Runs   [Back]

≛ RunId	Run Date	User	Total Vusers Involved	Hosts	Duration
1	4-Nov-2004 2:59:37 PM	Admin	0	1	0:02
2	4-Nov-2004 3:03:27 PM	Admin	1	1	0:19
4	4-Nov-2004 7:01:12 PM	Admin	5	1	0:01
6	4-Nov-2004 7:34:35 PM	Admin	6	1	0:22
7	7-Nov-2004 10:22:00 AM	Admin	1	1	2:27
8	7-Nov-2004 4:12:04 PM	Admin	1	1	10:00

The View all Runs table displays the following information:

➤ **RunId**. The unique ID number assigned to the run.

➤ **Run Date**. The date and time of the load test run.

➤ **User**. The name of the user.

➤ **Total Vusers Involved**. The number of Vusers for the run.

➤ **Hosts**. The number of hosts used for the run.

➤ **Duration**. The time used by the run.

5 Click **Back** to return to the Test Run Information report.

To view run details per user:

1 On the Performance Center left menu, select **Reports** > **Test Run Information**.

2 From the Test Run Information page, select **View by User**.

3 Click the desired user. The Details for User page opens and displays run information grouped by project.

Test Run Information

Details for User Ali

◉ Group Runs by Project ○ View all Runs   [Back]

≛ Project	Total Runs	Total Vusers Involved	Avg Vusers per Run	Total Duration	Avg Duration per Run	Avg Hosts per Run
Default	6	14	2.33	13:11	2:12	1

You can sort the table in ascending or descending order by clicking a column heading. Click the column heading again to reverse the sort order.

4 To view all user runs, select **View all Runs**. The table expands and displays all runs for the user.

Test Run Information

Details for User Ali

○ Group Runs by Project ◉ View all Runs   [Back]

≛ RunId	Run Date	Project	Total Vusers Involved	Hosts	Duration
1	4-Nov-2004 2:59:37 PM	Default	0	1	0:02
2	4-Nov-2004 3:03:27 PM	Default	1	1	0:19
4	4-Nov-2004 7:01:12 PM	Default	5	1	0:01
6	4-Nov-2004 7:34:35 PM	Default	6	1	0:22
7	7-Nov-2004 10:22:00 AM	Default	1	1	2:27
8	7-Nov-2004 4:12:04 PM	Default	1	1	10:00

The View all Runs table displays the following information:

➤ **RunID**. The unique ID number assigned to the run.

➤ **Run Date**. The date and time of the load test run.

> ➤ **Project**. The name of the project.

> ➤ **Total Vusers Involved**. The number of Vusers for the run.

> ➤ **Hosts**. The number of hosts used for the run.

> ➤ **Duration**. The time used by the run.

5 Click **Back** to return to the Test Run Information page.

Autostart Viewer Report

The Autostart Viewer report provides information about load tests with autostart for all projects. Along with the general information provided in the main table, you can access status reports on tests that have run, and cancel tests that are scheduled to run.

The Autostart Viewer report gives information about tests scheduled to autostart. The actual scheduling of the autostart is done in the Timeslots page, while the configuring of the test is done when you create a new load test. For details on scheduling and configuring the autostart, see the *HP Performance Center User's Guide*.

To view a status report on a test that has run:

On the Performance Center left menu, select **Reports** > **Autostart Viewer**. The Autostart Viewer report opens.

ID	Date and Time	Project Name	User Name	Test Name	Status	Duration	Hosts	Vusers	Delete
2199	8-Jun-2007 8:58:00 PM	Default	Admin	Test	Scheduled to Run	01:00	2	10	❌
2198	8-Jun-2007 8:30:00 PM	Default	Admin	Test	Scheduled to Run	01:00	2	10	❌
2199	7-Jun-2007 6:58:00 PM	Proj2	Admin	Test	Before Creating Analysis Data	00:04	2	10	
2198	7-Jun-2007 6:30:00 PM	Proj1	Admin	Test	Before Creating Analysis Data	00:03	2	10	
2053	21-May-2007 7:00:00 PM	LOANSOLUTIONS	Sanat Pattanaik	PT_June_Scenario	Failed to Run	00:04	1	300	
1879	11-May-2007 8:00:00 AM	TOUCHPOINT	Justin Sebastian	DB2 Phase 3 Insert and Update_JES_SeparateGens_030	Failed to Run	00:04	2	1200	
1880	11-May-2007 8:00:00 AM	TOUCHPOINT	Justin Sebastian	DB2 Phase 3 Insert and Update_JES_SeparateGens_010	Failed to Run	00:05	2	1200	
1802	5-May-2007 8:00:00 AM	TOUCHPOINT	Justin Sebastian	DB2 Phase 3 Insert and Update_JES_SeparateGens_010	Before Collating Results	01:20	2	1200	
1803	5-May-2007 8:00:00 AM	TOUCHPOINT	Justin Sebastian	DB2 Phase 3 Insert and Update_JES_SeparateGens_030	Before Collating Results	01:20	2	1200	
1718	1-May-2007 8:00:00 AM	TOUCHPOINT	Justin Sebastian	DB2 Phase 3 Insert and Update_JES_SeparateGens1	Before Collating Results	00:56	2	975	
1719	1-May-2007 8:00:00 AM	TOUCHPOINT	Justin Sebastian	DB2 Phase 3 Insert and Update_JES_SeparateGens2	Before Collating Results	00:57	2	975	
1704	29-Apr-2007 10:00:00 AM	TOUCHPOINT	Justin Sebastian	DB2 Phase 3 Insert and Update_JES_RandomThinkTimes	Failed Collating Results	02:03	3	1950	

The report displays a table of information on all tests scheduled to autostart, navigation arrows for the table, and a link to the Autostart Load Tests report.

The table supplies the following information:

➤ **ID**. A unique number identifying the autostart load test.

➤ **Date and Time**. The date and time of the timeslot you reserve when you schedule a test to autostart.

➤ **Project Name**. The name of the project.

➤ **User Name**. The name of the user who scheduled the test.

➤ **Test Name**. The name of the test that is scheduled to autostart. This is the same name that was given when the test was created.

➤ **Status**. The status of the autostart test. Some of the information (Scheduled to run, Failed to Run, Insufficient Resources) is specific for the autostart status, other information describes the tests' status in the test workflow. For more information on the test workflow, see "Changing a Test Run State" on page 116. Click an entry in the Status column to open the Autostart Load Test Report.

➤ **Duration**. The duration of the test scheduled to autostart, as defined when reserving the timeslot.

➤ **Hosts**. The number of hosts assigned to the autostart test, as defined when reserving the timeslot.

➤ **Vusers**. The number of Vusers assigned to the autostart test, as defined when reserving the timeslot.

Note: Autostart tests that have not yet started their run can be canceled by clicking the **X** in the Delete column. Deleting an entry from the Autostart Viewer report releases the reserved timeslot.

Sorting Tests

When you open the Autostart Load Tests report, the tests are sorted on the **Date and Time** key. You can also sort the tests according to the Project Name, User Name, Test Name or Hosts. For more information, see "Sorting a Report" on page 184.

Viewing Autostart Load Test Reports

The Autostart Load Test report displays an overview of load test performance and a table of the autostart actions.

To view the Autostart Load Test report:

In the Autostart Viewer report, click a link in the **Status** column. The Autostart Load Test report for that test opens.

You can view and access the following information in the Autostart Load Tests report:

➤ **Load Test performance information**. The information includes the start of the run, Vuser information, the Controller of the load test, and the names of any additional hosts.

➤ **Autostart Test actions**. This information reports on the autostart aspect of the test run, not on the actual running of the load test. The table gives a step by step list of the progress of the test. This information includes the start time, the initialization time, and the end time of the test.

The **Time** column supplies the date and time of the action, while the **Status** column supplies a self-explanatory note of the action performed or the problem the test encountered.

Part VI

User and Project Management

19

User Management

The User Management module is used for managing, user roles and privileges, project information, and user-role-project assignments.

The Personal Information page stores all your personal information.

The Users page stores information about all the Performance Center users.

This chapter describes:	On page:
Understanding User Information	200
Managing Your Personal Information	201
Managing User Information	202

Understanding User Information

You view and manage your personal user details and other users' details in the User Management module. User information includes a user's login information, personal details, and other general information.

	Detail	Description
Login Information	**User Name**	The user's username for logging on to Performance Center
	Password	The user's password for logging on to Performance Center (Not editable for LDAP/SSO users.)
	Account Expiration Date	The expiration date of the user account
Personal Details	**Full Name**	The user's full name
	E-mail	The user's email address
	Additional Data	Any additional relevant information about the user
General Information	**User Creator**	The name of the user who created the user account in the system. This field is automatically filled in when a user is added. It cannot be edited.
	User Status	The status of a user can be active or non-active. (Not editable for LDAP/SSO users.) **Note:** A user with a non-active status cannot log on to Performance Center.
	Creation Date	The date (and time) on which the user account was created in the system.

Managing Your Personal Information

You can view and edit your personal user details in the Personal Information page.

To view and edit your personal information:

1 On the Performance Center left menu, select **User Management** > **Personal Information**.

2 To edit your personal details, click **Edit**. The Personal Information area switches to Edit mode.

3 Edit the details and click **Save** to save your changes.

You can edit your user name and password, your full name and email address, and the additional data section.

For more information about the details displayed in the Personal Information page, see "Understanding User Information" on page 200.

Managing User Information

The Users page displays a list of all the users in the Performance Center system.

To access this page, on the Performance Center left menu, select **User Management** > **Users**.

The Users page displays 50 users in the Performance Center system at a time.

To see more users you can scroll down the list, and use the arrow buttons above the table to navigate between sets of 50 users.

To see a particular user's details, select the user in the list. The **User Information** section in the lower area of the page displays user information for the selected user.

Tip:

➤ To search for a specific user or alphabetic string, in the **Find users** box, type the user name (or part thereof), and click **Find**. Performance Center returns the appropriate list.

Entering part of a name returns a list of all the users that have the specified string anywhere in their names. If you entered th, the display list might include **Seth**, **Thomas**, and **Anthony**.

➤ To view the full list of users again, click **Show All**.

Adding Performance Center Users

You add new Performance Center users in the Users page.

To add a user:

1 On the Users page, click **Add New User**. The User Information area switches to Add mode and displays an empty User Information form.

2 Enter the new user's details. For more information, see "Understanding User Information" on page 200.

Note: When adding LDAP or SSO users, the **Password** and **Confirm Password** fields are not editable. These values are taken from the user's details in the respective system.

---

a Enter a user name and password for the new user.

b Set an expiration date for the user account.

Under **Account Expiration Date**, click the **Select expiration date** link. A calendar window opens. Select the desired date and time, and click **Set**. The calendar closes and the account expiration date is updated.

If you want the user account to always remain valid, select **Never Expires**.

   c Enter the user's personal details.

   d Select a status for the user—**Active** or **Non Active**.

   Note: Non-active users cannot log on to Performance Center.

---

3 To add the user to the list, click **Add**.

To clear all fields, click **Clear**.

To return to viewing user information without adding the new user, click **Cancel**.

Modifying User Information

You modify user details in the Users page.

To modify a user's details:

1 On the Users page, select the user whose information you want to modify.

2 Click **Edit**. The User Information area switches to Edit mode.

3 Modify the details.

You can edit a user's login information, personal details, and user status.

For more information about the details displayed in the **User Information** area, see "Understanding User Information" on page 200.

4 Click **Save** to save the changes to the user's information.

   Tip: In cases where users forgets their passwords, use the Edit mode to assign new passwords.

Deleting Performance Center Users

On the Users page, select the user you want to delete and click **Delete**. Click **OK** to confirm that you want to delete the user.

The user is deleted from the list of users.

20

Defining User Roles

This chapter describes defining roles in Performance Center. Roles are defined groups of permissions that can be assigned to one or many users. A role determines which tasks the user can perform, and that information the user can access.

This chapter describes:	On page:
Understanding Performance Center and Project-Related Permissions	207
Managing Roles in Performance Center	215
Assigning Roles to Users	221

Understanding Performance Center and Project-Related Permissions

When creating roles, you select permissions for performing Performance Center or project-related tasks in the Performance Center system.

Some permissions are dependent on other permissions. This means that a role containing a permission that has dependants automatically contain the dependant permissions too. These permission dependencies are noted in the tables described in the sections that follow.

Performance Center Task Permissions

This section decribes the permissions assignable for Performance Center system related tasks.

Project Management and User Permissions

Permission	Description
Project Management	
Create project	Allows the user to create projects Dependants: ➤ Edit project
Edit project	Allows the user to edit projects
Delete project	Allows the user to delete projects
User Management	
Create user	Allows the user to create Performance Center users Dependants: ➤ Edit user ➤ Edit user personal information
Edit user	Allows the user to edit user details Dependants: ➤ Edit user personal information
Delete user	Allows the user to delete users
Assign user to role	Allows the user to assign roles to users
Remove user from role	Allows the user to remove user-role assignments
Edit user personal data	Allows the user to edit personal information

Permission	Description
Role Management	
Create role	Allows the user to create roles Dependants: ➤ Edit role
Edit role	Allows the user to edit role definitions
Delete role	Allows the user to delete roles
Copy role	Allows the user to copy roles Dependants: ➤ Create role ➤ Edit role
License Management	
Manage License	Allows the user to insert or edit a Performance Center license or a host license

Resource Management Permissions

Permission	Description
Host Pool Management	
Create pool	Allows the user to create host pools Dependants: ➤ Edit pool
Edit pool	Allows the user to edit host pools
Delete pool	Allows the user to delete host pools

Permission	Description
Host Management	
Add host	Allows the user to add hosts Dependants: ➤ Edit host (all data) ➤ Edit host (partial)
Edit host (all data)	Allows the user to edit host details Dependants: ➤ Edit host (partial)
Edit host (partial)	Allows the user to edit the following host details only: **Priority**; **State**; **Pool**; **Comment**
Delete host	Allows the user to delete hosts
Host Maintenance	
Install patch	Allows the user to install patches on Performance Center servers/hosts Dependants: ➤ Reboot machine
Reboot machine	Allows the user to reboot Performance Center servers/hosts
Check host	Allows the user to check the status of Performance Center servers/hosts
Kill process	Allows the user to end running processes on Performance Center servers/hosts
Deallocate host	Allows the user to release hosts that are left in **Running** status after a load test has finished running

Permission	Description
Timeslot Management	
Delete timeslot	Allows the user to delete a timeslot from the Administration site
Run Time Operations	
Delete Run	Allows the user to delete runs

General Performance Center Permissions

Permission	Description
Manage servers	Allows the user to manage configuration on all Performance Center servers
Manage diagnostics servers	Allows the user to add/edit/delete diagnostics servers
Manage MI listeners	Allows the user to add/edit/delete MI listeners
Edit alerts	Allows the user to edit email alert configuration
Edit general settings	Allows the user to edit the Performance Center general settings

Project-Related Task Permissions

This section decribes the permissions assignable for project-related tasks.

Load Testing - Design Permissions

Permission	Description
Load Test Management	
Create load test	Allows the user to create load tests
	Dependants:
	➤ Edit load test
Edit load test	Allows the user to edit load tests
Delete load test	Allows the user to delete load tests
	Dependants:
	➤ Delete run
	➤ Delete timeslot
	➤ Delete monitor profile
	➤ Delete run results
Upload script	Allows the user to upload scripts from VuGen
Delete script	Allows the user to delete scripts
Monitor Profile Management	
Create monitor profile	Allows the user to create monitor profiles
	Dependants:
	➤ Edit monitor profile
Edit monitor profile	Allows the user to edit monitor profiles
Delete monitor profile	Allows the user to delete monitor profiles

Permission	Description
Dashboard Management	
Configure SLAs	Allows the user to create and edit service level agreements
Delete SLAs	Allows the user to delete service level agreements
Publish SLA statutes	Allows the user to publish service level agreement statuses to the Dashboard
General	
Edit user personal data	Allows the user to edit personal information
Download applications	Allows the user to download applications from the Downloads page
Integration with VuGen	Allows the user to enable integration with Standalone VuGen Dependants: ➤ Upload scripts
Integration with Analysis	Allows the user to enable integration with Standalone Analysis

Resource Management Permissions

Permission	Description
Timeslot Management	
Create timeslot	Allows the user to create timeslots Dependants: ➤ Edit timeslot
Edit timeslot	Allows the user to edit timeslots
Delete timeslot	Allows the user to delete timeslots
Create Autostart	Allows the user to configure the Autostart feature Dependants: ➤ Run load test ➤ Create timeslot ➤ Edit timeslot
Resource Management	
Reboot machine	Allows the user to reboot Performance Center servers/hosts
Check host	Allows the user to check the status of Performance Center servers/hosts
Kill process	Allows the user to end running processes on Performance Center servers/hosts

Load Testing - Run-Time Permissions

Permission	Description
Run-Time Operations	
Run load test	Allows the user to run load tests (create runs)
Stop run	Allows the user to stop runs

Permission	Description
Delete run	Allows the user to delete runs Dependants: ➤ Delete run results
Manual operation during run	Allows the user to change run-time settings during a run
Add run notes	Allows the user to add summary information about a run
Collate/Analyze results	Allows the user to collate or analyze run results Dependants: ➤ Stop run
Upload files to Results page	Allows the user to upload files to the Load Test Results page
Configure scenario schedule	Allows the user to create load test schedules
Delete run results	Allows the user to delete load test results

Managing Roles in Performance Center

Performance Center comes packaged with predefined system roles, called **canned roles**. For example, the **Administrator** role is a canned role that grants a user permission to perform administration-level tasks.

You can also create user-defined roles.

Roles are assigned to users within Performance Center projects.

This section describes:

➤ "Viewing Roles in Performance Center" below

➤ "Understanding Canned Roles" on page 217

➤ "Creating User-Defined Roles" on page 218

➤ "Editing Roles" on page 219

➤ "Copying Roles" on page 219

➤ "Deleting Roles" on page 220

Viewing Roles in Performance Center

You view roles in the Roles Management page.

To access the Roles Management page, on the Performance Center left menu select **User Management** > **Roles**.

The left pane of the Roles Management page contains two tabs which display the lists of roles. The tabs display:

➤ **Performance Center roles.** Allow the user to manage Performance Center assets—such as projects, users, and roles—and resources—such as hosts and servers.

➤ **Project roles.** Allow the user to manage project-related resources, and load test design and run-time settings.

Filtering the List of Roles

To facilitate locating a specific role, you can filter the list of roles by role name.

To filter the list of roles:

1 Under the relevant roles tab (**Performance Center** or **Project**), in the **Role** box, type the name of the role (or part of the name).

2 Click **Filter**.

The lists display all the roles whose names contain the string that you entered.

Note: The filter is applied in the selected roles tab only.

To clear the filter:

➤ In the **Role** box, clear the text and click **Filter**. All the roles are displayed.

Understanding Canned Roles

The following table describes the canned (predefined) roles that are built into Performance Center. These roles cannot be edited or deleted.

Canned Role	Description
Administrator (Performance Center role)	Privileges: Performance Center administration privileges—project/user/roles/licence management; resource management—hosts and servers, events; reports; general settings
Project Manager (Project role)	Privileges: Projects and project resources; reports; Dashboard; events. Manages the engagement between the LOB (Life of Business) and the COE (Center of Excellence). Does not perform any load testing but ensures that the project works as planned.
Power Tester (Project role)	Privileges: Configure and run load tests; share/import/export assets; publish to Dashboard; reboot machines. Load testing user. Can manage limited resource tasks.
Tester (Project role)	Privileges: Configure and run load tests Load testing user. No resource management privileges.
LT Advisor (Project role)	Privileges: View run screen, Vuser groups, graphs; perform manual operations on Vusers and Vuser groups
Guest (Project role)	Privileges: Edit personal details and configure own graphs; view run, graphs, Vuser groups

Creating User-Defined Roles

If you have at least Create role privileges, you can create user-defined roles. You create roles in the Roles page. When you create a role, you give it an appropriate name and description, and select the permissions that you want to include in the role.

After creating roles, you assign them to users in the Privilege Managements page. For more information see Chapter 21, "Managing User Privileges."

To create a role:

1 On the Performance Center left menu, select **User Management** > **Roles**.

2 In the Roles Management page, select the type of role you want to create—**Performance Center** or **Project** (see description on page 216).

3 In the left pane, below the list of roles, click **New**.

A new role, **New Role <n>**, appears in the roles list, and an empty form opens in the Role Properties pane.

4 In the **Name** box, type an appropriate name for the role. The name may include alphanumeric characters, and the following special characters only: **_ @ # ( )**

5 In the **Description** box, type a description for the role.

6 Select permissions for the role. For a list of all the task permissions, see "Understanding Performance Center and Project-Related Permissions" on page 207.

Tip: To select all the permissions under a specific category, select the check box adjacent the category name.

---

7 Click **Save**. The role is saved and a message is displayed in the Messages area (below the form).

Editing Roles

If you have at least Edit role privileges, you can edit user-defined roles.

Note: You cannot edit canned roles.

To edit a role:

1 On the Performance Center left menu, select **User Management** > **Roles**.

2 In the Roles Management page, select the type of role you want to edit—
Performance Center or **Project**.

3 In the roles list, select the role that you want to edit.

Tip: To locating the role more easily, you can filter the roles list.
See "Filtering the List of Roles" on page 216.

---

4 Edit the role, and click **Save**.

The role is saved and a message is displayed in the Messages area below the
form.

Copying Roles

If you have at least Copy role privileges, you can copy user-defined roles.

To copy a role:

1 On the Performance Center left menu, select **User Management** > **Roles**.

2 In the Roles Management page, in the list of roles, select the role you want
to copy.

Tip: To locate the role more easily, you can filter the roles list. See "Filtering
the List of Roles" on page 216.

---

3 In the left pane, below the list of roles, click **Copy**.

A copy of the role, **Copy of <copied role>**, appears in the list of roles.

4 Edit the role as described in "Editing Roles" on page 219.

5 Click **Save** to save the role.

Deleting Roles

You can delete roles that have no association with any users in the system.

Note: You cannot delete canned roles.

To delete a role:

1 In the list of roles, select the role you want to delete.

Tip: To locate the role more easily, you can filter the roles list. See "Filtering the List of Roles" on page 216.

---

2 In the left pane, below the list of roles, click **Delete** and confirm that you want to delete the role.

As long as there is no user assigned to the role, the role is deleted.

Note: If there is a user assigned to the role, the role cannot be deleted—a notification is displayed.

Assigning Roles to Users

All Performance Center users are assigned roles which permit them to perform tasks in Performance Center. For more information about assigning roles to Performance Center users, see Chapter 21, "Managing User Privileges."

21

Managing User Privileges

The Privilege Manager stores all the project-user-role assignments in the Performance Center system.

This chapter describes:	On page:
About Privilege Management	223
Accessing the Privilege Manager	224
Privilege Manager at a Glance	224
Managing User Privilege Assignments	225

About Privilege Management

Privilege Management enables you to assign users with selected privileges to manage Performance Center resources and assets or to manage Performance Center projects.

After you have defined users, user roles, and projects in Performance Center, you use the Privilege Manager to create associations between these elements.

The Privilege Management page lists these associations and is a portal to the pages where these associations are managed.

Accessing the Privilege Manager

You access the Privilege Manager directly from the Performance Center left menu or from the Roles Management page.

➤ To access the Privilege Manager from the Performance Center left menu, select **User Management** > **Privilege Management**.

➤ To access the Privilege Manager from the Role Management page, below the Role Properties pane, click the **Assign Project-User-Role** button.

Privilege Manager at a Glance

The Privilege Manager displays a list of **containers** on the left, and the User-Roles table on the right.

A **container** can be defined as a Performance Center object that contains resources, assets, and other containers. Performance Center has two types of containers:

➤ **PC.** Contains Performance Center resources such as hosts and servers, and Performance Center assets such as projects, users, and user roles.

➤ **Projects.** Contains project-related resources and assets such as load tests, scripts, and monitor profiles.

When you select a container, the User-Roles table displays the users assigned to that container, and the roles required of them in that container.

In the Privilege Management page, you can do the following:

➤ View all users assigned to a container, and the roles assigned to them in that container

➤ Assign users to a container

➤ Modify roles assigned to users

➤ Remove users assigned to a container

Managing User Privilege Assignments

You use the Privilege Manager to manage users and their roles in the Performance Center or Performance Center project containers.

This section includes:

Assigning Users to Performance Center/Project Containers

You use the Privilege Manager to assign users to manage Performance Center tasks or project-related tasks.

Assigning users to the **Performance Center** or **All Projects** container, or to a particular project, involves a two-fold operation:

➤ You select a container to which to assign the users

➤ You assign roles to users which allow them to perform tasks in the selected container.

To assign users to the Performance Center or All Projects container:

1 In the Privilege Management page (**User Management** > **Privilege Management**), in the container list, select **PC** or **All Projects**.

The User-Roles table on the right lists all the user-role assignments in the selected container.

2 Below the User-Roles table, click **Assign New User**. The Assign New User-Role to <PC/All Projects> dialog box opens.

3 In the **Role** list, select a role that you want to assign to users.

Users already assigned this role are displayed in the **Assigned to users** box.

4 In the **Available users** list, select the available users to whom you want to assign the selected role.

Tip: You can filter the **Available users** list by entering a particular user name (or part thereof) in the **User** box, and clicking **Filter**.

Click the single right-arrow button to move the selected available users to the **Assigned to users** box. Alternatively, to move all of the available users simultaneously, click the double right-arrow button.

5 Click **Apply**.

6 To assign another role, repeat steps 3 through 5.

7 Click **OK**. The Assign New User-Role dialog box closes, and the User-Role table displays the new user and its assigned roles.

Note: Roles assigned in **All Projects** are marked with an asterisk (*).

To assign users to a single project:

1 In the Privilege Management page (**User Management** > **Privilege Management**), in the container list, select the project to which to assign the users.

The User-Roles table on the right lists all the user-role assignments in the selected container.

2 Below the User-Roles table, click **Assign New User**. The Assign New User-Role to <project> dialog box opens.

3 In the **Role** list, select a role that you want to assign to users.

Users already assigned this role are displayed in the **Assigned to users** boxes.

➤ Users assigned this role in the selected project are displayed in the **Project Assignment** box.

➤ Users assigned this role in **All Projects** are displayed in the **All Project Assignment** box.

4 In the **Available users** list, select the available users to whom you want to assign the selected role.

Tip: You can filter the **Available users** list, by entering a particular user name (or part thereof) in the **User** box, and clicking **Filter**.

Click the single right-arrow button to move the selected users to the **Assigned to users** box. Alternatively, to move all of the available users simultaneously, click the double right-arrow button.

5 Click **Apply**.

6 To assign another role, repeat steps 3 through 5.

7 Click **OK**. The Assign New User-Role dialog box closes, and the User-Role table displays the user-role assignments.

Modifying User-Role Assignments

For any user assigned to a container, you can modify the roles assigned to the user in that container.

To modify the roles assigned to a particular user:

1 In the Privilege Management page (**User Management** > **Privilege Management**), in the container list, select the container to which the user is assigned.

Note: Roles assigned to a user in one container can differ from roles assigned to the same user in a different container.

---

2 In the User-Roles table, select the user whose roles you want to modify.

3 Below the User-Roles table, click **Change User Roles**.

Note: The **Change User Roles** button is available when **one user only** is selected in the User-Roles table.

---

4 The Change User-Role Assignments in <container> dialog box opens, displaying the user that you selected.

In the Roles table, all the roles available for the selected container are displayed, and the roles already assigned to the user are selected.

5 Select roles to assign to the user and clear the roles that you want to remove from the user.

Note: When modifying a user's roles in a particular project, roles assigned to the user for all projects are displayed in read-only format. To modify these roles, perform this procedure in the **All Projects** container (see step 1).

---

6 When you are satisfied, click **Assign**. The Change User-Role Assignments dialog box closes, and the modifications are displayed in the User-Roles table.

Disassociating Users from Containers

Using the Privilege Manager, you can disassociate a user from a container. When you disassociate a user from a container, all the user-role assignments for the user in that particular container removed.

To remove a user from a container:

1 In the Privilege Management page (**User Management** > **Privilege Management**), in the container list, select the container from which to remove the user.

2 In the User-Roles table, select the user you want to remove. You can select one or multiple users.

Note: If the user has roles that are marked with an asterisk (*****), to remove the user you must perform this procedure in the **All Projects** container.

---

3 Below the User-Roles table, click **Remove Assignment**.

Note: The **Remove Assignment** button is available when **at least one user** is selected in the User-Roles table.

---

4 In the message box that opens, click **OK**.

5 The user is removed from the User-Roles table.

22

Managing Performance Center Projects

This chapter describes defining projects in Performance Center. Project information includes a project's name, status, Vuser limit, machine limit, and other information about the project. You can view, modify, add, copy, move, and delete project information. In addition, you can define IP target addresses.

This chapter describes:	On page:
Understanding Project Information	232
Managing Project Information	234
Using IP Addresses	237

Understanding Project Information

You view and manage Performance Center projects in the Projects page. The Projects page displays a list of all the projects in the Performance Center system. If you have Project Management privileges, you can view and manage this information.

Detail	Description
Project Name	The name of the project.
Project Status	The status of the project in the Performance Center system. The status can be active or non-active.
	Note: If a project is in a non-active state, no the users in the project can log on to the Performance Center system.
Running Vusers on Controller	Enables users to run Vusers on the Controller. This provides greater flexibility where resources are scarce.
	In Add/Edit mode: Select **Enable** or **Disable**. To give users more control in advanced projects, select **Allow project users to override this selection**. This allows project users at the administration level to change the **Running Vusers on Controller** setting.
	Note: For best results, it is recommended to run Vusers on dedicated load generators only. Running Vusers on the Controller can overload the machine and affect load test results.
Vuser Limit	The maximum number of Vusers a project can run at once. The total number used by all the project's concurrent load tests must not exceed this limit.

Detail	Description
Machine Limit	The maximum number of host machines a project can use at once. The total number used by all of the project's concurrent load tests must not exceed this limit.
Concurrent Runs	The maximum number of concurrent runs allowed within a project.
Host Pool	Specification of what class of host machines should be assigned to the project for load tests. If your privilege level is Administrator, you can edit the set of possible pools. For details, see Chapter 5, "Managing Host Pools."
Creation Date	The date and time the project was created in the system.
Expiration Date	The date and time the project's validity expires. In Add/Edit mode: ➤ If you do not want the project to expire, select **Never Expires**. ➤ To set an expiry date for the project, click the **Select expiration date** link, select the desired date and time from the calendar window, and click **Set**. The calendar closes and the date updated.
Use Target IP Definitions	Allows the user to define the IP addresses to use as targets for load testing. For details, see "Using IP Addresses" on page 237.

Managing Project Information

The Projects page displays a list of all the projects in the Performance Center system.

To access this page, on the Performance Center left menu, select **User Management** > **Projects**.

The Projects page displays 25 projects in the Performance Center system at a time. To see more projects you can scroll down the list, and use the arrow buttons above the table to navigate between sets of 25 projects.

To see a particular project's details, select the project in the list. The Project Information section in the lower area of the page displays project information for the selected project. For project detail definitions, see "Understanding Project Information" on page 232.

If you want to find a particular project, type the name in the **Find project** box and click **Find**.

If you want to display the complete list of projects, click the **Show All** button. This will expand the list from 25 projects to all projects.

Tip:

➤ To search for a specific project or alphabetic string, in the **Find project** box, type the project name (or part thereof), and click **Find**. Performance Center returns the appropriate list.

➤ Entering part of a name returns a list of all the projects that have the specified string anywhere in their names. If you entered nn, the display list might include **wynn**, **benny_proj**, and **MG_grow_penn**.

➤ To view the full list of projects again, click **Show All**.

Adding Project Information

You add new Performance Center projects in the Projects page.

To add a project:

1 On the Projects page, click **Add New Project**. The Project Information area switches to Add mode and displays an empty Project Information form.

2 Enter the new projects's details.

For more information about the new projects details, see "Understanding Project Information" on page 232.

a Enter a name for the new project.

b Select the **Project Status**, either **Active** or **Non-Active**.

c Select **Running Vusers on Controller**, either **Disable** or **Enable**. To allow Vusers to override this selection, select the **Allow project users to override this selection** option.

d Enter the **Vuser Limit**, the maximum number of Vusers a project can run at once.

e Enter the **Machine Limit**, the maximum number of host machines a project can use at once.

f Enter the **Concurrent Runs**, the maximum number of concurrent runs allowed within a project.

g Select the **Host Pool**, a specification of what class of host machines should be assigned to the project.

h Set an expiration date for the project.

Under **Account Expiration Date**, click the **Select expiration date** link. A calendar window opens. Select the desired date and time, and click **Set**. The calendar closes and the account expiration date is updated.

i if you select the **Use Target IP Definitions** option, you will need to define the IP addresses to use as targets for load testing. For details, see "Using IP Addresses" on page 237.

3 To add the project to the list, click **Add**.

To clear all fields, click **Clear**.

To return to viewing project information without adding the new project, click **Cancel**.

Modifying Project Information

You modify project information in the Projects page.

To modify a project's details:

1 On the Projects page, select the project whose information you want to modify.

2 Click **Edit**. The Project Information area switches to Edit mode.

3 Modify the information in the editable fields.

4 Click **Save** to save changes to the project's information.

Deleting Performance Center Projects

On the Project's page, select the project you want to delete and click **Delete**. Click **OK** to confirm that you want to delete the project.

The project is deleted from the list of projects.

Using IP Addresses

IP addresses are assigned so that the addresses of all hosts on a given network share a common prefix. The common prefix defines the network portion of the IP address, and the remainder defines the host portion (also referred to as the local portion).

Note that the term "network" in this context refers to a logical network, which might span one or more physical networks. The network portion of an IP address identifies a site and the local portion identifies a single host at that site.

About Using Subnet Masks

A site using subnet addressing must specify a 32-bit subnet mask for each network. Each bit in the subnet mask is set to 1 if the network treats the corresponding bit in the IP address as part of the network address and 0 if it treats the corresponding bit in the IP address as part of the host id.

Consider, for example, the subnet mask **11111111 11111111 0000000 0000000** (or in decimal form, **255.255.0.0**). This subnet mask specifies that the first two octets identify the network and the last two octets identify the host on that network.

The subnet mask **255.255.255.255** (or in binary form, **11111111 11111111 11111111 11111111**), which you add when defining individual IP addresses, specifies that all four octets in the IP address identify the network and host as if there were no subnet mask. In practice, this means that null will use the exact IP address to target load tests.

Defining Target IP Addresses

If a project is set to **Use Target IP definitions**, you must define a target IP address. The project's load tests are targeted to these addresses. If no addresses are defined, the project's load tests cannot run.

By default, this option is not selected, and the project cannot target its tests to any IP address.

To limit your load test to one or more individual IP addresses, type the IP addresses along with the following mask address: **255.255.255.255**.

To limit your load test to a network of target IP addresses, type the correct IP and Subnet mask combination that your network administrator has provided for your organization.

To define target IP addresses for a project:

1 On the Projects page, select the project from the list. The Project Information section displays the selected project's information.

2 If the **Use Target IP Definitions** option has not been selected, click **Edit** to switch the Project Information area to edit mode, and select it. The click **Save**.

3 Below the project Information area, click **Define Target IP**. The Define Target IP Addresses for Project dialog box opens.
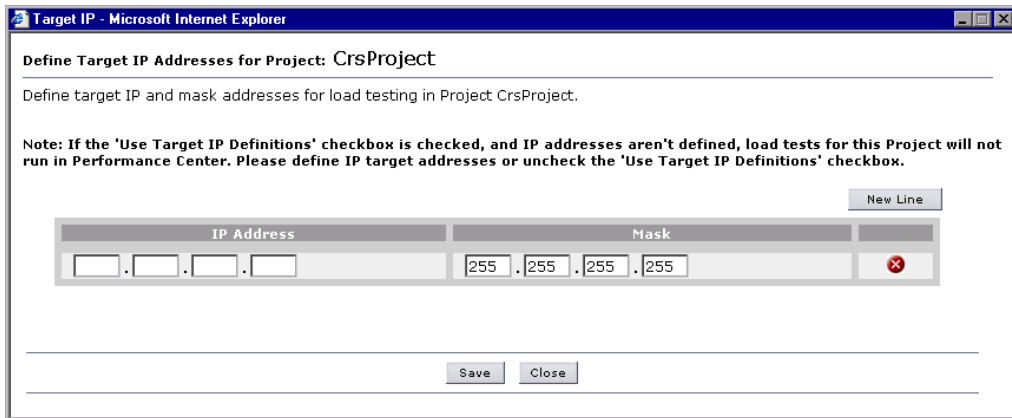
4 Under IP Address, enter a target IP address.

5 To add another IP address, click **New Line** and enter the address.

6 To edit an address, place the cursor in the box you want to edit, and type the new address.

7 To delete an address, click the **Delete** button for the relevant IP address.

8 Click **Save** to save changes and close the dialog box, or **Close** to close the dialog box without saving changes.

Part VII

Appendixes

A

Configuring Performance Center System User Manually

This appendix provides instructions for manually configuring the Performance Center system user on the Performance Center servers and hosts.

Note: Try to configure the Performance Center user using the System Identity Utility (see Chapter 2, "Performance Center System User"). Use these instructions as a last resort only.

Manual configuration of the Performance Center user on the various servers and hosts involves granting the required Performance Center policies, updating the Performance Center user, and, for a non-administrative Performance Center user, granting the required Performance Center permissions.

Follow all the procedures carefully, noting which procedures are relevant for all Performance Center servers and hosts and which for specified machines only.

This appendix describes:	On page:
Required Policies for the Performance Center System User	242
Performance Center User Configuration	243
Performance Center User Permissions (Non-Administrative User Only)	249

Required Policies for the Performance Center System User

Note: This section applies to:

➤ An administrative or non-administrative Performance Center user

➤ All Performance Center servers and hosts

Grant the Performance Center user all the required policies as follows:

Policy	Operating System	Reason
Act as part of the operating system	Win2000	For impersonation (required for Performance Center system user and for the user that runs the System Identity Utility)
Create global object	Win2000/2003	For Autolab running Vusers on the Controller
Batch logon rights	Win2000/2003	The minimum policies required to run Web application
Service logon rights	Win2000/2003	The minimum policies required to run Web application
Access this computer from the network	Win2000/2003	The minimum policies required to run Web application
Log on locally	Win2000/2003	Required by infra services (for instance after reboot it does login with Performance Center system user)

Performance Center User Configuration

Note: This section applies to:

➤ An administrative or non-administrative Performance Center user

➤ All Performance Center servers and hosts

Configuring the Performance Center user includes the following procedures:

➤ "Defining Performance Center User as Admin or Non-Admin User" on page 243

➤ "Configuring IIS Settings" on page 244

➤ "Changing Application Pool Identity" on page 246

➤ "Configuring COM Object Identity" on page 248

➤ "Resetting Services" on page 248

Defining Performance Center User as Admin or Non-Admin User

The Performance Center system user can have administrative or non-administrative permissions. You define what type of user it is by adding it to the relevant local user group on the server or host.

To add the Performance Center user to a local user group:

1 Open the Computer Management (Control Panel > Administrative Tools).

2 Add the user to the appropriate user group.

Select **System Tools** > **Local Users and Groups** > **Users**.

➤ If the Performance Center user is to be an administrative user:

Double-click the Performance Center user, and click the **Member of** tab. If **Administrators** is not listed, click **Add**, select **Administrators**, and click **OK**.

243

➤ If the Performance Center user is to be an non-administrative user:

Double-click the Performance Center user, and click the **Member of** tab. Change the Performance Center user to belong only to the Users group.
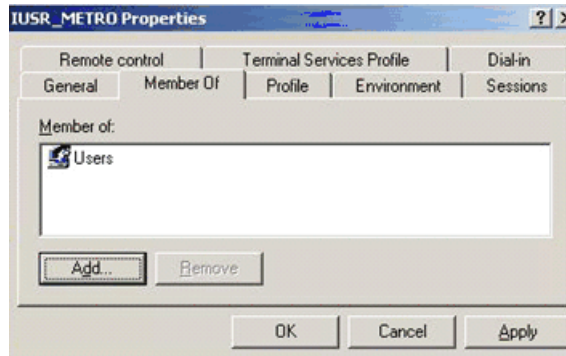
Windows 2003 only: Add the Performance Center user to the **Distributed Com Users** group.

Configuring IIS Settings

This section applies to the Administration Site and User Site (Web) servers only.

➤ When changing the IIS on the Administration Site server, work in the **Admin** virtual directory.

➤ When changing the IIS on the User Site servers, work in the **LoadTest** virtual directory.

To change the IIS settings:

1 **Open Internet Information Service Manager.**

2 **In the relevant virtual directory (Admin or LoadTest as mentioned above), change the Anonymous user to the Performance Center user as follows:**

a Under **Default Web Site,** right-click the relevant virtual directory and select **Properties**.

b Click the **Directory Security** tab.

c Under **Anonymous access and authentication control**, click **Edit**.

d Select **Anonymous access** and next to **Account used for anonymous access**, click **Edit**.

e Change the user to the Performance Center user.

f Click **OK**.

g Click **Apply**.

h In the dialog box that opens, select all the virtual directories to apply the Anonymous user to all of them.

3 Change the Connect As user.

a For each virtual directory under the top virtual directory (that is, under **Admin** or **LoadTest**), right-click the directory (for example, **\Graphs**) and select **Properties**.

b Next to **Network Directory**, click **Connect As**.

Note: This option is available when **A share located on another computer** is selected.

245

c Enter the name and password of the Performance Center user, and click **OK**.
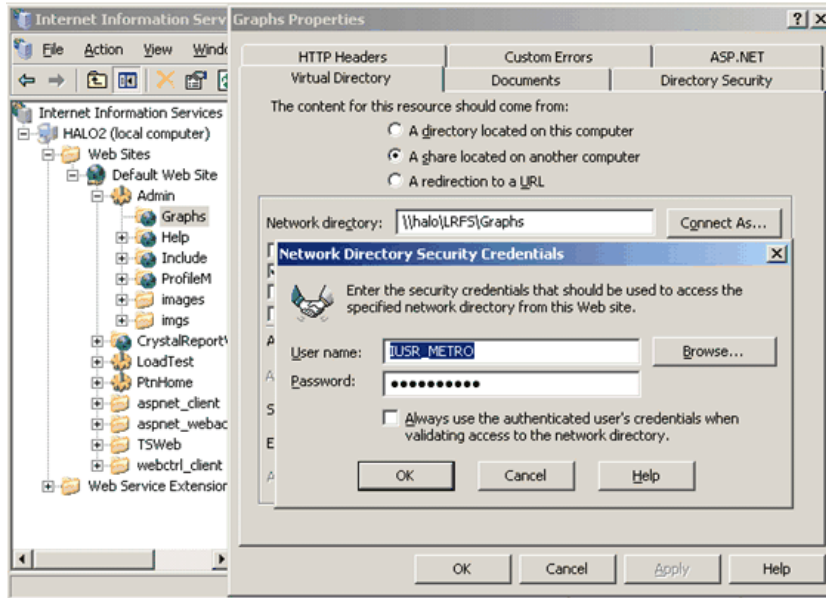
Changing Application Pool Identity

Note: This section is relevant for IIS 6.0 only.

For all Performance Center servers and hosts, you need to change the application pool identity to the Performance Center user. The following table lists which application pool's identity to change per server or host:

Performance Center Machine	Application Pool
Administration Site server	**AdminAppPool; PCWSAppPool**
User Site (Web) servers	**DefaultAppPool; PCWSAppPool**
File server	**PCWSAppPool**

Performance Center Machine	Application Pool
Utility	**PCWSAppPool**
Hosts	**PCWSAppPool**

To change the application pool identity to the Performance Center user:

1 Open the **Internet Information Services Manager**.

2 Under **Application pool**, right-click the relevant application pool (see the table above) and select **Properties**.

Note: For the Administration and User site servers, you need to repeat this procedure for both application pools listed.)

---

3 In the **Identity** tab, select **Configurable**, and enter the user name and password of the Performance Center user.
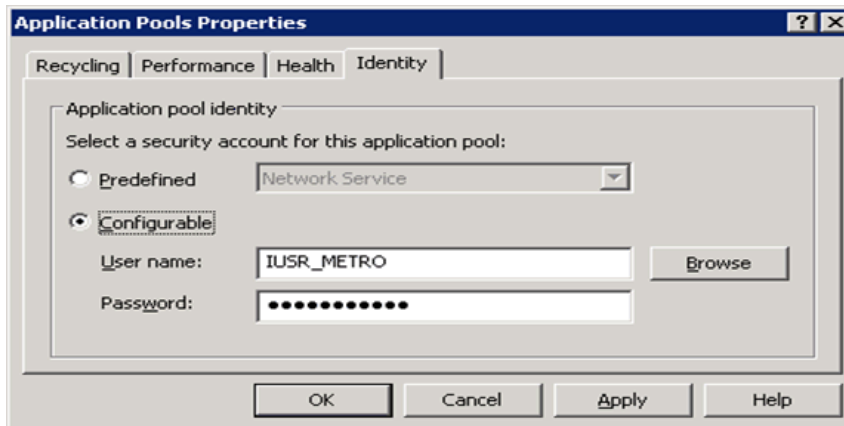
4 Click **OK**.

Configuring COM Object Identity

For all Performance Center servers and hosts, you need to change the identity of the COM objects to the Performance Center user.

For all the COM objects listed in the **<Performance Center installation>\bin\MiDCOM.ini** file, configure the identity to be the Performance Center user as follows:

1 Run **dcomcnfg**.

2 For each COM object, under **Properties** > **Identity**, select **This user** and enter the Performance Center user details.

Resetting Services

This section describes resetting services on the servers and hosts.

For all Performance Center Servers and Hosts

Reset **alagentservice** as follows:

➤ Reinstall alagentservice using the following commands:

```
%installation folder%\al_agent\bin\alagentservice.exe -remove

%installation folder%\al_agent\bin\alagentservice.exe -install username password
```

where username and password are those of the Performance Center user.

For Utility Server Only

Reset **TaskManagerService**:

a Run **services.msc**.

b In the Services folder, right-click **Performance Center TaskManager,** and click **Properties**.

c In the **Log On** tab, select **This Account** and enter the Performance Center user name and password.

d Click **OK**.

   e In the Services folder, right-click **Performance Center TaskManager**
   again, and click **Restart**.

   For Performance Center Hosts Only

   Reset **magentservice**:

➤ Reinstall magentservice using the following commands:

   ```
   %installation folder%\launch_service\bin\magentservice.exe -remove

   %installation folder%\launch_service\bin\magentservice.exe -install username
   password
   ```

   where username and password are those of the Performance Center user.

Performance Center User Permissions (Non-Administrative User Only)

Note: This section is relevant when configuring a non-administrative
Performance Center user only.

When configuring a non-administrative Performance Center system user,
you need to grant it additional Performance Center permissions.

This section describes:

➤ "Configuring Permissions on the Administration Site Server" on page 250

➤ "Configuring Permissions on the User Site (Web) Servers" on page 251

➤ "Configuring Permissions on the File Server" on page 254

➤ "Configuring Permissions on the Utility Server" on page 256

➤ "Configuring Permissions on the Performance Center Hosts" on page 259

Configuring Permissions on the Administration Site Server

Grant the following permissions to the non-administrative Performance Center user on the Administration Site server:

Change registry permissions:

1 Open the Registry Editor (**regedt32**).

2 Give the Performance Center user full access to:

➤ **HKEY_LOCAL_MACHINE\Software\Mercury Interactive**

➤ **HKEY_CLASSES_ROOT\interface**

➤ **HKLM\SYSTEM\CurrentControlSet\Control\SecurePipeServers\winreg**

➤ **HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Perflib**

➤ **HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon**

Add full control permissions to directories and files:

In the File System folder give the **Performance Center user** and the **IWAM_Machine user** permissions as follows:

➤ **Performance Center user.** Grant full control of:

   ➤ the Performance Center directory (**C:\Program Files\HP\Performance Center**) and all sub-directories

   ➤ **%CommonProgramFiles%**

   ➤ **%windir%\TEMP**

   ➤ If the systemroot is on an NTFS partition, grant at least Read access to files:

      ➤ **%SystemRoot%\System32\Perfc009.dat**

      ➤ **%SystemRoot%\System32\Perfh009.dat**

➤ **IWAM_Machine user.** After installing Web services, give Read permissions to **%windir%\TEMP**.

Add permissions to run .NET applications:

Add full control permissions for the Performance Center user to all folders needed to run **.NET** applications (Web services, and so on):

In a command line, go to

```
%windir%\Microsoft.NET\Framework\v2.0.50727
```

and run

```
aspnet_regiis.exe -ga <MachineName>\IUSR_METRO
```
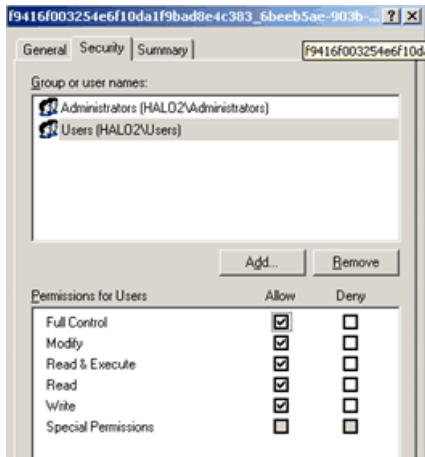
Configuring Permissions on the User Site (Web) Servers

On the User Site (Web) servers, grant the following permissions to the non-administrative Performance Center user:

Change registry permissions:

1 Open the Registry Editor (**regedt32**).

2 Give the Performance Center user full access to:

➤ **HKEY_LOCAL_MACHINE\Software\Mercury Interactive**

➤ **HKEY_CLASSES_ROOT\interface**

➤ **HKLM\SYSTEM\CurrentControlSet\Control\SecurePipeServers\winreg**

➤ **HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Perflib**

➤ **HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon**

Change permissions of the Crypto key:

1 Open **C:\Documents and Settings\All Users\Application Data\Microsoft\Crypto\RSA\MachineKeys**.

2 Right-click the **f9416f003254e6f10da1f9bad8e4c383** file and select **Properties**.

3 Click the **Security** tab.

4 Add the **Users Group** and grant it full control.

Add permissions to directories and files:

In the File System folder give the **Performance Center user** and the **IWAM_Machine user** permissions as follows:

➤ **Performance Center user.** Grant full control of:

   ➤ the Performance Center directory (**C:\Program Files\HP\Performance Center**) and all sub-directories

   ➤ **%CommonProgramFiles%**

   ➤ **%windir%\TEMP**

   ➤ If the systemroot is on an NTFS partition, grant at least Read access to files:

      ➤ **%SystemRoot%\System32\Perfc009.dat**

      ➤ **%SystemRoot%\System32\Perfh009.dat**

➤ **IWAM_Machine user.** After installing Web services, give Read permissions to **%windir%\TEMP.**

Add permissions to run .NET applications:

Add full control permissions for the Performance Center user to all folders needed to run **.NET** applications (Web services, and so on):

In a command line, go to

```
%windir%\Microsoft.NET\Framework\v2.0.50727
```

and run

```
aspnet_regiis.exe -ga <MachineName>\IUSR_METRO
```

Configuring Permissions on the File Server

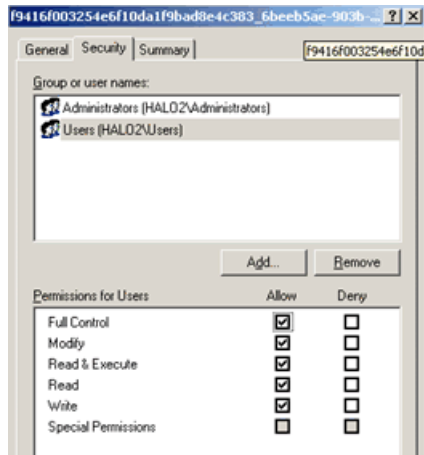On the File server, grant the following permissions to the non-administrative Performance Center user:

Change registry permissions:

1 Open the Registry Editor (**regedt32**).

2 Give the Performance Center user full access to:

➤ **HKEY_LOCAL_MACHINE\Software\Mercury Interactive**

➤ **HKEY_CLASSES_ROOT\interface**

➤ **HKLM\SYSTEM\CurrentControlSet\Control\SecurePipeServers\winreg**

➤ **HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Perflib**

➤ **HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon**

Add full control permissions to directories and files:

In the File System folder give the **Performance Center user** and the **IWAM_Machine user** permissions as follows:

➤ **Performance Center user.** Grant full control of:

➤ the Performance Center directory (**C:\Program Files\HP\Performance Center**) and all sub-directories

➤ **%CommonProgramFiles%**

➤ **%windir%\TEMP**

➤ If the systemroot is on an NTFS partition, grant at least Read access to files:

➤ **%SystemRoot%\System32\Perfc009.dat**

➤ **%SystemRoot%\System32\Perfh009.dat**

➤ **IWAM_Machine user.** After installing Web services, give Read permissions to **%windir%\TEMP**.

Add permissions to run .NET applications:

Add full control permissions for the Performance Center user to all folders needed to run **.NET** applications (Web services, and so on):

In a command line, go to

```
%windir%\Microsoft.NET\Framework\v2.0.50727
```

and run

```
aspnet_regiis.exe -ga <MachineName>\IUSR_METRO
```

Add full access for the Performance Center user to LRFS security:

1 In the Performance Center installation directory, double-click **LRFS** and click the **Sharing** tab.

2 Click **Permissions** and give the Performance Center user full control.
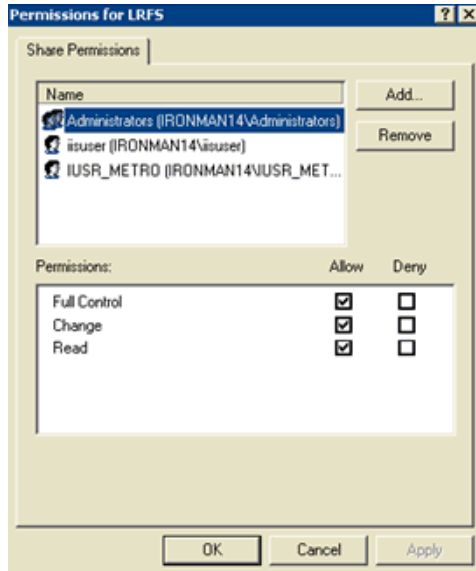
Configuring Permissions on the Utility Server

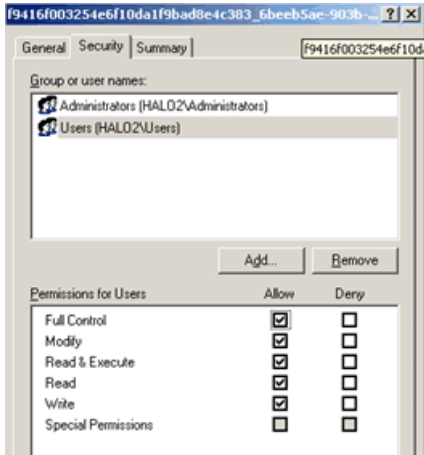On the Utility server, grant the following permissions to the non-administrative Performance Center user:

Change registry permissions:

1 Open the Registry Editor (**regedt32**).

2 Give the Performance Center user full access to:

➤ **HKEY_LOCAL_MACHINE\Software\Mercury Interactive**

➤ **HKEY_CLASSES_ROOT\interface**

➤ **HKLM\SYSTEM\CurrentControlSet\Control\SecurePipeServers\winreg**

➤ **HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Perflib**

➤ **HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon**

Change permissions of the Crypto key:

1 Open **C:\Documents and Settings\All Users\Application Data\Microsoft\ Crypto\RSA\MachineKeys**.

2 Right-click the **f9416f003254e6f10da1f9bad8e4c383** file and select **Properties**.

3 Click the **Security** tab.

4 Add the **Users Group** and grant it full control.

Add full control permissions to directories and files:

In the File System folder give the **Performance Center user** and the **IWAM_Machine user** permissions as follows:

➤ **Performance Center user.** Grant full control of:

   ➤ the Performance Center directory (**C:\Program Files\HP\Performance Center**) and all sub-directories

   ➤ **%CommonProgramFiles%**

   ➤ **%windir%\TEMP**

   ➤ If the systemroot is on an NTFS partition, grant at least Read access to files:

      ➤ **%SystemRoot%\System32\Perfc009.dat**

      ➤ **%SystemRoot%\System32\Perfh009.dat**

   ➤ **%windir%\mercury.ini**. If this file does not exist, create it and give the user full access.

➤ **IWAM_Machine user.** After installing Web services, give Read permissions to **%windir%\TEMP**.

Add permissions to run .NET applications:

Add full control permissions for the Performance Center user to all folders needed to run **.NET** applications (Web services, and so on):

In a command line, go to

```
%windir%\Microsoft.NET\Framework\v2.0.50727
```

and run

```
aspnet_regiis.exe -ga <MachineName>\IUSR_METRO
```

Configuring Permissions on the Performance Center Hosts

On the Performance Center hosts, grant the following permissions to the non-administrative Performance Center user:

Change registry permissions:

1 Open the Registry Editor (**regedt32**).

2 Give the Performance Center user full access to:

➤ **HKEY_LOCAL_MACHINE\Software\Mercury Interactive**

➤ **HKEY_CLASSES_ROOT\interface**

➤ **HKLM\SYSTEM\CurrentControlSet\Control\SecurePipeServers\winreg**

➤ **HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Perflib**

➤ **HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon**

➤ **HKLM\SOFTWARE\Microsoft\Jet\4.0\Engines\Text** (used by Analysis).

Change permissions of the Crypto key:

1 Open **C:\Documents and Settings\All Users\Application Data\Microsoft\ Crypto\RSA\MachineKeys**.

2 Right-click the **f9416f003254e6f10da1f9bad8e4c383** file and select **Properties**.

3 Click the **Security** tab.

4 Add the **Users Group** and grant it full control.

Add full control permissions to directories and files:

In the File System folder give the **Performance Center user** and the **IWAM_Machine user** permissions as follows:

➤ **Performance Center user.** Grant full control of:

   ➤ the Performance Center directory (**C:\Program Files\HP\Performance Center**) and all sub-directories

   ➤ **%CommonProgramFiles%**

   ➤ **%windir%\TEMP**

   ➤ If the systemroot is on an NTFS partition, grant at least Read access to files:

      ➤ **%SystemRoot%\System32\Perfc009.dat**

      ➤ **%SystemRoot%\System32\Perfh009.dat**

   ➤ **C:\Documents and Settings\Default User\Local Settings\Temp**

   ➤ **%windir%\wlrun7.ini**.

   ➤ **%windir%\wlrun5.ini**.

   ➤ **%windir%\mercury.ini**.

   ➤ **%windir%\collate.txt**.

   If a file does not exist, create it and give the user full access.

➤ **IWAM_Machine user.** After installing Web services, give Read permissions to **%windir%\TEMP**.

Add permissions to run .NET applications:

Add full control permissions for the Performance Center user to all folders needed to run **.NET** applications (Web services, and so on):

In a command line, go to

```
%windir%\Microsoft.NET\Framework\v2.0.50727
```

and run

```
aspnet_regiis.exe -ga <MachineName>\IUSR_METRO
```

B

Troubleshooting Performance Center

This appendix provides troubleshooting for Performance Center problems.

This appendix describes:	On page:
Troubleshooting Installation Problems	264
Troubleshooting Load Tests	275
Troubleshooting Hosts	289
Troubleshooting Web Problems	296
Troubleshooting Performance Center Monitors	302
Troubleshooting VuGen and Analysis Integration	303
Troubleshooting System Identity	304
Troubleshooting Web Services Connectivity	310

Troubleshooting Installation Problems

This section provides troubleshooting for the following Performance Center installation errors:

➤ Error: Method '~' of object '~' failed

➤ Login to Oracle Database Hangs

➤ DllHost.exe – Application Error

➤ Login to the Database Failed

➤ User Site Does Not Exist

➤ Cannot Login

➤ Invalid License Was Detected

➤ PCWS Folder was not Installed Correctly

Error: Method '~' of object '~' failed

The following error message is displayed when installing the Administration Site: **Operation terminated. Error description: Method '~' of object '~' failed**.

Troubleshooting:

1 Check that the server's System Event log for **W3SVC** errors.

2 Verify the configured identity for **IWAM_<SERVER NAME>** account.

3 Make sure that the password for the IWAM account is synchronized in all three locations:

➤ Internet Information Server (IIS) metabase.

➤ Local Users and Groups (Windows 2000).

➤ Component Services (Windows 2000).

For more information on obtaining or setting the account password, refer to: http://support.microsoft.com/default.aspx?scid=kb;en-us;297989.

4 Verify that the COM+ service is running.

Login to Oracle Database Hangs

When configuring **initialfs.htm**, the connection to the Oracle database hangs, and the log displays the message: **Trying to login to Database Server**.

Troubleshooting

Option 1: Set the Application Protection level to High (isolated)

(**IIS 5 only**) Make sure that the **Application Protection** level is set to **High (isolated)** in the Internet Services Manager in both the Administrator Site and User Site.

To set the application protection level:

1 Choose **Start** > **Programs** > **Administrative Tools** > **Internet Services Manager**. The Internet Information Services dialog box opens.
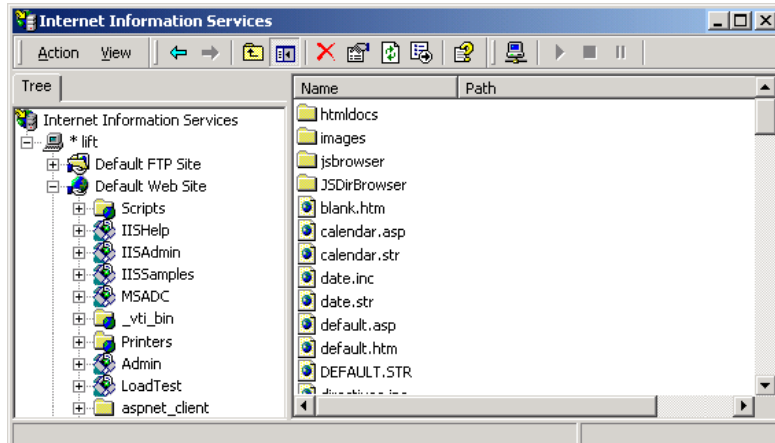
2 In the Tree directory, expand **Default Web Site**, and right-click **Admin**. Click **Properties** to open the Admin Properties dialog box.
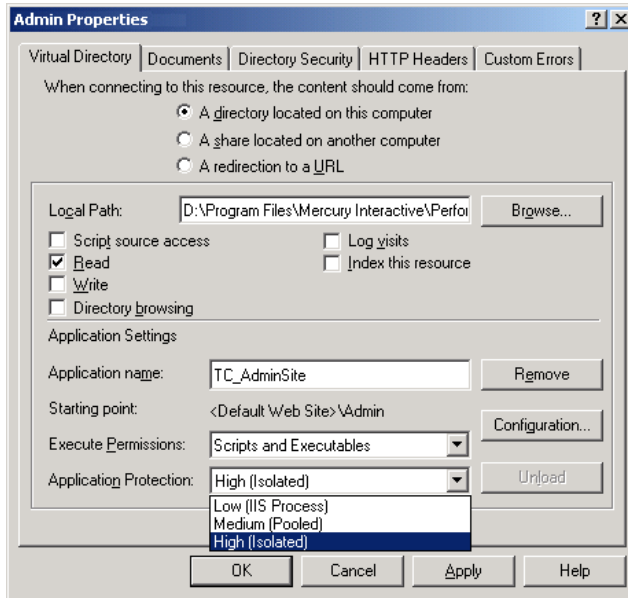
3 Click the **Virtual Directory** tab.

4 In the **Application Protection** box, select **High (Isolated)**.

5 Repeat steps 2-4 for the User Site. Note that in step 2, right-click **LoadTest**.

Option 2: Set the Correct Permissions Level for IWAM_<SERVER> user

This may be caused by a permissions level problem with the **IWAM_<SERVER>** user. By default this account is set to **Guest** permission level. The **IWAM_<SERVER>** user needs to have read/execute privileges on the Oracle home directory and all of its sub-directories.

To set the correct permissions level:

1 In Windows Explorer, right-click the Oracle home directory, and choose **Properties**.

2 Click the **Security** tab.

3 Click **Add** and add the **IWAM_<SERVER>** user.

4 Check **Read & Execute**.

5 Click **OK**.

DllHost.exe – Application Error

Error message: **Operation terminated. DllHost.exe – Application Error.**

Troubleshooting:

(**IIS 5 only**) Change the application protection level in the Internet Services Manager from **High (isolated)** to **Low (IIS Process)**.

1 Choose **Start** > **Programs** > **Administrative Tools** > **Internet Services Manager** to open the Internet Information Services dialog box.
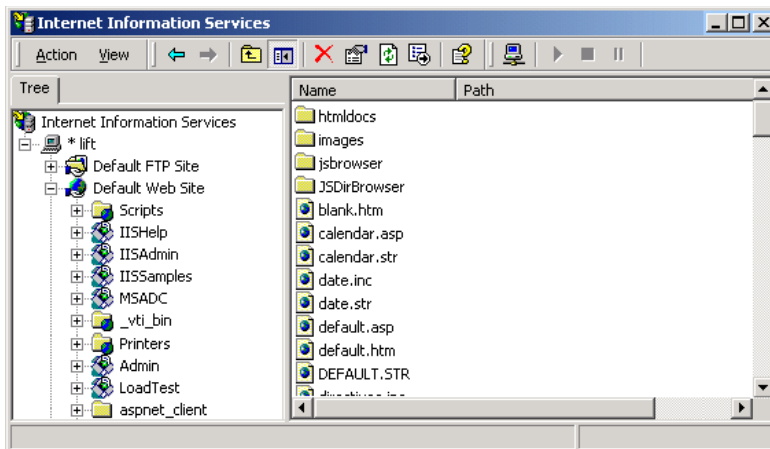
2 In the Tree directory, expand **Default Web Site**, and right-click **Admin**. Click **Properties** to open the Admin Properties dialog box.

3 Select the **Virtual Directory** tab, and in the **Application Protection** list, select **Low (IIS Process)**.
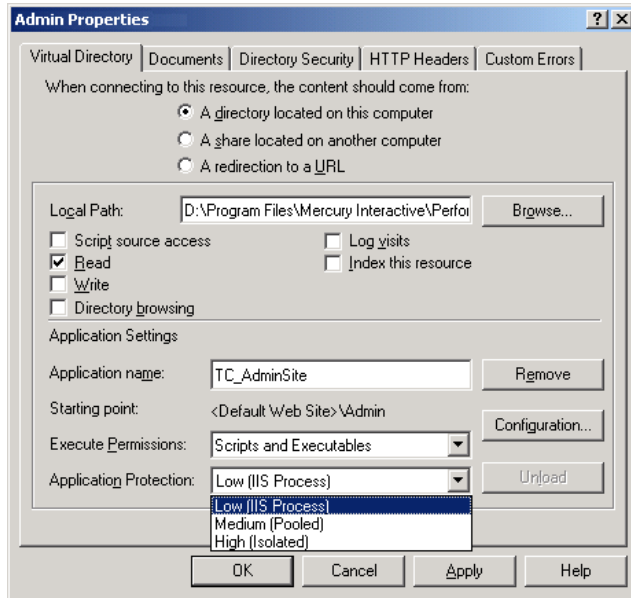
4 After installation, change the **Application Protection** back to **High (Isolated)** by repeating the above steps and clicking **High (Isolated)** in step 3.

Login to the Database Failed

Error message: **Operation terminated. Error description: Login to the Database Server failed. Check if user name and password are correct.**

Troubleshooting:

1 Verify that the database host name, type, user name, and password are correct. Consult your database administrator if you are unsure.

2 Check if you can connect to the database from the Administration site server using the command line SQL client:

➤ **For MSSQL Database**:
  % osql –U <username> -P <password> -S <serverID>
  Example:
  % osql –U sa –P manager –S DBSERVER\LRTCDB

  If your Microsoft SQL server is configured with integrated security, make sure that the Microsoft SQL database server has an operating system account for **IUSR_METRO** (password: **MIOrchid#1**), and is allowed access to the database. **IUSR_METRO** is the default account under which the Performance Center Web server runs.

➤ **For Oracle Database**:
   % sqlplus <username>/<password>@<connect_string>

   Example:
   % sqlplus system/manager@LRTCORA

   If the above command fails, check your TNS entry in
   %ORACLE_HOME%\network\admin\tnsnames.ora file.

   An Example of a TNS entry is shown below:
   LRTCORA =

  (DESCRIPTION =

    (ADDRESS_LIST =

    (ADDRESS = (PROTOCOL = TCP)(HOST = TCDBSERVER)(PORT 1521))

)

    (CONNECT_DATA =

        (SERVICE_NAME =LRTCORA)

)

)

3 To test the ADODB connectivity to the database, download the
   TcIN_AdoDBTester.exe utility from the Customer Support Web site
   (http://support.mercury.com). After you log on to the support site, click
   Knowledge Base, select **LoadRunner TestCenter**, and search for ID39475.

   a Update the **username**, **password**, and **server** fields in the **Connection**
      String.

      ➤ For Microsoft SQL Server, use Provider=SQLOLEDB.1;… connection
         string.

      ➤ For Oracle Database, use Provider=MSAORA.1;… connection string.

   b Set a valid SQL Statement (based on current DB tables).

   c Execute.

   d Check the response. If an error occurs, address the error message
      appropriately.

> **Note:** For Oracle Database, check that your Oracle client is installed properly:
> 1. Check if the **ORACLE_HOME** registry entry is correct under [**HKEY_LOCAL_MACHINE\Software\Oracle**]. It should be pointing to your Oracle client installation.
> 2. Remove **SQLPLUS.EXE** from the **Performance Center/DB** directory.

4 Verify that you MDAC version is 2.8 SP1.

User Site Does Not Exist

Error message: **The User Site (http://servername/LoadTest) does not exist on Performance Center server. Browser displays a 'Page Not Found' error.**

After the initial configuration of Performance Center (using http://<servername>/admin/initialfs.htm), the Performance Center User Site is created through the Server Configuration page in the Administrator Site (**System Configuration** > **Server Configuration**).

Troubleshooting:

If the Performance Center Web server was corrupted or reinstalled, launch Internet Service Manager and check if the **LoadTest** virtual directory is defined.

1 If **LoadTest** is defined but points to the wrong directory, delete the **LoadTest** virtual directory, and continue with step 3 below.

2 If **LoadTest** is not defined:

  a Log on to the Performance Center Administration Site and check if an entry exists for **User Site Servers** in the Server Configuration page (under **System Configuration** > **Server Configuration**).

  b If the name of the server does is not displayed under User Site Servers, add it and save your changes. Try to log on to the User Site (http://<servername>/loadtest).

3 If the name of the server does exist, continue with the following steps:

   a Connect to the database using Microsoft SQL, Oracle Enterprise Manager, or any SQL client from the user site machine.

   b Check the **Web Server** entry in the GlobalData table of **MI_LRDB tablespace/database**.

   c If the **Web Server** entry contains the name of the server where you want to install the Performance Center User Site, remove the server name.

   d Logon into Performance Center Administration Site and define **User site Servers** in the Server Configuration page (under **System Configuration** > **Server Configuration**).

Cannot Login

Cannot log in with any user or Administrator account.

Troubleshooting:

1 Make sure that you type the correct user name and password. The password is case-sensitive. The default Administrator account is **Admin**, **Admin**.

2 There may be a problem with the encryption and decryption of the password.

   ➤ Open **Documents And Settings\All Users\Application Data\Microsoft\Crypto\RSA\MachineKeys** and delete the entry that begins with **f9416f003254e610da1f9bad8e4c383_**.

   ➤ Restart IIS. Choose **Start** > **Programs** > **Administrative Tools** > **Services**. Select **IIS Admin Service** and click **Restart Service**.

3 Make sure that both the Administration Site and the User Site are configured to run with the same account credentials as the Performance Center Web services virtual directories. See "Troubleshooting Web Services Connectivity" on page 310 for detailed steps on how to do this.

4 Check that you are able to connect to the database from the Utility Server and the Web Server. Download the **TcIN_AdoDBTester.exe** utility from the Customer Support Web site (http://support.mercury.com). After you log on to the support site, click **Knowledge Base**, select **LoadRunner TestCenter**, and search for ID39475.

5 Make sure that the maximum number of connections to the database has not been exceeded. Run **Perfmon.exe** or the database's management tool to verify the number of connections. You should contact your database administrator if you need further assistance.

Invalid License Was Detected

Cannot run a load test. Invalid license was detected.

Troubleshooting:

1 Make sure that you entered the correct host license key in the Administration Site (**System Configuration** > **License**).

2 If the license is correct, see "Troubleshooting Web Services Connectivity" on page 310.

3 Make sure that LoadRunner is not installed on the system. If any versions of LoadRunner exist on the system, uninstall them, and then reinstall the Performance Center Host.

To uninstall LoadRunner, use the Windows **Add/Remove Programs** utility.

4 Make sure that the version of Performance Center installed on all servers and hosts are the same; otherwise communication between the hosts may fail. Check the registry entry under [**HKEY_LOCAL_MACHINE\SOFTWARE\Mercury Interactive\LoadRunner\CurrentVersion**] for the following variables:

➤ Major

➤ Minor

➤ ServicePack

PCWS Folder was not Installed Correctly

If you receive an error in the license page of the Administration site, or if the load test fails to run, you may need to reinstall the PCWS folder.

Troubleshooting:

➤ To install the PCWS folder and restore the IIS configuration, run the following command:

```
d:\Program Files\Mercury\Performance Center\bin\ AdminInstaller.exe" WebService
IUSR_METRO MIOrchid#1
```

Troubleshooting Load Tests

This section provides troubleshooting for the following load test errors:

➤ Load Test Failed to Run

➤ Cannot Run a Load Test

➤ Performance Center Failed to Allocate Machines

➤ Over-Utilization of a Controller Machine

➤ Session Activation Failed

➤ Virtual Users are Stuck in Initialization

➤ Virtual Users Replay Fails

➤ Performance Center runs slowly when configured with Oracle 9i and 10g

➤ Web Services Related Errors (Failure to run load test, add host or retrieve license key)

➤ License Manager Component Cannot Be Instantiated

➤ Problems in Design Load Test Operations

➤ Cannot Add Load Test

➤ Cannot Open Load Test Page After Installation

➤ Cannot Run Load Test On Controller with Windows XP - Non-Admin System User

➤ Controller Does Not Run Load Test - Non-Admin System User

Load Test Failed to Run

Load test failed to run, please consult your administrator.

Troubleshooting:

➤ Make sure that you have enough hosts (Controllers and Load Generators) available for your test.

➤ If you are starting a test using the **Manual** timeslot selection, make sure that the hosts you are requesting are currently available and not being utilized by another load test. Some load tests may have run beyond their allocated timeslot due to a long analysis phase, or by user request.

➤ Check the Hosts page in the Performance Center Administration Site (**Resources** > **Hosts**), or in the User Site (**Project** > **Hosts**) for any hosts in the **Resource Failure** state that belong to the pool that your load test is trying to use. For information on troubleshooting hosts, see "Troubleshooting Hosts" on page 289.

Cannot Run a Load Test

Unable to run a load test. The Performance Center error message says there is a currently running test, when there is not.

Troubleshooting:

1 Verify whether there really is a load test running on the target Performance Center Controller host.

2 If no test is actively running, reset the host state through the Performance Center Administration Site as follows:

a On the Performance Center left menu, select **Site Management** > **Test Runs**. The Test Runs page opens.

Run ID	Test Name	Project Name	State	# Vusers	Analysis Start Time	Run Date ▽	Timeslot ID	Delete
2391	analyze	agal	Finished	10	null	11-Jun-2007 5:34:13 PM	2222	✕
2390	stopping	agal	Finished	10	null	11-Jun-2007 5:24:24 PM	2221	✕
2389	Slavik_LT	Kate_Pro	Before Collating Results	10	null	11-Jun-2007 2:40:48 PM	2220	✕
2387	agal_update	agal	Finished	10	null	11-Jun-2007 1:44:06 PM	2218	✕
2386	Slavik_LT	Kate_Pro	Before Collating Results	10	null	11-Jun-2007 11:25:02 AM	2217	✕
2385	Slavik_LT	Kate_Pro	Before Collating Results	10	null	11-Jun-2007 11:17:07 AM	2216	✕
2384	Slavik_LT	Kate_Pro	Before Collating Results	10	null	11-Jun-2007 11:01:26 AM	2215	✕

Test Runs — Page will reload in 69 secs. Refresh Now / Refresh Frequency...

Total runs in DB : 1346 — Deallocate Hosts — Filter: time Last 24 Hours / state All States / Projects All Projects — Go

Currently Showing : 1 - 7 / 7

Click Run ID to view Event Log for run

Details for Run ID 2389 :

Duration (min):	3	**Vusers Involved:**	10	**User Name:**	Ekaterina Novikova
Max Concurrent Vusers:	10	**Controller Machine:**	montana	**Collator Status:**	Inactive
Load Generator (Vusers):	montana(10);				Fast Recovery
Results Directory:	D:\Program Files\HP\Performance Center\orchidtmp\Results\2389				Change State

b (Optional) Select the test run that is consuming the problematic host.

c Click **Fast Recovery** in the lower-right corner. This cleans the state of hosts in the database, and makes the problematic host available for future load tests. If the host is in **Resource Failure** state and cannot be used in your load test, see "Troubleshooting Hosts" on page 289.

Performance Center Failed to Allocate Machines

If an analysis or publish operation fails, the machine on which this action was performed remains allocated to the analysis/publish action, and the machine cannot be used as a Controller.

Note: This only applies to machines with Controller and Data Processor purposes.

Troubleshooting:

You should cancel the allocation to the specified machine(s).

To cancel this allocation:

1 Check which runs are being analyzed or published in the Test Runs page (**Site Management** > **Test Runs**). In case of publishing, this might be a few runs.

2 Click **Deallocate Hosts** in the Test Runs page. The Deallocate Hosts dialog box opens.
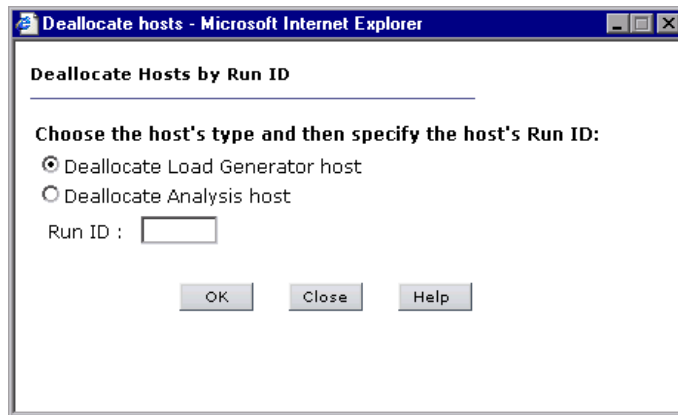
3 Select **Deallocate Analysis host**, type the run ID of the test run from which you want to deallocate hosts, and click **OK**. Repeat this procedure for each test run from which you want to deallocate hosts.

Over-Utilization of a Controller Machine

All of the following problems are indicative of over-utilization of the Controller machine:

➤ Virtual users stop ramping up during a load test

➤ Online graphs stop displaying during a load test

➤ User Site (LoadTest) is sluggish during a load test

Troubleshooting:

1 Make sure you are not running any virtual users on the Controller machine.

2 Check that the machine is responsive and CPU utilization on the Controller machine during a load test is below 100%.

3 Disable any software that may interfere with the Performance Center Controller, File server, or Web server. This includes any auditing or virus scanning software.

4 If CPU utilization is high, check whether:

➤ the **online.exe** process is consuming excessive CPU. If it is, this means that you might have too many remote viewing sessions active (e.g., many people are watching the load test from different browsers). To fix this problem, either decrease the frequency at which the load test viewing sessions are refreshed (from each individual client browser), or decrease the number of concurrent viewing sessions for the current or problematic load test.

➤ the **wlrun.exe** process is consuming excessive CPU. If it is, check if your load test is producing:

> ➤ many error messages. If it is, reduce the number of error messages produced by resolving the reasons for the error messages.

> ➤ many logging messages (for the Controller). If it is, disable or reduce the logging level, or avoid using log statements (e.g., **lr_message**) that send messages to the Controller's output window.

> ➤ running scripts without any think times, and thus producing a lot of data that is sent back to the Controller.

➤ If CPU consumption cannot be reduced for the load test, consider upgrading your Controller hardware.

Session Activation Failed

Error message: **Session activation failed. Reported from method: 'SA:AllocResourcesAndStartSes'; Session ID: #; Reason:**

Troubleshooting:

1 Check to see if you have network connectivity between the host and the Web server. The latency should be less than 20 ms to and from all Performance Center machines, excluding the load generators.

2 Check the Event Viewer administrative tool on both the Web server and Controller machines (**Start** > **Settings** > **Control Panel** > **Administrative Tools** > **Event Viewer**).

Virtual Users are Stuck in Initialization

Virtual users are stuck in initialization, or never run at all. If you made modifications to a script and overwrote the existing script in Performance Center, Vusers may not run properly. When you upload a script, the new run-time logic of the script is not updated for any/all load tests that refer to the script.

For example, lets say that you have an existing script, **Test**, with four sections, **vuser_init**, **action1**, **action2**, and **vuser_end**, and you create a new load test, **TestLoadTest**, and add **Test** as a script with only three sections, **vuser_init**, **action3**, and **vuser_end**. If you upload this script and overwrite the current script in Performance Center, the Vusers will not run when you run **TestLoadTest**.

This is because when the new script was uploaded, the old run time logic remained. The load test thinks that there are two action sections, **action1** and **action2**, whereas the updated script has now only one action section, **action3**. When the load test is run with the updated script, a pop-up window is displayed in **wlrun.exe** on the Controller. To verify this, run **wlrun.exe** on the Controller as an **interactive user** (see "Option 3: Launch wlrun.exe manually from the Controller host machine" on page 292 for configuration details).

Troubleshooting:

Option 1:

1 When modifications are made to a script, change the name of the script by adding a version number to it. For example, **TestScript_1** can be changed to **TestScript_2**. This way, when you upload the updated script, the current script remains, and the load test will still run.

2 Create a new load test, and add the new version of the script to it.

Option 2:

When modifications are made to a script, remove the script from the load test, and add it to the load test again.

Note: It is recommended that you use Option 1, as it enables you to keep track of your script and load test configuration changes.

Virtual Users Replay Fails

Virtual users are not picking up the correct environment settings and replay fails.

Troubleshooting:

Option 1: Check the environment settings and software installation

The load generator machines on which the test is running must have the correct software installed, and the proper environment variables set for the user.

For Microsoft Media Player:

1 Log on to the load generator as the Performance Center system user, and run **Windows Media Player Install for Windows Media version 7.x** or later.

2 Check the System environment variable **Path** to ensure that Windows Media Player path is set correctly. Reboot if necessary for the correct settings to take effect.

3 On the load generator machine, test the script by running it under VuGen.

For Java:

1 Log on to the load generator machine as the Performance Center system user.

2 Make sure that the **Path** environment variable for both **User** and **System** do not have an instance of Java Virtual Machine. Performance Center retrieves the JVM information from the registry.

3 If the script replays on the VuGen machine where the script was created, then copy its **CLASSPATH** environment variable and place that in the System environment variable area of the load generator machine.

4 On the load generator machine, run a simple script on VuGen to get the environment variable settings. Add the following lines to check that the environment variables are set correctly:

char *env;

env = getenv("PATH");

lr_output_message("%s",env);

Note: Be sure to add the protocol definition: char* getenv(char*); at the top of the script file.

For Citrix:

1 Make sure that the Citrix client is installed on the load generator machine.

2 Run the script through VuGen on the load generator machine.

For Databases:

Make sure that you have the appropriate database client installed on the load generator machine, and the appropriate settings in the System **Path** environment variable.

For Tuxedo:

1 Make sure that the Tuxedo client is installed on the load generator machine.

2 Check that the following environment variables are set under System.

> ➤ Add the tuxedo\bin directory to the Path variable.

> ➤ TUXDIR - the root directory of the TUXEDO installation. It is called ROOTDIR in TUXEDO 4.2 and earlier versions of TUXEDO. This environment variable is mandatory on the NT platform. (For example: TUXDIR=D:\PSHr755\tuxedo)

> ➤ **NLSPATH** - contains subdirectories to support the localisation of system messages along with message catalogues for the default locale (U.S. English). This environment variable is also mandatory on the NT platform. (For example: NLSPATH=$TUXDIR\locale\c)

> ➤ **WSNADDR** (May need to be set) - the address of the TUXEDO server. In pre-TUXEDO 6.3 versions this is in hex, e.g. 0x0002ffffc7cb4ebd. The 0002 means IP, ffff indicates the port number, cbcb4ebd indicates the IP address of the machine which contains the server. TUXEDO 6.3 also allows a more mnemonic way of indicating the server's address. This environment variable is mandatory on the NT platform. (For example: WSNADDR=199.35.108.119:7000)

> ➤ **ULOGPFX** (May need to be set) - prefix for the **TUXEDO** log file. The name of the log file includes the current date represented as a 6 digit number, e.g. 081797 for August 17, 1997. The **ULOGPFX** can contain a directory name as well as part of the file name itself. (For example: ULOGPFX=/u/markn/ul.)

Note: Be sure to add the protocol definition: char* getenv(char*); at the top of the script file.

Option 2: Configure the Controller to work as an Interactive User

Running a GUI script in Performance Center may cause WinRunner or
QuickTest Professional to crash due to the configuration of Wlrun.Engine.

To configure the Controller to work as an Interactive User:

 1 Make sure wlrun process is not running on the machine.

 2 Select **Start** > **Run** and type dcomcnfg.

 3 Press ENTER to display the list of DCOM applications.

 4 In the displayed application list perform the following:
For Windows 2000 machines, click wlrun.LrEngine, and then click
Properties.
For Windows 2003/XP machines, right-click wlrun.LrEngine and select
Properties.

 5 In the **Identity** tab of the dialog, select **The interactive user.**

 6 Click **OK** twice to close both dialog boxes.

 7 Log on to the machine in the Performance Center environment as the
system user. This is the user installed with Performance Center that is
displayed in the General Settings page of the Administration Site.

Performance Center runs slowly when configured with Oracle 9i and 10g

Unable to run the load test. Performance Center runs slowly and an error may be displayed in the Administration site stating that the connection to database timed out. Performance Center is configured with Oracle 10g server.

Unable to run the load test. Performance Center runs slowly when Performance Center is it configured with Oracle 10g client. There may be an error message: **Connection to database timed out**.

Troubleshooting:

1 Make sure that you are accessing the database through **TNSNAMES** and not **ONAMES**.

2 There is a noticeable and ever increasing time delay connecting to the database while using **ONAMES**. This time delay does not exist if **TNSNAMES** is used. Change priority of **TNSNAMES** in the **SQLNET.ORA** file.

Edit **<ORACLE>\network\admin\sqlnet.ora** file, and set **NAMES.DIRECTORY_PATH** as follows: **NAMES.DIRECTORY_PATH = (TNSNAMES,ONAMES)**. **TNSNAMES** must be the first entry in the **DIRECTORY_PATH**.

3 Comment out the line **SQLNET.AUTHENTICATION_SERVICES= (NTS)**. This is found in **<ORACLE>\network\admin\sqlnet.ora** file on the database server machine.

4 Validate connection performance to Performance Center database. Run the **TcQA_CheckDatabaseConnection.vbs** script (available as a download from the Customer Support Web site Knowledge Base, ID39475) to quantify the performance of the connection to the Performance Center database. Make sure that the connect times are constant and low.

The following is an example of a Sample Output:

Database Connection String: Provider=SQLOLEDB.1;User
ID=OrchidUser;PWD=orchid;Initial Catalog=MI_LRDB;Data
Source=samurai\mssqla;QuotedID=No

Statistics:

Attempt #1: Connect= 1 secs, Query= 2 secs

Attempt #2: Connect= 1 secs, Query= 1 secs

Attempt #3: Connect= 2 secs, Query= 1 secs

Attempt #4: Connect= 2 secs, Query= 1 secs

Attempt #5: Connect= 2 secs, Query= 1 secs

Web Services Related Errors (Failure to run load test, add host or retrieve license key)

Errors related to Web Services may occur as a result of problems with the
.NET Framework installation.

Troubleshooting:

Repair the .NET Framework installation as follows:

1 Select Start > Run >

2 c:\WINDOWS\Microsoft.NET\Framework\v2.0.50727\aspnet_regiis.exe -i

License Manager Component Cannot Be Instantiated

Error Message: **Cannot run the load test. Unable to instantiate License Manager Component.**

Troubleshooting:

If you receive the above error, remove the PCIMkipper process and perform
an IIS reset.

Problems in Design Load Test Operations

Load test design problems are often related to the Apache Tomcat Application Server. For example, if you are unable to update Design Groups or Scheduler while tests are running.

Troubleshooting:

Perform the following workaround:

1 Change the Tomcat service user to IUSR_METRO

2 Go to Start > Run > services.msc

3 Double-click on Apache Tomcat > logon tab > This account

4 Insert: IUSR_METRO with MIOrchid#1.

Note: Restarting the Apache Tomcat service can also solve problems in this area.

Cannot Add Load Test

An error appeared in the add load test page of the User Site

Troubleshooting:

If the ISAPI filters table does not include a filter by the name of "jakartaFilter" (under the inetmgr > default website > properties > ISAPI Filters):

From the Performance Center **bin** directory, run the following command:

```
IISVirDirIsapi.exe addServerFilter jakartaFilter "<performance center installation
path>\java\tomcat\bin\iis6\isapi_r edirector2.dll" "jakartatomcat" 0
```

Cannot Open Load Test Page After Installation

You cannot open the Load Test page after installation (on an SA User site installed with Win2000).

Note: This applies when you cannot open the page after the first installation when the User Site is SA.

Troubleshooting:

Choose one of the following options:

1 Reinstall the Tomcat service.

   a Remove the service from: <Installation Folder>\java\tomcat\bin, run the command: service.bat remove (you may need to restart the machine).

   b Install the service from: <Installation Folder>\java\tomcat\bin, run the command: service.bat install

2 Change the "Log On" user to IUSR_METRO instead of "Local system account" to the Tomcat service.

Cannot Run Load Test On Controller with Windows XP - Non-Admin System User

If the system user is a non-administrative user, cannot run a load test on a Controller host in a Windows XP environment.

Troubleshooting:

Workaround: Add the system user to the machine's COM Security settings.

To add the system user to the COM Security settings:

1 Select **Start > Run**, and type **dcomcnfg**. The Components Services window opens.

2 Under **Console Root\Component Services\Computers**, right-click **My Computer**, and select **Properties**.

3 In the My Computer Properties dialog box, click the **COM Security** tab.

4 Under **Access Permissions**, click **Edit Default**, and add the system user with full access to the Default Security.

5 Under **Launch and Activation Permissions**, click **Edit Default**, and add the system user with full access to the Default Security.

6 In the My Computer Properties dialog box, click **OK**.

Controller Does Not Run Load Test - Non-Admin System User

When the system user is a non-administrative user, if you try to run load test on a Controller for the first time, the load test does not run.

Troubleshooting:

Before running load tests on a Controller for the first time, you need to open the Controller manually, then close it. The next time you try to run a load test on the Controller, the load test should run successfully.

To open the Controller manually:

1 From the command line, run **wlrun**. The Controller opens.

2 Close the Controller.

Troubleshooting Hosts

This section provides troubleshooting for the following Host errors:

➤ Host in Resource Failure

➤ Unable to Add a Load Generator due to High Latency

Host in Resource Failure

Host is in Resource Failure status.

Troubleshooting:

Option 1: Check the host connections

Check the connections between your project's hosts and the machines within your system using the Check Hosts operation in the Hosts page of the Administration Site (**Resources** > **Hosts** > **Check Hosts**) or of the User site (**Project** > **Hosts** > **Check Hosts**).
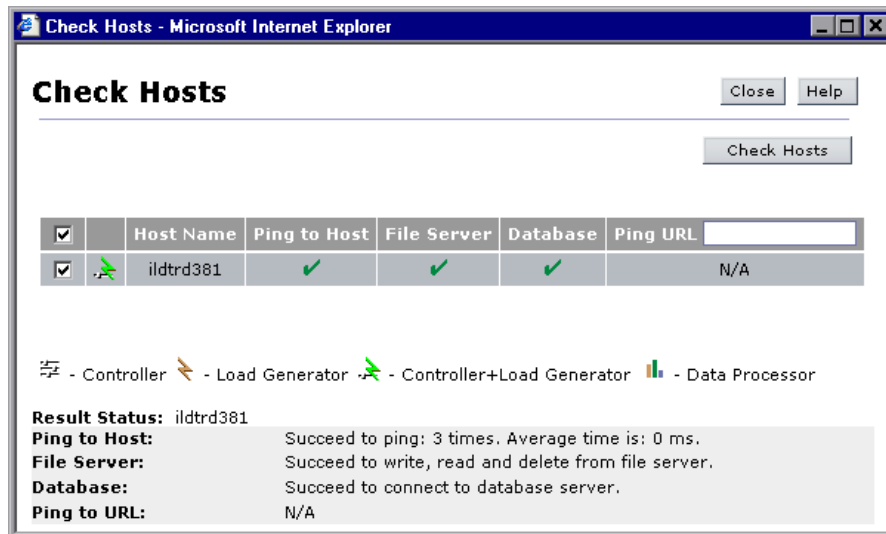
1 If **Ping to Host** fails:

   ➤ Make sure the host is up and running, and is connected to the network. Check the routing table (**netstat –r**) and make sure that requests to this host are properly routed.

   ➤ Make sure that the host's IP address can be properly resolved.

   ➤ Verify that the ping from the Performance Center Web server, Utility server, and Database to the target host is below 20 ms.

➤ If your firewalls or hosts ignore ICMP requests (pings), use HTTP requests to validate response times from the host to the Web server – a simple LoadRunner **web_url(…)** request to http://<server>/loadtest/. Alternatively, open a browser and type http://<server>/loadtest in the address field.

2 If the File Server fails:

➤ Make sure that the host can ping the File server.

➤ Make sure that the Performance Center system user has access to **LRFS share** on the File server. You can verify this by any of the following ways:

➤ In the command line, execute: net use \\fileserver\LRFS / user: <Performance_Center_user><Performance_Center_user_password>

➤ Log on to the host machine as Performance Center system user, and in the command line, execute: % net use \\fileserver\LRFS

If the above operation fails, check the error message and resolve the problem. Contact your Windows administrator for assistance.

➤ Make sure that the security settings on **LRFS share** allow Performance Center system user Full Control.

➤ Make sure that Performance Center system user can create, update, and delete files from **LRFS share**.

➤ Make sure that the Performance Center Web server can launch applications on the host. For more information, see "Troubleshooting Web Services Connectivity" on page 310.

3 If the Database fails:

➤ Check the **<Performance Center>/bin/globals.ini** file and make sure that the connection string is correct for the database you are using.

➤ See the troubleshooting for "Login to Oracle Database Hangs" on page 265.

➤ See the troubleshooting for "Login to the Database Failed" on page 270 to verify ADODB connectivity to the database.

Option 2: Check the Performance Center version

Make sure that you are using the same version of Performance Center on all your host and server machines.

Check the registry entry under [**HKEY_LOCAL_MACHINE\SOFTWARE\Mercury Interactive\LoadRunner\CurrentVersion**] for the following variables:

➤ Major

➤ Minor

➤ ServicePack

Note: Any patches applied to one machine must be applied to all machines if and when applicable.

Option 3: Launch wlrun.exe manually from the Controller host machine

If the host check succeeds, but the host is still not operational, you should launch the Controller manually from the Controller host machine as follows:

1 Log on to host machine.

2 Configure **wlrun.LrEngine** application to run as **Interactive user**:

➤ Launch **dcomcnfg.exe**.

➤ Under the application tab, select **wlrun.LrEngine** from the list of DCOM applications.

➤ Click **Properties** to view the properties for **wlrun.LrEngine**

➤ In the **Identity** tab, set the user account to **The interactive user**.

➤ Click **OK** and close the **DCOMCNFG** window.

Note: When you are finished with this step, set **wlrun.LrEngine**'s Identity back to original. By default it is **This User** with the Performance Center user name and password. If you used a different identity, restore it.

---

3 Launch the Controller (**wlrun.exe**) from the **<Performance Center>/bin** directory (on the Controller host).

4 If an error message is displayed during the startup of the Controller, resolve the error message before continuing. For Performance Center to utilize the Controller properly, no error messages should be displayed during startup.

5 Create a new simple load test and reference the scripts from the **LRFS share** (on the Performance Center File server). Run the load test with one or two users to check that the Controller works.

Note: Scripts uploaded to the Performance Center LRFS reside under **fileserver****LRFS**\<**ProjectID**>**Scripts** directory. To obtain the <**ProjectID**>, select **User Management > Projects**.

An example path to the USR file for a script named MyTest is:

\\myserver\LRFS\2\Scripts\MyTest\MyTest.usr

6 Close the Controller (**wlrun.exe**).

7 From the Performance Center User site, launch a simple load test.

➤ Check if the following processes are displayed in the task manager on the Controller host:

OrchidActiveSession.exe OR ORCHID~1.exe

WLRUN.EXE

➤ Check if any dialog box is displayed on the Controller that requires user input, before the Controller can proceed with the load test. Address the reasons for the dialog box being displayed, and make sure that no dialog boxes are displayed when re-running the load test from Performance Center.

Examples of dialogs that may be displayed include **License has expired**, **monitor not licensed**, and **host is over utilized**.

If you are unsure how to resolve the problem indicated in the dialog box, contact the Customer Support site (http://support.mercury.com/) for assistance.

Note: When you are finished with this step, set **wlrun.LrEngine'**s identity back to original. By default it is **This User** with the Performance Center user name and password. If you used a different identity, restore it.

Option 4: Reinstall Performance Center Host on the host machine

If all of the above steps fail to resolve the problem, reinstall the Performance Center Host on the host machine.

➤ Uninstall HP Performance Center (**Start** > **Settings** > **Control Panel** > **Add/Remove Programs**). (This is really the Performance Center Host.)

➤ Delete **HKEY_LOCAL_MACHINE\SOFTWARE\Mercury Interactive** from the registry.

➤ Re-install the Performance Center Host. For more information, see the *HP Performance Center System Configuration and Installation Guide*. Make sure that you install the same version of Performance Center as is installed on your Web Server.

Note: Do not install a Performance Center server (e.g. Utility, Web Server, File Server) on the same machine as the Performance Center host (for example, data processor, Controller, load generator).

Unable to Add a Load Generator due to High Latency

Unable to add a load generator host due to high network latency or the network policy.

You may have a problem adding a host to the Performance Center Administration Site as a load generator, if the host has a ping time of greater than 50 ms. This only applies to hosts added as load generators.

Troubleshooting:

1 Create a temporary host location over a firewall.

   a In the **Host Locations** page, click **Add Host Location**.

   b In the **Host Location** field, type TempOverFirewall.

   c Set **Located over Firewall** to **Yes**. (By using the **Located over Firewall** option, many checks that are performed on host machines will not be performed.)

   d Click **OK**.

2 Add a new host to the temporary location

   a In the Hosts page, click **Add Host**.

   b In the **Name** field, type add.

   c In the **Purpose** field, select **Load Generator**.

   d From the Location list, select **TempOverFirewall**.

   e From the Host Pool list, select the correct host pool.

   f Click **Save**, and then click **OK** to confirm.

   g Select the host that was added from the host list.

   h Change the location to the correct location. (Placing the host in the over firewall location was done just to bypass some checking that Performance Center does when adding host machines.)

   i Click **OK**. In the next two message boxes that are displayed, click **OK**.

3 Repeat Step 2 for all load generators that have high network latency.

Troubleshooting Web Problems

This section provides troubleshooting for the following Web errors:

➤ HTTP 500.x - Internal Server Error

➤ Cannot Find Server or DNS Error

➤ Administration Site Page cannot be Displayed

➤ Unable to Log on to the Administration/User Site

➤ PC Maintenance Service Causes IIS Resets

➤ HTTP/1.1 100 Continue Randomly Appears

HTTP 500.x - Internal Server Error

Error message: *"The page cannot be displayed"* – HTTP 500.x Internal Server Error.

Troubleshooting:

1 Reset IIS (**Start** > **Programs** > **Administrative Tools** > **Services**). Locate **IIS Admin Service** and click **Restart Service**.

2 (**IIS 5 only**) If you cannot restart IIS, reboot the machine.

Make sure both the Administrator Site and the User Site are set to **Application protection** level **High (isolated)** in the Internet Services Manager. To set the protection level, see "Option 1: Set the Application Protection level to High (isolated)" on page 265.

3 Reset the Tomcat service on the User site server.

4 The error may be caused by your anti-virus software. Make sure that the anti-virus software is not checking the Performance Center Installation directory and sub-directories. Also make sure that the anti-virus program is not checking the File Server directory (generally **LRFS**).

5 If you are still receiving an error, enable **App Debugging** on the Web server:

a Choose **Start** > **Programs** > **Administrative Tools** > **Internet Services Manager**.

b Right-click the **Default Web Site**, and click **Properties**.

c In the **Home Directory** tab, click **Configuration**, and click the **App Debugging** tab.

d Select the **Enable ASP server-side script debugging** and **Enable ASP client-side script debugging** check boxes.

e Select **Send detailed ASP error messages to client**.
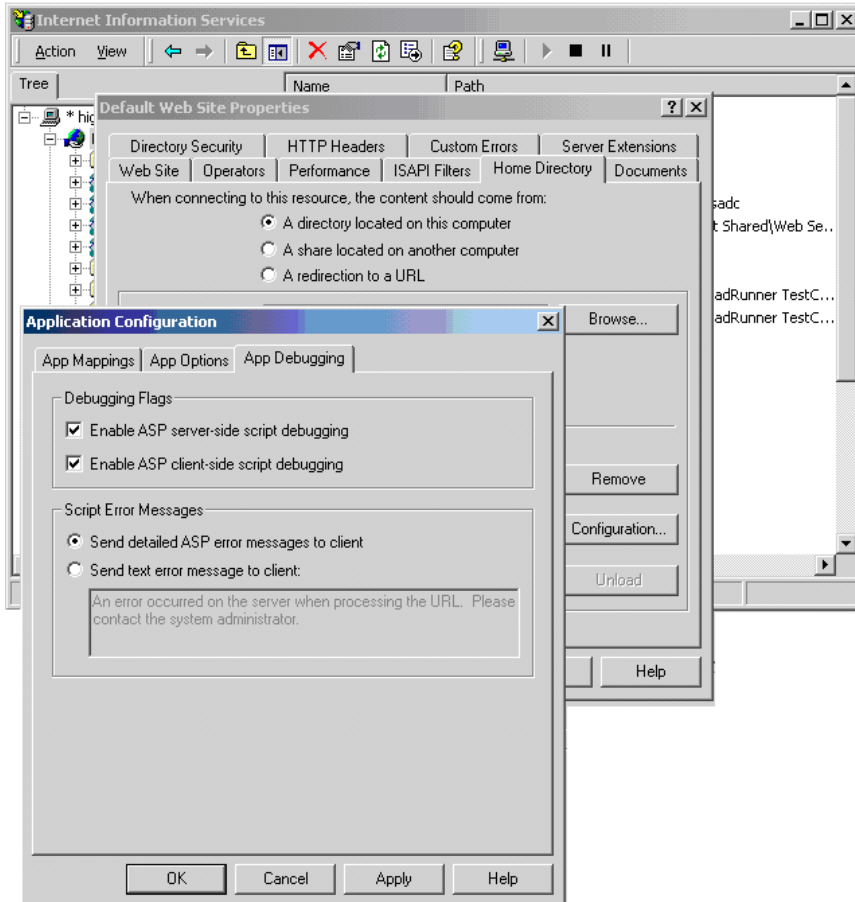
f Click **OK** to apply your changes.

g Restart IIS. Choose **Start** > **Programs** > **Administrative Tools** > **Services**. Find **IIS Admin Service** and click **Restart Service**.

h If an error page is displayed again, check the new error message provided on the page, and contact Customer Support (http://support.mercury.com/) for assistance.

Cannot Find Server or DNS Error

Error message: **The page cannot be displayed – Cannot find server or DNS Error**.

> ### The page cannot be displayed
>
> The page you are looking for is currently unavailable. The Web site might be experiencing technical difficulties, or you may need to adjust your browser settings.
>
> ---
>
> Please try the following:
>
> - Click the ⟳ Refresh button, or try again later.
> - If you typed the page address in the Address bar, make sure that it is spelled correctly.
> - To check your connection settings, click the **Tools** menu, and then click **Internet Options**. On the **Connections** tab, click **Settings**. The settings should match those provided by your local area network (LAN) administrator or Internet service provider (ISP).
> - If your Network Administrator has enabled it, Microsoft Windows can examine your network and automatically discover network connection settings.
>   If you would like Windows to try and discover them, click 🔍 Detect Network Settings
> - Some sites require 128-bit connection security. Click the **Help** menu and then click **About Internet Explorer** to determine what strength security you have installed.
> - If you are trying to reach a secure site, make sure your Security settings can support it. Click the **Tools** menu, and then click **Internet Options**. On the Advanced tab, scroll to the Security section and check settings for SSL 2.0, SSL 3.0, TLS 1.0, PCT 1.0.
> - Click the ⇦ Back button to try another link.
>
> Cannot find server or DNS Error
> Internet Explorer

Troubleshooting:

1 Make sure that you entered the correct URL address.

2 Check to see that you have access to the Web server.

> ➤ Use the ping command if you do not have a firewall blocking ICMP requests to your Web servers.
>
>> ➤ From a command prompt, execute: **ping <Web server>**
>>
>> ➤ From a command prompt, execute: **ping <IP Address of Web server>**

3 On the Web server, verify that IIS is up and running:

a Choose **Start** > **Programs** > **Administrative Tools** > **Services**.

b Make sure **IIS Admin Service** is **Started** and that **Startup type** is set to **Automatic**.

c Make sure **World Wide Web Publishing Service** is **Started** and that **Startup type** is set to **Automatic**.

4 Reset IIS. Choose **Start** > **Programs** > **Administrative Tools** > **Services**. Find **IIS Admin Service** and click **Restart Service**.

Administration Site Page cannot be Displayed

The Administration Site is not displayed correctly, or it displays the error message: **Page cannot be displayed**.

Troubleshooting:

➤ If the Administration Site is not displaying correctly, recreate the Administration Site by running
<Performance Center Path>\bin\AdminInstaller.exe 1

➤ If the page cannot be displayed:

➤ Close the current browser. Relaunch the browser, and try to open the Administration Site again.

➤ Choose **Tools** > **Internet Options** from the menu. In the **General** tab, click **Settings**. In the **Check for newer versions of stored pages** section, make sure that the **Every visit to the page** option is selected.

➤ Clear the browser cache and cookies.

➤ If the problem is still not resolved, try to open the Administration Site from a different machine.

➤ Reset IIS. (**Start** > **Programs** > **Administrative Tools** > **Services**). Locate **IIS Admin Service** and click **restart service**.

Unable to Log on to the Administration/User Site

Unable to log in to the Administration Site or the User site. The system appears to **spin**.

Troubleshooting:

1 (**IIS 5 only**) Make sure both the Administration Site and the User site are set to **Application protection** level **High (isolated)** in the Internet Services Manager. For more information, see "Option 1: Set the Application Protection level to High (isolated)" on page 265.

2 This may be caused by a permissions level problem with the **IWAM_<SERVER>** user. By default this account is set to **Guest** permission level. The **IWAM_<SERVER>** user needs to have read/execute privileges on the Oracle home directory and all of its sub-directories.

    a In Windows Explorer, right-click the Oracle home directory, and choose **Properties**.

    b Click the **Security** tab.

    c Click **Add** and add **IWAM_<SERVER> user**.

    d Check **Read & Execute**.

    e Click **OK**.

PC Maintenance Service Causes IIS Resets

IIS is reset every 10 minutes by the maintenance service. The maintenance service log shows that the HTTP call to **MemorySize.asp** had a timeout (60 sec.) and after three retries, the service reset IIS (as it was designed to do).

Troubleshooting:

Make sure the Utility Server is not configured to work through a proxy that might block the HTTP call. To disable the proxy setting, search the registry for the key **ProxyEnable** in the Internet Setting folders and set it to zero.

HTTP/1.1 100 Continue Randomly Appears

Message **HTTP/1.1 100 Continue** randomly appears in the middle of a response stream.

Troubleshooting:

If you installed the User Site server or Administration Site server on a Windows Server 2003 SP1 machine, download the Microsoft patch from the the Microsoft Support site (http://support.microsoft.com/kb/898708). This patch addresses a known Microsoft issue, when running IIS 6.0 on a Windows Server 2003 machine.

Troubleshooting Performance Center Monitors

This section provides troubleshooting for Performance Center monitor errors.

Cannot Create a Monitor

Unable to create a specific monitor.

Troubleshooting:

1 Make sure that the user trying to access the machine to monitor has proper privileges and that the user exists on the machine you are trying to monitor. Usually **IUSR_METRO** will be the user attempting to monitor. Make sure that **IUSR_METRO** exists on those machines and has the proper permissions.

➤ For example, trying to add the **Windows Resources** monitor requires that **IUSR_METRO** exist on the machine to be monitored and that it has proper access rights.

2 Some monitors require certain clients to reside on the Utility Server and the Controller.

➤ For BroadVision, you need to have JDK installed.

➤ For WebLogic, you need to have JDK and the weblogic.jar file.

➤ For Oracle, you need to have the Oracle Client.

➤ For DB2, you need to have the DB2 administrative client. (OS390 is not supported.)

3 Make sure the agent required for a particular monitor is running on the machine that you want to monitor.

4 For COM+, make sure that the COM+ probe is running on the machine that you want to monitor.

5 Some monitors require access to a particular URL for monitoring purposes from both the Performance Center Utility server and the Controller:

➤ For Apache: http://<server>:<port>/server-status:auto

➤ For Websphere 4.x & 5.x:
http://<server>:<port>/wasPerftool/ervlet/perfservlet

Troubleshooting VuGen and Analysis Integration

This section provides troubleshooting for VuGen and Analysis integration errors.

Uploading a Script from VuGen Fails

Uploading a script from VuGen fails with an error message.

Troubleshooting:

1 Make sure the machine is not configured to use a proxy server, and disable it if it is. Search the registry for the key **ProxyEnable** in the Internet Settings folders and set it to zero.

2 Check if there are upload timeouts due to a slow network connection. In the **<Performance Center installation>\dat** directory there is a configuration file called **OrchidCommUtils.dat** that holds the integration communication settings. To change the default timeout (60 sec.), you need to enable the key **http_timeout_secs** and change its value.

3 If none of the above troubleshooting helps, you can create a log file that provides more information and send it to Customer Support (http://support.mercury.com/). To create the log file, enable the **log_file** key.

Troubleshooting System Identity

This section provides troubleshooting for the following system identity issues:

➤ PC-Admin System User - Still Requests Configuration User

➤ Connecting to Admin/User Site - Service Unavailable

➤ Cannot Run Load Test with Non-Admin User

➤ Adding Permissions to Folder/Registry

➤ Identity References Cannot Be Translated

➤ Cannot Add Host as Performance Center Host

➤ Server/Host Configuration Problems

➤ Admin Tasks Take Long Time/Time-Out/ ThreadAbortException

➤ Change User - Conflicting Credentials

➤ Oracle Database - Cannot Change System User to Non-Admin User

➤ Remote Management Agent Service Disabled After Changing System User

➤ SiteScope Server Fails to Retrieve Data from Hosts/Servers

PC-Admin System User - Still Requests Configuration User

Pop up for administrator account comes up even when the Performance Center system user is an administrator.

Troubleshooting:

➤ Check that you can reach the Web service using the browser.

➤ Check that the system user exists on the machine.

➤ Check if the ASP.NET V2.0 extention was installed/allowed in IIS.

➤ Check that you have the PCWS virtual directory.

Connecting to Admin/User Site - Service Unavailable

When trying to connect to the Administration or User site Web servers, get "Service unavailable" or "You are not authorized to view this page" error pages.

Troubleshooting:

➤ Check that the Administration site virtual directory user exists.

➤ Check that the user has all the required policies.

➤ Check that the application pool is not locked. If it is, check the event viewer for the reason.

➤ Check that the security policy configuration of the customer domain is compatible with the configuration of Performance Center environment.

Cannot Run Load Test with Non-Admin User

Cannot run load test after change user or with non-admin system user.

Troubleshooting:

➤ Check that all the required services are running.

➤ Try to run alagentservice and magentservice using the following commands:

  ➤ **alagentservice**

  ```
  %installation folder%\al_agent\bin\alagentservice.exe -remove

  %installation folder%\al_agent\bin\alagentservice.exe -install username password
  ```

  where username and password are those of the Performance Center system user.

➤ **magentservice**

```
%installation folder%\launch_service\bin\magentservice.exe -remove

%installation folder%\launch_service\bin\magentservice.exe -install username
password
```

where username and password are those of the Performance Center system user.

➤ If the load test fails in the first step, check the LRFS folder. If there is a problem with configuring the LRFS folder try to restart the machine.

➤ Check the identity of the COM objects, especially **OrchidActiveSession** and **wlrun.lrengine.** The identity should be the Performance Center system user.

Adding Permissions to Folder/Registry

Error when adding permission to one of the file/folders or registry keys.

Troubleshooting:

➤ Try to reconfigure the use case again (by clicking the **Reconfigure** button in the System Identity utility).

➤ Reboot the machine and click the **Reconfigure** button in the System Identity utility.

➤ Clean out all the unrecognized users from the folder/registry.

Identity References Cannot Be Translated

You try to configure the system and you get the following error on some servers: **Some or all identity references could not be translated.**

Troubleshooting:

➤ Check that the configuration user is not the same user with which you are logged on to the system. If you are logged on to the system with the configuration user, log off and then log on again with a different user.

➤ Reset IIS on the machine that has the error.

Cannot Add Host as Performance Center Host

When trying to add a host and you get an error saying that Performance Center can not identify the host as a Performance Center host installation.

Troubleshooting:

Check that the identity of the ManagmentUtil.exe COM object is the Performance Center system user.

Server/Host Configuration Problems

When trying to configure a server or host from the System Identity utililty, following error appears:

"System.Web.Services.Protocols.SoapException: Server was unable to process request. ---> Unable to generate a temporary class..."

Troubleshooting:

Grant full access permission for the user **IWAM_<Machine_name>** on the **%windir%\temp** directory.

Admin Tasks Take Long Time/Time-Out/ ThreadAbortException

When the system user is a non-administration user (lock down mode), changing the system user or adding a host takes a long time or a time-out event or ThreadAbort exception occurs.

Troubleshooting:

In lock-down mode permissions are granted to specific directories, files and registry keys that Performance Center needs in order to run. Check the Security tab of these resources for deleted users/groups (SIDs). These deleted SIDs increase the time it takes to perform tasks such as granting permissions to a resource. To reduce the performance time for these tasks, clean out all the deleted SIDs.

Change User - Conflicting Credentials

When using the System Identity utility to change the system user, get the following error: **The credentials supplied conflict with an existing set of credentials**.

Troubleshooting:

Check that the configuration user is not the same user with which you are logged on to the system. If you are logged on to the system with the configuration user, log off and then log on again with a different user. (This problem may be caused due to a Microsoft limitation. For more information, see the Microsoft TechNet Web site (http://www.microsoft.com/technet/ prodtechnol/windows2000serv/reskit/w2000Msgs/3860.mspx?mfr=true).

Oracle Database - Cannot Change System User to Non-Admin User

When working with an Oracle database, you cannot change the system user to a non-administrative system user.

Troubleshooting:

Before changing the system user to a non-administrative user, you need to disable the sqlnet authentication services option of the Oracle client on each of the Performance Center servers and hosts.

To disable the sqlnet authentication services option:

1 In the Oracle installation directory, open the **sqlnet.ora** file. For example,

```
C:\ORACLE\product\10.2\client_1\network\admin\sqlnet.ora
```

2 Locate the following line:

```
SQLNET.AUTHENTICATION_SERVICES = (NTS)
```

3 At the beginning of this line, insert a # symbol.

4 Save the file.

Remote Management Agent Service Disabled After Changing System User

After you change the system user to a non-administrative system user, the Remote Management Agent service is disabled.

Troubleshooting:

1 Restart the machine.

2 Run the Remote Management Agent service using the following command:

```
%installation folder%\al_agent\bin\alagentservice.exe -remove

%installation folder%\al_agent\bin\alagentservice.exe -install username password
```

where username and password are those of the Performance Center system user.

SiteScope Server Fails to Retrieve Data from Hosts/Servers

If you change the system user to a non-administrative user, and then enable SiteScope on any of the Performance Center servers or hosts, SiteScope cannot retrieve all required data.

Troubleshooting:

Manually configure an administrative user on the SiteScope server so that it has permissions to monitor the server/hosts machines and retrieve all the required data.

To configure an administrative user on the SiteScope server:

1 In your browser, enter the URL for SiteScope as follows:

```
http://<sitescope_server>:8888/sitescope
```

where sitescope_server is the name of your SiteScope server.

2 At the top of the SiteScope page, click **SiteScope**.

3 Click **Remote Windows**.

4 From the list, select the relevant machine, and click **Edit**.

    5 In the **Login** and **Password** fields, enter the login name and password of an system user with administrative privileges.

    6 Click **Update**.

Troubleshooting Web Services Connectivity

This section provides troubleshooting for Web services connectivity issues.

Important: The following troubleshooting tips apply to the Web services requester agent machine.

After each troubleshooting attempt described below, you can test your Web services connectivity using the test described in "Testing Web Services Connectivity" on page 311.

To troubleshoot Web services Connectivity:

➤ Check that the PCWS virtual directory exists in IIS.

➤ If you are using IIS 6, check that the ASP.NET V2.0 extention was installed and allowed in IIS.

➤ If you are using IIS 6, check that the **PCWSAppPool** application pool is not locked. If it is locked, you can check the event viewer for the reason.

➤ If you are using IIS 5, grant full access permission for **IWAM_<Machine_name>** on the **%windir%\temp** directory.

➤ Check that the Performance Center system user exists on the machine.

➤ Check that the following policies are defined for the Performance Center system user:

    ➤ Batch logon rights

    ➤ Service logon rights

    ➤ Access this computer from the network

Testing Web Services Connectivity

After you troubleshoot Web Services connectivity, you can test your Web Services connectivity by trying to access the Performance Center **ConfigWS** Web services on the requester agent machine.

To Test Web Services connectivity:

1 On the requester agent machine, enter the following URL:

http://<provider agent machine>/PCWS/ConfigWS.asmx

2 In the Enter Network Password box, enter your Performance Center system user login details.

The **ConfigWS** Web service page opens.
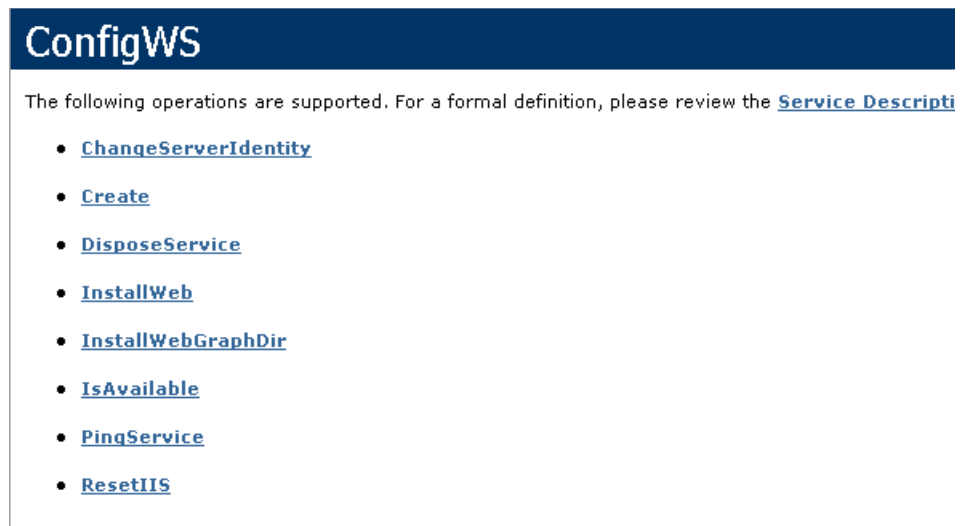
If this page does not open, it means that there is still a problem with the Web services connectivity and you should continue to troubleshoot this issue.

3 Click the **IsAvailable** operation.

4 On the IsAvailable operation page, click **Invoke**.
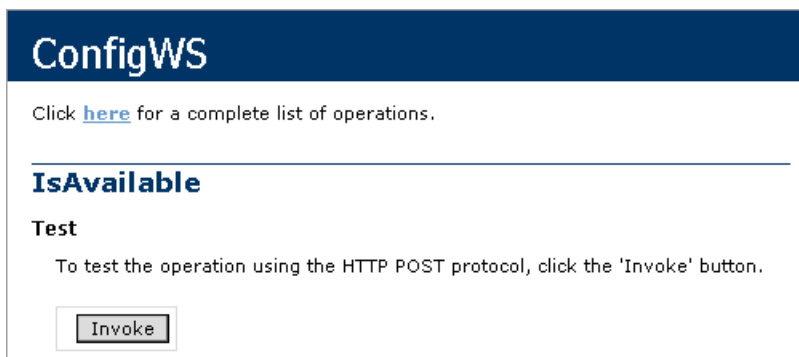
If this action returns a value of **True**, the Web services connectivity is operational.

Glossary

This document lists terminology that is used throughout HP Performance Center.

Administration Site

> The Administration Site provides overall resource management and technical supervision of the system. The administrator performs functions such as assigning user privileges, creating projects, and managing resource usage through the Administration Web site.

Agent

> See Performance Center Agent.

alert

> A notification that HP Performance Center sends to make designated users aware of performance issues. Alerts are sent by e-mail.

Analysis

> An HP tool for viewing performance analysis data in reports and graphs.

Analysis Integration

> Standalone Analysis integrates with Performance Center to let you quickly and easily analyze data collected during a Performance Center run. Load test data can be analyzed off-line by connecting to Performance Center from Standalone Analysis and downloading result and session files. After analyzing the data, you can upload the session files and reports to Performance Center.

authentication

A process that enables access to resources. To authorize access to resources, applications first need to authenticate the source of the request. Authentication is the process by which the identity of a subject is verified, and must be performed in a secure fashion. Authentication typically involves the subject demonstrating some form of evidence to prove its identity. Such evidence may be a password, fingerprint, or signed data using a private key.

Autostart

A feature that starts a load test run automatically. An Autostart test automatically begins the run at the start of the timeslot it is associated with.

availability

The percentage of time that a business process, monitored infrastructure component, or service is up and running.

business process

A series of steps typically performed in applications, which are emulated using scripts recorded with HP recording tools and run by the HP Performance Center host machines. For example, load generators run scripts that describe the activity that is to be monitored on the end-user machines. A script consists of transactions—an action or a set of actions that you are interested in measuring. By combining several transactions, you can define a business process to provide you with data for a complete activity.

CA

Certification Authority – A trusted third-party organization or company that issues digital certificates used to create digital signatures and public-private key pairs.

certificate

A stream of bytes that represent a signed authorization from a trusted source that is used to perform an SSL encryption.

Citrix Agent

An agent installed on the server machine that enhances VuGen's capabilities in identifying Citrix client objects.

Collation

At the conclusion of the test run, the Load Generators send the results back to the Controller. The Controller merges all the Load Generator results into a single package in a process called "collation".

Command Line

Using the Command Line interface, you can pass arguments to instruct the Controller how to behave. This enables you to configure load test settings without having to manually define them using the UI.

Container

A Performance Center object that contains Performance Center resources, assets, and other Performance Center containers.

Controller

A machine that is used to design and manage a load test. During a test, the Controller issues instructions to the Load Generators including which scripts to run, how many Vusers to run per script, and Ramp Up timing. At the conclusion of the test run, the Controller collates the results. There is only one Controller per load test.

Dashboard

The HP Performance Center Project Dashboard provides an overview of your project's status, as well as the drill-down capability to view individual load test performance. The status and performance data are relative to the target criteria you establish for your application.

Data Processor

A Data Processor machine is used for publishing information to the Project Dashboard. Although it is possible to set a machine as a Controller and a Data Processor, it is not recommended.

Database Server

The database server forms the infrastructure for persistent data within Performance Center. The database server holds information on users, projects, host information, and load tests.

Diagnostics

Performance Center's diagnostics modules provide monitors that trace, time, and troubleshoot individual transactions that rapidly identify and pinpoint performance problems in J2EE, .NET, Siebel, Oracle, and SAP environments. These monitors help you to maximize business process performance, scalability, and efficiency.

EJB

Enterprise JavaBeans™ – A component architecture for the development and deployment of object-oriented, distributed, enterprise-level applications. Applications written using the Enterprise JavaBeans architecture are scalable, transactional, and secure.

File Server

The file server forms the infrastructure for persistent data within Performance Center. The file server holds the test scripts and test results.

Firewall Agent

An agent that is used for monitoring and running Vusers over a firewall. There are two types of agents: the MI Agent and the Monitor Over Firewall Agent.

granularity

> Determines how many measurement samples the HP Performance Center displays in reports. By default, reports are limited to a maximum of 31 samples. Thus, for example, if you select the **Day** time range and the **minutes** granularity, since there are 1,440 minutes in a day and a maximum of 31 samples on a graph, the granularity ranges from **every 47 minutes** (1440/31=46.4, rounded up to 47) to **every 59 minutes** (above 59 minutes, you use the **hour** granularity unit).
>
> Additional examples:
>
> If you select the **Day** time range and a granularity of **every 1 hour**, HP Performance Center displays the report using 24 samples (1 hour x 24 = 1 day).
>
> If you select the **Month** time range and a granularity of **every 1 week**, HP Performance Center displays the report using 4 samples (1 week x 4 = 1 month).

GUI Vuser

> GUI Vusers operate graphical user interface (GUI) applications. These applications can run in a Microsoft Windows environment. Each GUI Vuser that you develop emulates a real user by submitting input to, and receiving output from, GUI applications. GUI Vusers are created using HP's GUI testing tools: WinRunner (for Microsoft Windows applications), and Astra QuickTest (for Web applications). You can run only a single GUI Vuser on a Windows-based load generator. Use terminal sessions to run multiply GUI Vusers.

host

> A machine which can be used to control or run Vusers, and process collected data. Each host machine can be designated as a Controller, Load Generator, or Data Processor.

Host Checkup Service

> The Host Checkup Service detects hosts in the resource failure status and recovers them (if possible) to the operational status.

Host License

> The HP Performance Center license which is automatically installed on the hosts as you add them to the system.

ICF

Windows Firewall, previously known as Internet Connection Firewall or ICF. See Personal Firewall.

IIS Maintenance Services

IIS Maintenance Services verify that IIS is operational, performs IIS memory checks, and restarts IIS in case of memory leakage or if the specified memory limit is exceeded.

IIS Restart

Restarts IIS at a set time every day. Restarting IIS increases Performance Center stability and is highly recommended. IIS Restart does not affect running tests, and users can reconnect to tests and view progress.

INF file

An information file that opens in the Snapshot Viewer, enabling you to view a snapshot of an error from the Vuser log. See also SOE file.

Initialization

The state of preparing Vusers and Load Generators for a load test run ('Init"). Initializing Vusers before Ramp Up reduces CPU consumption and helps provide more realistic results. The length of the initialization state varies between Vusers.

IP address

A unique address that identifies a host on a network. It identifies a computer as a 32-bit address that is unique across a Transmission Control Protocol/Internet Protocol (TCP/IP) network. An IP address is usually represented in dotted-decimal notation, which depicts each octet (eight bits, or one byte) of an IP address as its decimal value and separates each octet with a period. For example, 172.16.255.255.

IP Spoofing

A feature that enables Vusers running on a single machine to be identified by many IP addresses. The server and router recognize the Vusers as coming from different machines and as a result, the testing environment is more realistic.

J2EE

Java 2 Enterprise Edition – The J2EE platform manages the infrastructure and supports the Web services to enable development of secure, robust, and interoperable business applications.

J2EE application

Any deployable unit of J2EE functionality. This can be a single module or a group of modules packaged into an .ear file with a J2EE application deployment descriptor. J2EE applications are typically engineered to be distributed across multiple computing tiers.

JBoss

An Open Source, standards-compliant application server implemented in 100% pure Java that is based on the J2EE specification.

JDBC

Java Database Connectivity – An industry standard for database-independent connectivity between the Java platform and a wide range of databases. The JDBC interface provides a call-level API for MS SQL-based access.

JNDI

Java Naming and Directory Interface – A standard extension to the Java platform, providing Java technology-enabled applications with a unified interface to multiple naming and directory services in the enterprise.

JSP

Java Server Page™ – An extension to the Java servlet technology developed by Sun.

Layer

A layer is defined as the generic term given to signify J2EE resources that can be grouped together for meaningful analysis, and for display in the Diagnostics pages. Examples of layers: entity beans, servlets, JDBC, and so forth; classes that inherit from a common ancestor; components that adhere to a specific API; classes that provide a common service; and custom classes with a common significance.

Load Generator

A machine on which Vusers are run during a load test. There can be any number of Load Generators for a given load test. Load Generators are configured inside a Host Pool with other Load Generators and at least one Controller.

Load Preview

Displays a graph of the load behavior you defined in the Scheduler. See also Scheduler.

measurement

A data unit that measures performance.

HP Virtual User Generator

A tool for recording Virtual User scripts. VuGen creates a Vuser script by recording the actions that you perform on a client application. When you run the recorded script, the resulting Vuser emulates the user activity between the client and server. Vuser scripts include functions that measure and record system performance during load-testing sessions. During a load test run, you can monitor application performance.

monitor

A component used by HP Performance Center to collect data.

Monitor Agent

See Firewall Agent.

Monitor Profile

The server resource monitoring settings for a load test that can be used by any test in your project. A monitor profile includes the type of monitors to run, the servers whose resources you want to monitor, and the measurements you want to monitor on each server.

MI Agent

An agent that runs Vusers over the firewall. The MI agent reports its information to the MI Listener either directly or through a proxy server, depending on the system configuration.

MI Listener

A component that serves as router between the Controller and the Monitor Agent. The MI Listener receives data from the Monitor Agent at regular intervals. During the course of the load test, the Controller solicits the data from the MI Listener to process as run-time data.

Monitor Over Firewall Agent

An agent that monitors Vusers over the firewall. The Monitor Over Firewall agent reports its information to the MI Listener either directly or through a proxy server, depending on the system configuration.

Monitor Server

The application under test (AUT) server that you are monitoring.

Net use trust

To monitor the application under test (AUT), you must have a trust between the Utility server\Host and the AUT, otherwise you won't be able to take measurements and create a monitor profile. This trust is provided by the user supplying an administrator user name and password on the AUT.

node

In Dashboard, an entry in a hierarchical tree in the Dashboard, representing a group, subgroup, monitor, transaction, and so forth.

Patch

A modification or update to Performance Center that contains bug fixes or feature enhancements.

Performance Center Agent

The Performance Center Agent runs on the load generator machines and enables communication between the Controller, Load Generators, and MI Listeners (in firewall configurations). The agent receives instructions from the Controller to initialize, run, pause, and stop Vusers. At the same time, the agent also relays data on the status of the Vusers back to the Controller. The Performance Center Agent also enables communication between the Controller and terminal sessions (if the agent is configured with terminal sessions enabled). See also Terminal Session.

Performance Center License

The Performance Center License—a function of your Vuser limit, concurrent runs limit, and expiry date—enables you to use the Performance Center. You receive the license key when you purchase Performance Center, and you enter the license key in the Administration Site after installing all Performance Center components.

Personal Firewall

Windows Firewall, previously known as Internet Connection Firewall or ICF, is a built–in basic firewall included as a Windows 2000/Windows XP networking feature. It is a protective boundary that monitors and restricts information that travels between your computer and a network or the Internet. Note: HP Performance Center supports Windows XP Service Pack 2 provided the firewall is turned off (the firewall is turned on by default).

Pop-up Blocker

When you install Windows 2003/XP SP2, Pop-up Blocker is turned on in Internet Explorer and set to the medium setting, which blocks most automatic pop-ups. If Pop-up Blocker blocks pop-up windows that you open deliberately in Performance Center by clicking a link, you should turn it off when using Performance Center.

Ramp Up

Settings that define how you start running Vusers within a load test.

Ramp Down

Settings that define how you stop Vusers within a load test.

Raw results

The raw results file contains the original raw analysis data which is automatically generated by Performance Center during a load test run. You cannot delete the raw results file.

Remote Management Agent

The Remote Management Agent enables you to manage remote machines from the Administration site (for example, view login information, install patches, and reboot hosts/servers). The Remote Management Agent is automatically installed when performing a Performance Center Server or Host installation.

Rendezvous Points

Rendezvous points instruct Vusers to wait during test execution for multiple Vusers to arrive at a certain point, so that they may simultaneously perform a task. Rendezvous points are inserted into Vuser scripts to emulate heavy user load on the server.

report

A presentation of data collected by the HP data collectors. HP Performance Center reports display a variety of data that enable you to track and analyze the performance of monitored applications and infrastructure components.

Run-Time Settings

Settings that enable you to define the way that the script runs, and emulate different kinds of user activity. Run-time settings are applied to Vusers when a script is run using VuGen or the Controller.

Scheduler

A component that enables you to set the timing aspects of the load test run. You can set the start time, the duration of the load test or Vuser groups within the load test, and the initialization, ramp up, and ramp down time.

script

The actions that a Vuser performs during the load test run are described in a Vuser script. An action or a set of actions that you want to measure are represented by a transaction. You record and save scripts in HP Performance Center recording tools, such as HP Virtual User Generator.

session data

Session data is automatically generated by Performance Center and displays information and layout settings for the active graphs. You can delete or overwrite the session data file.

SiteScope

A HP Performance Center data collector used for collecting performance data from network, application, database, and Web servers.

SiteScope measurement

A measured SiteScope value. Transaction time, database query time, and CPU utilization are all examples of SiteScope measurements.

SiteScope monitor

A set of configurations that enables the collection of data for one aspect of the monitored environment (for example, a specific type of server). A monitor reports a status of OK, warning, or error, based on criteria that you can control.

Snapshot

A graphical representation of the Web page, at the point when an error occurred during the load test run. If the Vuser log indicates that a step has a snapshot, you can view a snapshot of the error from the Vuser log, or download the snapshot and view the entire page/individual frames in the Snapshot Viewer. You can also view an individual frame from an active run. See also Snapshot Viewer.

Snapshot Viewer

The Snapshot Viewer enables you to view snapshot on error pages captured from Web virtual users during load test runs. This viewer displays snapshots from files of .SOE and .INF extension. The Snapshot Viewer can be downloaded from the Download page of the Performance Center User Site.

SOE file

A Snapshot On Error (.SOE) file is a GNU-Zipped file containing one or more snapshots represented by .INF files. Each snapshot can contain several frames and sub-frames, and can be viewed using the Snapshot Viewer.

SSL

Secure Sockets Layer, the leading security protocol that encrypts and decrypts a message for online transmission and authentication.

System User Account

Performance Center uses the system user to communicate between components and activate processes from components on a remote machine. The administrator can configure the system user for all servers and hosts in the Performance Center environment from the General Settings page.

Terminal Session

A client session on a terminal server. A terminal server client can have multiple terminal sessions running simultaneously, thereby overcoming the limitation of being able to run only a single GUI Vuser on a Windows-based load generator. By opening a terminal session for each GUI Vuser, you can run multiple GUI Vusers on the same application. You can configure terminal sessions during load test configuration or at run time.

Timeslot

A timeslot is used to reserve the hosts and Vusers required to run a load test for your application. Reserving a timeslot sets aside resources to run a load test.

transaction

Any series of steps that an end user performs in an application, whose performance you want to monitor. Transactions are recorded using HP Virtual User Generator recording tools and saved in scripts. When replayed, transaction response time and availability data is collected. You view transaction performance data in HP Performance Center reports.

transaction breakdown

A function of HP Performance Center that enables transaction response time data to be broken down and viewed according to time spent on the network, server, and client.

transaction response time

The time it takes for a prerecorded transaction to be completed.

User Site

The User Site is the window used to design, execute, and monitor load tests. The users create tests, reserve resources, run tests, and receive analysis information through the User Site.

User Status

User Status is used to determine user access to Performance Center. A user with Active status can log in to Performance Center. A user with Non-Active status cannot log in to Performance Center. User Status is displayed in the Personal Information and Users page of the Privilege Manager.

Utility Server

The Utility server provides a centralized location for specific information that can exist only once within the system. The License Manager, AutoRun schedules, and Monitor Profiles reside on the utility server.

Virtual Load Generator

A Virtual Load Generator is an automatically generated placeholder name for an actual load generator that will run the script. When creating a load test, you can choose automatic or manual distribution of scripts to machines. If you select manual script distribution, you choose the actual load generator that you want to assign to each virtual load generator at run time.

Virtual User Generator

A tool for recording Virtual User scripts. The scripts are run by Business Process profiles to emulate end-user experience and monitor application performance.

Vusers

Performance Center replaces human users with virtual users or Vusers. When you run a load test, Vusers emulate the actions of human users working with your application. See also GUI Vuser.

VM

Virtual Machine – A "machine within a machine" that mimics a real Java processor, enabling Java bytecode to be executed as actions or operating system calls on any processor regardless of the operating system.

Windows Firewall

See Personal Firewall.

Glossary

Index