

HP Performance Center

for the Windows® operating systems

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Administrator Guide

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Table of Contents

Welcome to This Guide

Welcome to the *HP Performance Center Administrator Guide*.

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 describes how to use the Performance Center Administration Site to monitor and supervise load testing by multiple users.

For information about Performance Center User Site, see the *HP Performance Center User Guide*.

This chapter includes:

- ▶ How This Guide Is Organized on page 14
- ▶ Who Should Read This Guide on page 15
- ▶ Performance Center Online Documentation on page 16
- ▶ Additional Online Resources on page 18
- ▶ Documentation Updates on page 18

How This Guide Is Organized

The *HP Performance Center Administrator Guide* contains the following sections:

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 Troubleshooting

Provides troubleshooting tips and information for Performance Center problems

Part VIII Appendixes

Provides instructions for configuring the Performance Center system user manually.

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



Performance Center includes a complete set of documentation describing how to use the product. A comprehensive Documentation Library is available from the **Help** menu in the User and Administration Sites. PDFs can be read and printed using Adobe Reader, which can be downloaded from the Adobe Web site (<http://www.adobe.com>). Printed documentation is also available on demand.

Accessing the Documentation

You can access Performance Center documentation as follows:

- ▶ In the User and Administration Sites, click the **Help** link in the top right corner of the window. In the bookmarks on the left, click **Home** to open the Performance Center Documentation Library front page which provides quick links to the online Performance Center Documentation Library.
- ▶ Printable guides can be accessed from **Start > Program Files > Performance Center > Documentation**.

Getting Started Documentation

- ▶ **Readme**. Provides last-minute news and information about Performance Center.
- ▶ **HP Performance Center System Configuration and Installation Guide**. Explains how to install and configure the Performance Center components. Available in PDF format only. Accessible from the HP Installation DVD.

- ▶ **HP Performance Center Quick Start**. A self-paced guide showing you how to use Performance Center to create, run, and monitor load tests. Available in PDF format only.

Accessible from the General tab that is displayed when you open the User Site.

Performance Center User Guides

- **HP Performance Center User Guide.** Describes how to use Performance Center to create, schedule, run, and monitor load tests.
- **HP Performance Center Monitor Reference.** Describes how to set up the server monitor environment and configure Performance Center monitors for monitoring data generated during a load test run.

Performance Center Administration

- **HP Performance Center Administrator Guide.** Describes how to use Performance Center Administration Site for overall resource management, site management, system configuration, technical supervision, and user privileges in Performance Center projects.

Troubleshooting



- **HP Performance Center Troubleshooting Guide.** Provides information for troubleshooting problems while working with Performance Center. Available in PDF format only.

Standalone Applications

The following documentation is available only on host machines, and if standalone components are installed:

- **HP Analysis User Guide.** Describes how to generate graphs and reports to analyze your load tests after they have run.
- **HP Virtual User Generator User Guide.** Describes how to create Vuser scripts through recording and programming.

Additional Online Resources

Troubleshooting and Knowledge Base accesses the Troubleshooting page on the HP Software Support Web site where you can search the Self-solve knowledge base. The URL for this Web site is <http://h20230.www2.hp.com/troubleshooting.jsp>.

HP Software Support accesses the HP Software Support Web site. This site enables you to browse the Self-solve knowledge base. You can also post to and search user discussion forums, submit support requests, download patches and updated documentation, and more. The URL for this Web site is www.hp.com/go/hpsoftwaresupport.

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 user ID, go to:
<http://h20229.www2.hp.com/passport-registration.html>

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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 from the Performance Center User Site. For details, see the *HP Performance Center User 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*.

This chapter includes:

- ▶ About the Administration Site on page 22
- ▶ Logging In and Out on page 23
- ▶ Moving Around the Site on page 26
- ▶ Refreshing the Page on page 29

About the Administration Site

The Performance Center Administration site is used for administering the Performance Center system and managing load test resources. The administrator performs functions such as assigning user roles and privileges, creating and administering projects, and managing resource usage.

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 In and Out

You log in 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 in 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 in to the Administration site:

- 1 In your Web browser, type the following URL:

```
http://<server_name>/admin
```

where **server_name** is the name or IP address of the HP Performance Center Administration Site server.

- 2 If this is the first time you are entering the system, you are redirected to the System Configuration page to provide database and file server information.

Welcome to Performance Center 9.5

Before you begin using Performance Center, you'll need to supply a few details to set your system configuration.

System Configuration

Database:

DB host

DB name

DB type

User

Password

File Server:

Name

Save

a In the **Database** area, enter the following details about your database:

- **DB host.** The machine on which the database resides.

If the Performance Center database is an MS-SQL database with a non-default instance name, enter the DB host name in one of the following ways:

```
<server name>, <instance port>
```

or

```
<server name>\<instance name>
```

- **DB name.** The name of the database schema.
- **DB type.** The type of database installed on the server—either SQLServer or Oracle.
- **DB instance** (Oracle only). If you are using Oracle, in the **DB instance** box that opens, enter the service name defined in your **tnsnames.ora** file.
- **OS** (Oracle only). If you are using Oracle, select the operating system.
- **User.** The name of the database user that has sufficient permissions to connect to the database server and create the Performance Center database schema.
- **Password.** The password of the database user that has sufficient permissions to connect to the database server and create the Performance Center database schema.

Note: For information about sufficient permissions for database users, see the *HP Performance Center System Configuration and Installation Guide*.

b In the **File Server** area, in the **Name** box, enter the name of the machine that contains the File Server installation where system files such as scripts are stored.

- c 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. For information about configuring your system when upgrading from an earlier version of Performance Center, see the section about upgrading Performance Center in the *HP Performance Center System Configuration and Installation Guide*.

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

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

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.

- 3 Log in to the Administration Site with a user that has Performance Center administration privileges.

If this is the first time you are logging in to Performance Center, use the default user name **Admin** and the default password **Admin**. After you have logged in, you will be able to modify your user name and password for the future.

- 4 Click **Log In**. The Administration Site opens.

Note: If this is the first time you are logging in to the system, you are redirected to the Server Configuration page and asked for additional details to complete your system configuration. For more details, see “Viewing and Editing Server Configuration Information” on page 162.

To log out:

- Click the **Log Out** 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 2, "Managing Hosts."
- **MI Listeners.** Displays an editable list of MI Listeners that enable you to run Vusers over a firewall. For details, see Chapter 3, "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 74.
- **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 4, "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 5, "Managing Servers."

Site Management

- ▶ **Test Runs.** Displays the state of test runs. For details, see Chapter 6, “Managing Test Runs.”
- ▶ **Timeslots.** Displays timeslot reservations and availability. For details, see Chapter 7, “Managing Timeslots.”
- ▶ **Autostart Viewer.** Displays information about load tests scheduled to start running automatically. For details, see Chapter 8, “Autostart Viewer.”
- ▶ **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, “Performance Center 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.”
- ▶ **Server Authentication.** 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 Summary.** Displays system resource usage information.
- **Concurrency vs. License.** Displays details of concurrent resource usage per project, and information regarding how system resources were used within license limitations.
- **Timeslot Usage.** Displays information about the reservation and usage of resources associated with timeslots.
- **Resources by Duration.** Displays general information about the usage of your system resources over the selected time frame.
- **Resources by Runs.** Displays general information about the test runs.

For details, see Chapter 19, “Understanding Performance Center Reports.”

User Management

- **Personal Details.** Displays the personal details of the user currently logged in. For details, see “Managing Your Personal Details” on page 267.
- **Users.** Displays a list of users and user information. For details, see “Managing Performance Center Users” on page 270.
- **Roles.** Displays a list of user roles and the permissions included in each role. For details, see Chapter 28, “User Roles.”
- **Projects.** Displays a list of Performance Center projects and project information. For details, see Chapter 29, “Performance Center Projects.”
- **Privilege Management.** Displays a list of Performance Center containers and user-role assignments in these containers. For details, see Chapter 30, “Privilege Management.”

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

To set the page to refresh automatically:

- In the upper-right corner of the page, select an auto-refresh frequency from the **Automatic refresh every** list.

Part II

Performance Center Resources

2

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 includes:

- About Managing Performance Center Hosts on page 34
- Understanding the Hosts Page on page 34
- Adding Hosts on page 41
- Editing Host Details on page 51
- Managing Host Details on page 52
- Editing Over Firewall Agent Configuration Settings on page 61
- Rebooting Hosts on page 65
- Uploading and Installing Patches on page 66
- Understanding Host Allocation on page 70
- Handling Resource Failure on page 71
- Checking Hosts on page 72
- Managing Host Locations on page 74
- Removing Hosts on page 76
- Using Hosts to Run Vusers over a Firewall on page 76

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 User site. When you design a load test, you specify how many hosts it requires and reserve 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, modify host details, install patches, add and delete hosts, and check host connectivity.

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 35.
- **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 36.

- **Details for Host area.** Displays more details about the hosts and enables you to edit host details. For more information, see “Editing Host Details” on page 51.

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 select 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 selected.

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.
 - 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 88.
 - 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 selected.



Note: Filter settings are saved per user. The next time you enter the Hosts page, the page displays results based on your most recent filter.





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 39.

The Host table displays the following information about the hosts:

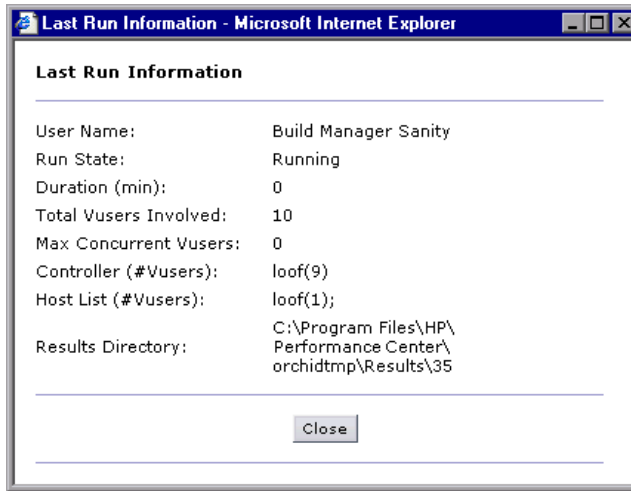
- ▶ **Status light.** An indicator of the current system performance of the host, represented by a color. For more details about the host status indicator, see “Understanding Host Status” on page 39.
- ▶ **Name.** The host name that you assign when you add a new host. You can click the name to open the Host Details page for the host. For details, see “Managing Host Details” on page 52.
- ▶ **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. The purpose of the machine is indicated by a series of icons, as described in the following table.

Icon	Purpose	Description
	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. In general, this is not recommended practice and is only appropriate for load tests that have a very small number of Vusers.
	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.
	Over Firewall	Used alongside the load generator icon to indicate that the load generator is located over a firewall.
	SSL	Used alongside the load generator icon to indicate that the load generator uses SSL to communicate with the Controller during run time.

- **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 4, “Managing Host Pools.”
- **Location.** Location of the host. For example, locations can be defined according to physical areas. The location also determines whether the host is located over a firewall.
- **State.** The state of the host. An indicator is displayed next to the host name, according to its current state. For more details about the host status indicator, see “Understanding Host Status” on page 39.
- **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 65.
- ▶ **Install Patch.** Enables you to remotely install patches on hosts. For more information, see “Uploading and Installing Patches” on page 66.
- ▶ **Check Hosts.** Enables you to check the connections between various host machines within your system. For more information, see “Checking Hosts” on page 72.

- **Delete.** Enables you to remove hosts from the Hosts list. For more information, see “Removing Hosts” on page 76.
- **Add Host.** Enables you to add hosts to the Hosts list. For more information, see “Adding Hosts” on page 41.

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.










Note: Sorting settings are saved per user. The next time the same user enters the Hosts page, the page displays the results based on the most recent sort order.

Understanding Host Status

Host status is 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.

System 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).

The following table lists the possible states and the associated indicator color.

Indicator	Host State	SiteScope Status
	Operational	Host is operational.
	Operational	Some measurements are out of range, but the host is still operational.
	Operational	Indicates that at least one of the performance parameters is outside of its threshold, and the host is not recommended for running tests on.
	Resource Failure	Host is not operational. If the host is in the Resource Failure state, 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 .
	Unavailable	The user manually changed the host status to Unavailable .
	Maintenance	An installation is taking place.
	Rebooting	Host reboot is taking place. Displays the time (MM:SS) since the rebooting process started.
	Transferring X%	A patch is being transferred from the File server to the host. The percentage shows the progress of the patch transfer.
	Installing X%	A patch installation is taking place. The percentage shows the progress of the patch installation.

Adding Hosts

You can add hosts on the Hosts page. When you add a host and type its details, the system uses these values to allocate hosts for test runs. For details about host allocation, see “Understanding Host Allocation” on page 70.

Important: Before attempting to add a host, make sure that the Performance Center system user credentials on the new host machine are the same as those of the Performance Center system user on the rest of the Performance Center system. If the system user exists on the host with a different password, Performance Center will not add the host to the system.

To add a new host:

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

The screenshot shows a web browser window titled "Add New Host - Microsoft Internet Explorer provided by Hewlett-Pa...". The main content area is a form titled "Add Host:". The form is organized into sections: "Host Details" with fields for Name, OS Type (set to Windows), Location (set to cfw), and MI Listener (with a "Find MI Listener" button); "Installation" with a checkbox for "Standalone Load Generator"; "Purpose" with radio buttons for "Load Generator" (selected), "Controller", and "Data Processor"; "Priority" (set to 3); "Host Pool" (set to General); and "State" (set to Operational). There is also a "Comments" text area. At the bottom of the form are two checkboxes: "Use SSL communication between this Load Generator and the Controller" and "Enable SiteScope Monitoring". A legend below the checkboxes states "* required fields". At the very bottom of the dialog are three buttons: "Save", "Close", and "Help".

- 2 In the **Name** box, type the unique name of the host machine.
- 3 In the **OS Type** box, select the operating system of the host. This can be either Windows 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 47.
- 4 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 visible. For more information about host locations, see "Managing Host Locations" on page 74.

- 5** If you selected a location over a firewall, you need to select an MI Listener that will enable data collection.
- ▶ To automatically find the MI Listener connected to this load generator, click the **Find MI Listener** button next to the **MI Listener** list. The appropriate **MI Listener** is automatically selected in the list.
 - ▶ If no MI Listener was found, it means that the Load Generator Performance Center Agent has not been correctly configured to operate over a firewall.

In this case, you need to manually select an MI Listener from the **MI Listener** list and then configure the Performance Center Agent on the load generator machine to operate over a firewall. For more information about configuring the Performance Center Agent to operate over a firewall, see the section about firewalls in the *HP Performance Center System Configuration and Installation Guide*.

Note: For more information about configuring hosts to run over a firewall, see “Using Hosts to Run Vusers over a Firewall” on page 76.

- 6** If the host is a standalone installation of the Load Generator, under **Installation**, select **Standalone Load Generator**.

Note: If you selected UNIX as the operating system in the **OS Type** box, the **Standalone Load Generator** option is disabled.

7 Under **Purpose**, select one or more purposes to assign to the host. That is:

- **Load Generator**
- **Controller**
- **Data Processor**

For more information about host purposes, see “Assigning a Purpose to a Host” on page 46.

Notes:

- If the host is located over the firewall or is a UNIX machine, the only purpose it can be assigned is **Load Generator**.
- If you selected **Standalone Load Generator** as the installation option, **Load Generator** is automatically selected as the purpose for the host and the other options are disabled.
- If you selected the **Standalone Load Generator** option for a regular installation of a Performance Center host (not a standalone installation) and you saved the host, you cannot then change the purpose of the host. To assign a different purpose, you would need to remove the host and add it again with a different purpose.

8 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.

9 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 92.

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

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

- 12** If the host is assigned as a load generator (step 7), you can configure the load generator to communicate with the Controller via SSL (Secure Socket Layer) by selecting **Use SSL communication between this Load Generator and the Controller**.
-

Note:

- ▶ When this option is selected, the load generator uses SSL to communicate with the Controller during run time only. For non run-time functionality (including collating results), the load generator does not use SSL as the communication protocol.
 - ▶ You can also select this option when the load generator is located over a firewall.
-

- 13** 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.

- 14** 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 47.

15 Save the new host.

- If you are adding a standalone load generator host, make sure that you have selected **Standalone Load Generator** before you click **Save**.
 - Click **Save** to add the host.
 - If you are prompted for the configuration user credentials, type them and click **OK**.
-

Note:

- For more information about the configuration user prompt, see “Remote Performance Center Server and Host Administration” on page 202.
 - When supplying the credentials of a domain system user, you must type the fully qualified domain name.
-

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.

Notes:

- To provide greater flexibility (especially where resources are scarce), you can allocate a host with dual purposes as a Controller and Load Generator. In general, this is not recommended practice and is only appropriate for load tests that have a very small number of Vusers. 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, we recommend setting 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.
-

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. Depending on whether you enabled SiteScope monitoring, different Unix configuration fields are displayed.

SiteScope Monitoring Not Enabled

If you did not enable SiteScope Monitoring, the following fields are displayed under the **Configuration for UNIX** section:

<input type="checkbox"/> Enable SiteScope Monitoring
Configuration For Unix
* User Name: <input type="text"/>
Password: <input type="password"/>

Type the user name and password of the UNIX host machine.

SiteScope Monitoring Enabled

If you enabled SiteScope Monitoring, the following fields are displayed under the **Configuration for UNIX** section:

<input checked="" type="checkbox"/> Enable SiteScope Monitoring	
Configuration For Unix	
* User Name:	IUSR_METRO
Password:	*****
OS:	AIX
Connection method:	Telnet
Prompt:	
Login Prompt:	
Password Prompt:	
Secondary Prompt:	
Secondary Response:	
Init Shell Environment:	

Provide the following information to configure the remote UNIX machine enabled for SiteScope viewing:

- **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 (,).
- **Init 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
```

Editing Host Details

You can edit the main host details for one or multiple hosts in the **Details for Host** area on the Hosts page. For each host, you can edit more specific details in the host details page.

To edit host details:

- 1** Select the desired hosts in the Hosts table. The selected hosts are displayed in the **Details for host** list.
- 2** In the **Details for host** area, you can edit 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 86.
 - **Comments.** Relevant information about the host.

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 **More 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.
- 4 To edit more specific details about the host, click the **More Details** link in the **Details for host** area, or click the name of the host in the Hosts table. For more information, see “Managing Host Details” on page 52.

Managing Host Details

You can view and manage details about each host on the Host details page.

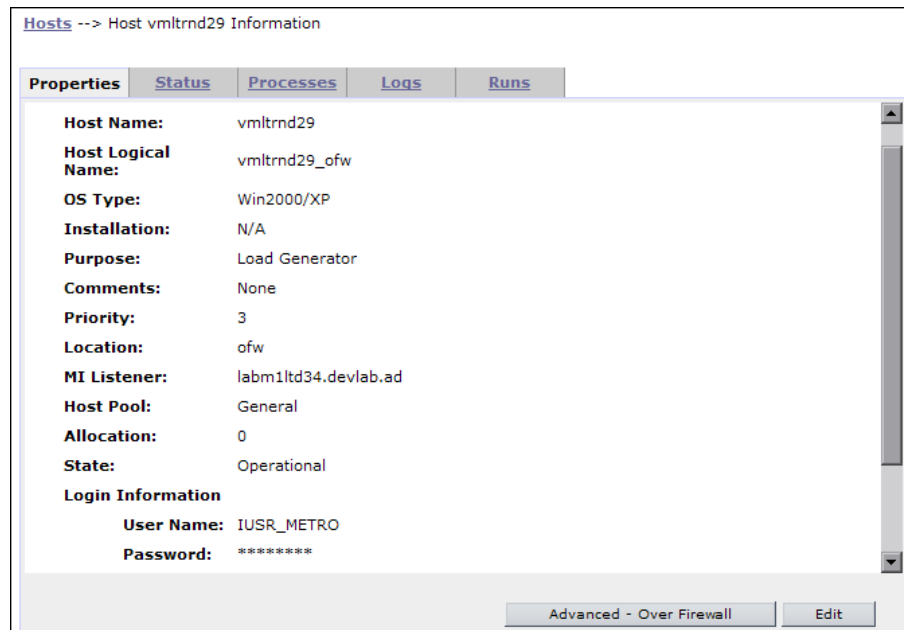
You access the Host details page by clicking the name of any host in the Hosts page.

The Host details page includes the following tabs:

- **Properties tab.** Allows you to view and edit host properties. See “Host Properties Tab” on page 53.
- **Status tab.** Allows you to view the host status and to perform host connectivity checks. See “Host Status Tab” on page 57.
- **Processes tab.** Allows you to view and end processes on a host. See “Host Processes Tab” on page 58.
- **Logs tab.** Allows you to view detailed information about the tasks performed on the host, the action status, and a description of any errors. See “Host Logs Tab” on page 59.
- **Runs tab.** Allows you to view runs on a specific host. See “Host Runs Tab” on page 60.

Host Properties Tab

The Properties tab provides general information about the host.



In this tab, you can:

- View and edit the host properties.
- Edit over firewall settings. For load generators that have been configured to operate over a firewall, you can edit the agent configuration settings. For more information, see “Editing Over Firewall Agent Configuration Settings” on page 61.

The Host Properties tab displays the following details:

- **Host Name.** The host name that you assign when you add a new host.
- **Host Logical Name.** The logical name given to the host when it was added to the system.
- **OS Type.** The host operating system.
- **Installation.** Indicates whether the host is a standalone load generator.

- **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.** Location of the host. For example, locations can be defined according to physical areas. The location also determines whether the host is located over a firewall.
- **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.
- **Login information.**
 - **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.

- ▶ **Security Mode.** If the host is designated as a load generator, this field indicates whether the load generator is located over a firewall and whether it is using SSL to communicate with the Controller.
-

Note:

- ▶ When the load generator is configured to use SSL, it uses SSL to communicate with the Controller during run time only. For non run-time functionality (including collating results), the load generator does not use SSL as the communication protocol.
 - ▶ When Host Security settings enforce host communication over secure channels, SSL security is still supported.
-

To edit host properties:

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

The screenshot shows a window titled "Hosts --> Host vmltrnd29 Information". It has five tabs: "Properties", "Status", "Processes", "Logs", and "Runs". The "Properties" tab is active. The form contains the following fields:

- Host Name:** vmltrnd29
- OS Type:** Win2000/XP
- Installation:** N/A
- Purpose:** Controller LoadGenerator Data Processor
- Comments:** [Text area]
- Priority:** 3
- Location:** ofw
- MI Listener:** labm1ltd34.devlab.ad
- Host Pool:** General
- State:** Operational
- Login Information**
 - User Name:** IUSR_METRO

At the bottom right, there are "Save" and "Cancel" buttons.

- 2 Edit the desired fields, as described in "Adding Hosts" on page 41.

Note: For hosts that are located over a firewall, if you change the host location to another over-firewall location or modify the MI Listener name, these change are automatically updated on the Performance Center agent. For more information, see "Editing Over Firewall Agent Configuration Settings" on page 61.

- 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.

For more information about checking host connections, see “Checking Hosts” on page 72.

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 41 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.

The screenshot shows the Host Status tab interface. At the top, there are navigation tabs: Properties, Status (selected), Processes, Logs, and Runs. Below the tabs, the 'Check Host' section displays the following information:

- State:** (No value)
- Ping to Host:** Succeeded to ping 3 times. Average time is 0 ms.
- Over Firewall Status:** Connected.
- FileServer:** N/A
- Database:** N/A
- Ping to URL:** (Empty text input field)
- Ping to URL Status:** N/A

Below the 'Check Host' section is a 'Check Host' button. Underneath that is the 'SiteScope Data' section, which contains a table with the following data:

State	Name	Status
●	MEMORY	16% used, 1469MB free, 0.36 pages/sec
●	SERVICE 'RemoteManagement Agent Service'	running

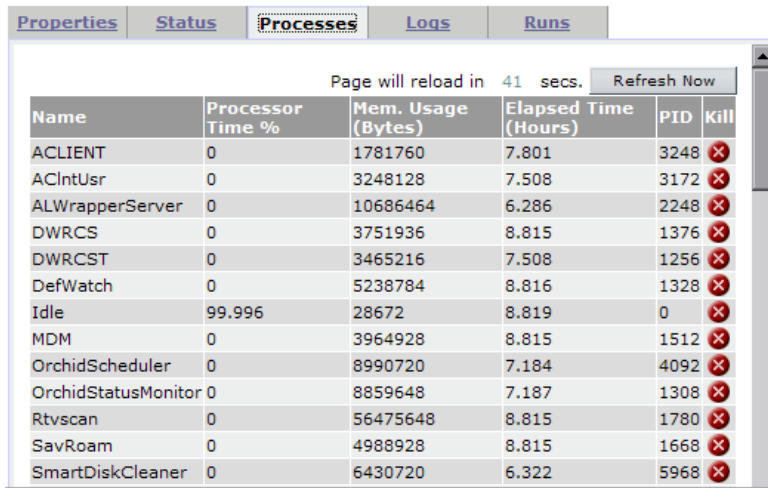
If you want the selected host to ping a remote site, type the URL address in the **Ping to URL** box and click **Check Host**. Performance Center displays the results in the **Ping to URL Status** field.

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.



The screenshot shows the 'Processes' tab in a web interface. At the top, there are navigation tabs: 'Properties', 'Status', 'Processes' (selected), 'Logs', and 'Runs'. Below the tabs, there is a refresh indicator: 'Page will reload in 41 secs.' and a 'Refresh Now' button. The main content is a table with the following columns: Name, Processor Time %, Mem. Usage (Bytes), Elapsed Time (Hours), PID, and Kill. The table lists various system processes, with 'Idle' having the highest processor time at 99.996%.

Name	Processor Time %	Mem. Usage (Bytes)	Elapsed Time (Hours)	PID	Kill
ACLIENT	0	1781760	7.801	3248	✖
ACIntUsr	0	3248128	7.508	3172	✖
ALWrapperServer	0	10686464	6.286	2248	✖
DWRCS	0	3751936	8.815	1376	✖
DWRCST	0	3465216	7.508	1256	✖
DefWatch	0	5238784	8.816	1328	✖
Idle	99.996	28672	8.819	0	✖
MDM	0	3964928	8.815	1512	✖
OrchidScheduler	0	8990720	7.184	4092	✖
OrchidStatusMonitor	0	8859648	7.187	1308	✖
Rtvscan	0	56475648	8.815	1780	✖
SavRoam	0	4988928	8.815	1668	✖
SmartDiskCleaner	0	6430720	6.322	5968	✖

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.

Properties Status Processes **Logs** Runs

Show action performed 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

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: <input type="text" value="Last Month"/> <input type="button" value="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.

Editing Over Firewall Agent Configuration Settings

When you designate a load generator to run over a firewall, you configure the Performance Center agent on the load generator machine.

In the Performance Center Agent, you define the communication settings between the load generator and the MI Listener. This communication is necessary for running Vusers over a firewall.

After you have configured the Performance Center Agent on the load generator machine, you can edit these settings from the Performance Center Administration Site.

When you edit these settings in the Administration Site, they are automatically updated in the Performance Center Agent on the load generator machine.

Note: For detailed information about configuring your system to work with firewalls, see the section about working with firewalls in the *HP Performance Center System Configuration and Installation Guide*.

To edit over firewall agent configuration settings:

- 1** In the Hosts page, click on the name of the relevant host. The host details page opens.
- 2** In the **Properties** tab, click **Edit**. The Properties tab is displayed with editable fields. The following fields affect the agent configuration settings:
 - ▶ **MI Listener.** The IP address or name of the MI Listener machine. When you change the MI Listener name, it is automatically updated on the Performance Center agent.
 - ▶ **Location.** You can select a different location, as long as it is also located over a firewall. When you change the location, the **Local Machine Key** in the Performance Center agent is automatically updated according to the format `hostname_locationname`.
- 3** Click **Save** to update the host properties, or click **Cancel** to disregard any changes made.

- 4 To edit the remaining agent configuration settings, click **Advanced - Over Firewall** In the **Properties** tab.

The Over Firewall - Advanced Configuration dialog box opens, displaying communication settings between the load generator and the MI listener.

Over Firewall - Advanced Configuration

Communication settings between Load Generator: vmltrnd29 and MI Listener: labm1ltd34.devlab.ad

* Polling Timeout

* Connection Timeout

MI Listener User Name

MI Listener password

Connection Type

TCP

HTTP

Proxy Name

Proxy Port

Proxy Username

Proxy password

Proxy domain

Use secure connection

Check server certificate

Private key password

Use client certificate

Save Close Help

You can edit the following settings:

Option	Description
Polling Timeout (seconds)	<p>To verify the state of the load generator located over a firewall, Performance Center checks when last the load generator connected to the MI Listener.</p> <p>If the load generator has not connected to the MI Listener machine for a period of time longer than the amount of time set in the Polling Timeout, Performance Center changes the state of the load generator to Resource Failure.</p> <p>Notes:</p> <ul style="list-style-type: none"> ▶ The Polling Timeout is a Performance Center setting. It is not set in the Performance Center agent. ▶ The Polling Timeout needs to be longer than the Connection Timeout, described below. <p>Default value: 60 seconds</p> <p>This is a required field.</p>
Connection Timeout (seconds)	<p>The length of time you want the agent to wait before retrying to connect to the MI Listener machine. If zero, the connection is kept open from the time the agent is run.</p> <p>Default value: 20 seconds</p> <p>This is a required field.</p>
MI Listener User Name	<p>The user name needed to connect to the MI Listener machine.</p>
MI Listener Password	<p>The password needed to connect to the MI Listener machine.</p>
Connection Type - TCP/HTTP	<p>Select either TCP or HTTP, depending on the configuration you are using.</p> <p>Default value: TCP</p>
Connection Type - HTTP Proxy Name	<p>The name of the proxy server. This field is mandatory if the Connection Type option is set to HTTP.</p>

Option	Description
Connection Type - HTTP Proxy Port	The proxy server connection port. This field is mandatory if the Connection Type option is set to HTTP .
Connection Type - HTTP Proxy User Name	The user name of a user with connection rights to the proxy server.
Connection Type - HTTP Proxy Password	The password of the user with connection rights to the proxy server.
Connection Type - HTTP Proxy Domain	The user's domain if defined in the proxy server configuration. This option is required only if NTLM is used.
Use Secure Connection (SSL)	Enable to connect using the Secure Sockets Layer protocol. Default value: disabled
Use Secure Connection (SSL) - Check Server Certificates	Authenticates the SSL certificates that are sent by the server. Select Medium to verify that the server certificate is signed by a trusted Certification Authority. Select High to verify that the sender IP matches the certificate information. This setting is available only if Use Secure Connection is set to True .
Use Secure Connection (SSL) - Private Key Password	The password that may be required during the SSL certificate authentication process. This option is relevant only if the Client Certificate Owner option is enabled.
Use Secure Connection (SSL) - Use Client Certificate	Enable to load the SSL certificate (if required by the server to allow the connection to be made). This option is relevant only if the Use Secure Connection option is enabled. Default value: disabled

- 5 Click **Save** to save the configuration settings.
- 6 Click **Close** to close the Over Firewall - Advanced Configuration dialog box.

Rebooting Hosts

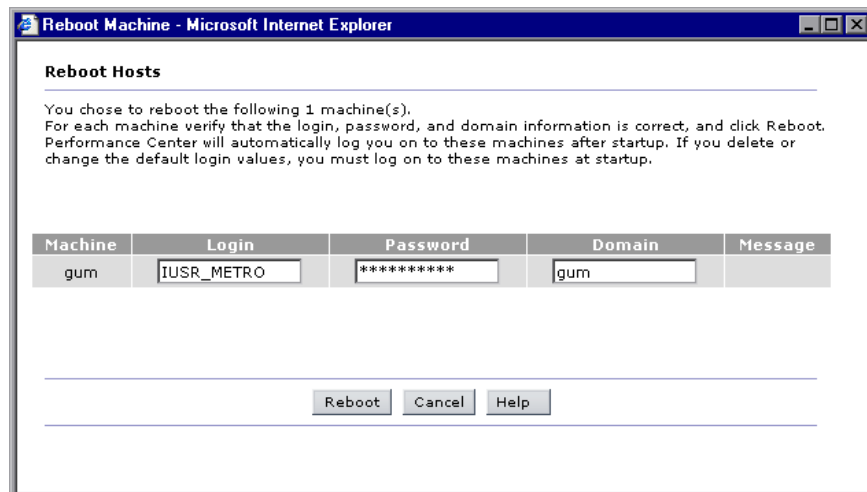
Performance Center enables you to reboot hosts remotely from the Administration Site.

Notes:

- ▶ 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:

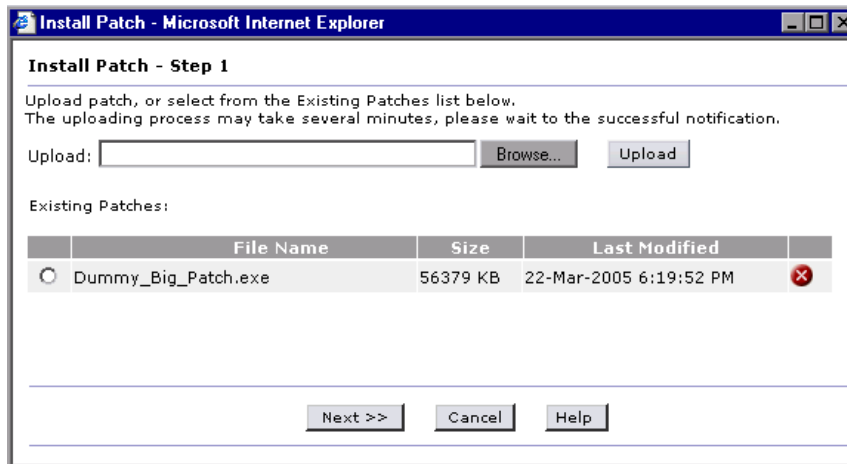
- Uploading the patch
- Installing the patch

Notes:

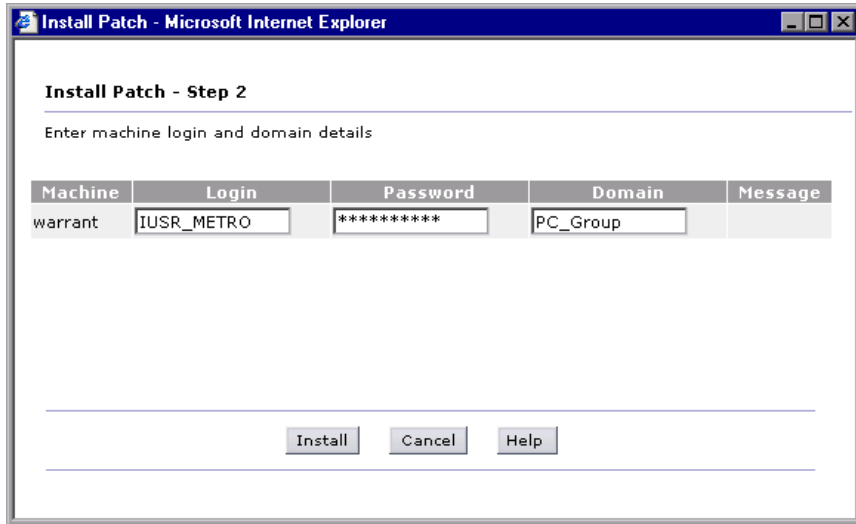
- The Install Patch feature is not available for the Administration Site and Database servers.
- You cannot use the Install Patch feature on Controller and Load Generator hosts if they are in the **Running** state. You can only install patches when these hosts are idle.
- You cannot use the Install Patch feature on the File Server if any of the load test runs are in the following states: **Ready, Collating Results, Running, Stopping, Creating Analysis Data, Before Collating Results, or Before Collating Analysis Data**. You can view the state of a load test run on the Test Runs page (**Site Management > Test Runs**).
- 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.



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 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.

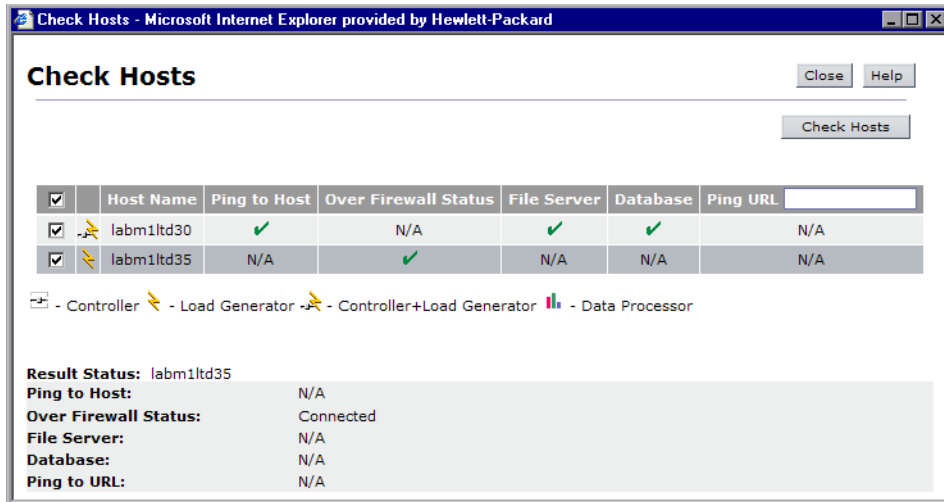
If you are using the Host Checkup Service (enabled from the General Settings of the Administration site), Performance Center automatically detects host resource failure and attempts to restore the host to the **Operational** state.

Checking Hosts

You can check the connections between your project's hosts and the various machines within your system.

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**. Based on the purpose of the host, Performance Center checks one or more of the following connections:
- ▶ **Ping to Host**. The Administration Site server pings the selected host.
 - ▶ **Over Firewall Status**. For load generators over a firewall, Performance Center checks that the load generator is connected to an MI Listener.
 - ▶ **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.

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

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

The following table describes which connections Performance Center checks for each type of host.

Host purpose	Ping to Host	Over Firewall Status	File Server	Database	Ping URL
Regular load generator	Yes	N/A	N/A	N/A	Yes
Unix Load Generator	Yes	N/A	N/A	N/A	N/A
Standalone load generator	Yes	N/A	N/A	N/A	N/A
Load generator over firewall	N/A	Yes	N/A	N/A	N/A
Controller host	Yes	N/A	Yes	Yes	Yes
Data processor	Yes	N/A	Yes	Yes	Yes

- 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 a firewall. This information is crucial when assigning a purpose for the host. Hosts over a 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 a firewall. Hosts that are located over a 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 a 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.

Using Hosts to Run Vusers over a Firewall

When you add a Performance Center host (see “Adding Hosts” on page 41) you can configure the host as a load generator used to run Vusers over a firewall. Before you configure a host to operate as a load generator over a firewall, consider the following:

- ▶ Make sure that you have set up and configured your Performance Center system to work with firewalls. For detailed information, see the section about working with firewalls in the *HP Performance Center System Configuration and Installation Guide*.
- ▶ Make sure that you have specified the details of the MI Listener that will be used to run Vusers over the firewall. See “MI Listeners for Running Vusers over a Firewall” on page 81.

- ▶ Make sure that you have configured the Performance Center Agent on the load generator host machine to communicate with the MI Listener. For more information, see the section about working with Firewalls in the *HP Performance Center System Configuration and Installation Guide*.

Note: After you have configured the Performance Center Agent on the load generator machine, you can edit the configuration settings from the Administration Site. For more information, see “Editing Over Firewall Agent Configuration Settings” on page 61.

- ▶ Part of the process of adding a host involves selecting a location for your host. When you are configuring a host to operate over a firewall, you select a location that is located over a firewall. Before you configure the host, you need to make sure that you have added a location over a firewall. For details about adding a host location over a firewall, see “Managing Host Locations” on page 74.

3

Managing MI Listeners

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

This chapter includes:

- MI Listeners Page on page 80
- MI Listeners for Running Vusers over a Firewall on page 81
- MI Listeners for Monitoring Over a Firewall on page 84

MI Listeners Page

MI Listeners enable running of Vusers over a firewall and collecting server monitor data and application diagnostics data over a firewall. You manage the MI Listeners from the MI Listeners page (**Resources > MI Listeners**).

MI Listeners

Firewall Vuser Communicators

Specify the names or IP addresses of the MI Listener machines that enable running Vusers over the firewall.

	MI Listeners	Comments
<input type="checkbox"/>	colorado	None
<input type="checkbox"/>	michigan	This is an MIL machine.

Firewall Monitoring Communicator

Specify the name or IP address of the MI Listener machine, which you configure to collect server monitor data over the firewall.

IP Address / Name:

Firewall Diagnostics Communicator

Specify the name or IP address of the MI Listener machine, which you configure to collect application diagnostics data over the firewall.

IP Address / Name:

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 “MI Listeners for Running Vusers over a Firewall” on page 81.
- ▶ **Firewall Monitoring Communicator.** Specify the MI Listener machine that is configured to collect server monitor data from over the firewall. See “MI Listeners for Monitoring Over a Firewall” on page 84.
- ▶ **Firewall Diagnostics Communicator.** Specify the MI Listener machine that is configured to collect application diagnostics data from over the firewall. See “MI Listeners for Monitoring Over a Firewall” on page 84.

Note: For detailed information about setting up the Performance Center system to work with firewalls, see the section about working with firewalls in the *HP Performance Center System Configuration and Installation Guide*.

MI Listeners for Running Vusers over a Firewall

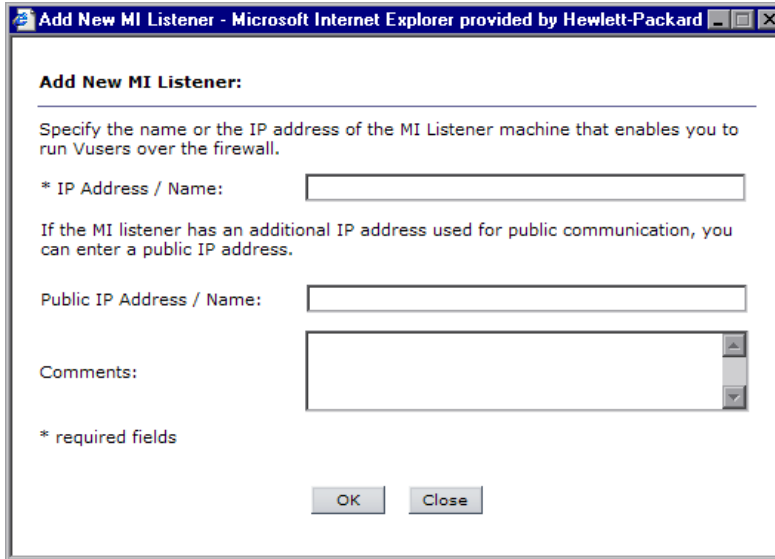
You can specify one or more MI Listeners that will enable running Vusers over a firewall. You can specify these MI Listeners in the MI Listeners page, in the Firewall Vusers Communicators MI Listeners table. You can add, edit, and delete MI Listeners in this table.

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 for running Vusers:

- 1** From 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 DNS name of the MI Listener.

In some cases, you may want to use two different IP addresses for the same MI Listener—one address for internal communication with the Controller and a second address for public communication with a Load Generator located over a firewall.

In this case, enter the internal IP address in the **IP Address / Name** box, and the public IP address in the **Public IP Address / Name** box.

- 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.

MI Listeners for Monitoring Over a Firewall

You can specify MI Listeners to collect monitoring or diagnostics data from over 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.

4

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.

This chapter includes:

- Understanding Pool Resources on page 86
- Assigning Pools to Projects on page 86
- Understanding the Host Pools Page on page 89
- Adding New Pools on page 92
- Editing Pools on page 94
- Deleting Pools on page 95

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.

A quantity 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.

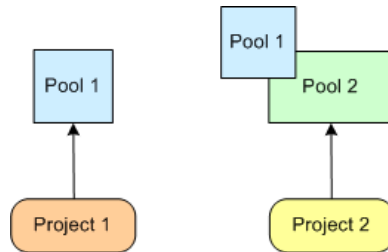
When a customer is assigned to a project, he has access only to those pools assigned to his projects.

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:

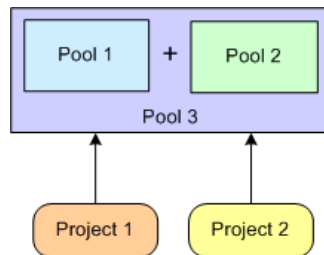
► **Split Pool 1 and assign some of its resources to Pool 2.**

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.**

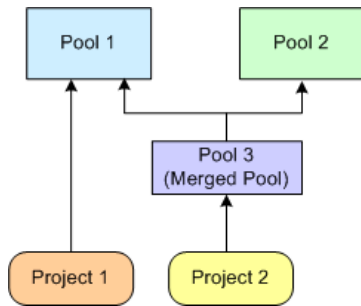
This gives **Project 1** access to machines in Los Angeles—which it need not have.



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

Filter by: Name Description Merged Filter

Total Controllers Total Load Generators

<input type="checkbox"/>	Pool Id	Pool Name	Total C	Total L	Total C + L	Merged	Host Count	Description
<input type="checkbox"/>	26	McGraw	0	2	0	N	2	
<input type="checkbox"/>	27	McGraw_Platts	0	4	0	N	4	
<input type="checkbox"/>	32	McGraw_CDO	0	0	0	N	0	
<input type="checkbox"/>	41	McGraw_EAS	0	0	0	N	0	
<input type="checkbox"/>	48	McGraw_Montereywww	0	0	0	N	0	
<input type="checkbox"/>	58	McGraw_HTS	0	0	0	N	0	
<input checked="" type="checkbox"/>	65	MH_McGraw	0	2	10	Y	12	
<input checked="" type="checkbox"/>	91	McGraw_Shared_DMZ	0	2	10	Y	12	
<input checked="" type="checkbox"/>	92	McGraw_Shared_Denver	0	1	10	Y	11	
<input checked="" type="checkbox"/>	93	McGraw_Shared_Hightstown	0	3	10	Y	13	
<input checked="" type="checkbox"/>	94	McGraw_Shared_Monterey	0	1	10	Y	11	

Edit Pool Details:

Pool ID: 26 Included In: MH_McGraw

Name: Description:

The Host Pools page is comprised of the following areas:

- **Filter by.** Allows you to filter the information displayed in the table.
- **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 90.
- **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.

Sorting and Filtering the Host Pools

You can sort the Host Pools in the table in ascending or descending order by clicking the heading of the column by which you want to sort. Click the column heading again to reverse the sort order.

You filter the Host Pools using the filter boxes in the **Filter by** area.

To filter the Host Pools:

- 1** In the **Filter by** area, type the relevant values in the filter boxes.
- 2** Click **Filter** or press ENTER.

The table displays Host Pools according to the selected filter options.

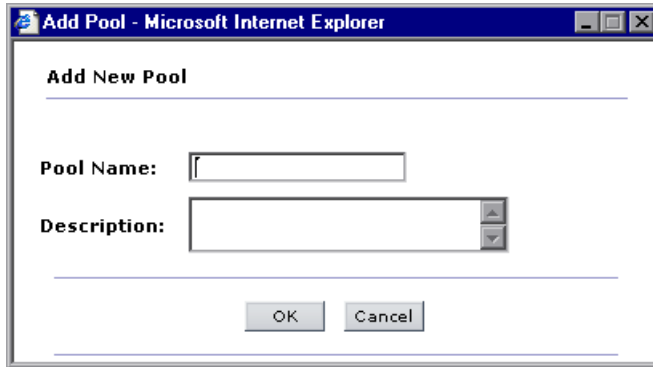
Note: The filter supports partial text entries. For example, if you entered **th**, the display list might include **Seth**, **Thomas**, and **Anthony**. The filter does not support regular expressions.

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.

A screenshot of a web browser window titled "Add Pool - Microsoft Internet Explorer". The main content area displays a form titled "Add New Pool". The form has two input fields: "Pool Name:" with a single-line text box, and "Description:" with a multi-line text box. Below the text boxes are two buttons: "OK" and "Cancel".

- 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.

The screenshot shows a web browser window titled "Create Merged Pool - Microsoft Internet Explorer". The main content area is titled "Create Merged Pool" and contains the following elements:

- A "Pool Name:" label followed by an empty text input field.
- A "Description:" label followed by an empty text area with a vertical scroll bar.
- A table with three columns: a checkbox column, a "Pool Id" column, and a "Pool Name" column.
- At the bottom right, there are "Save" and "Cancel" buttons.

<input type="checkbox"/>	Pool Id	Pool Name
<input type="checkbox"/>	1	General
<input type="checkbox"/>	2	pool_1

- 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, by clicking the relevant row in the table.
- 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 check boxes next to the pools 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.

5

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.

This chapter includes:

- ▶ Using the Servers Page on page 97
- ▶ Managing Server Information on page 100
- ▶ Rebooting Servers on page 107
- ▶ Uploading and Installing Patches on page 108
- ▶ Checking Servers on page 112

Using the Servers Page

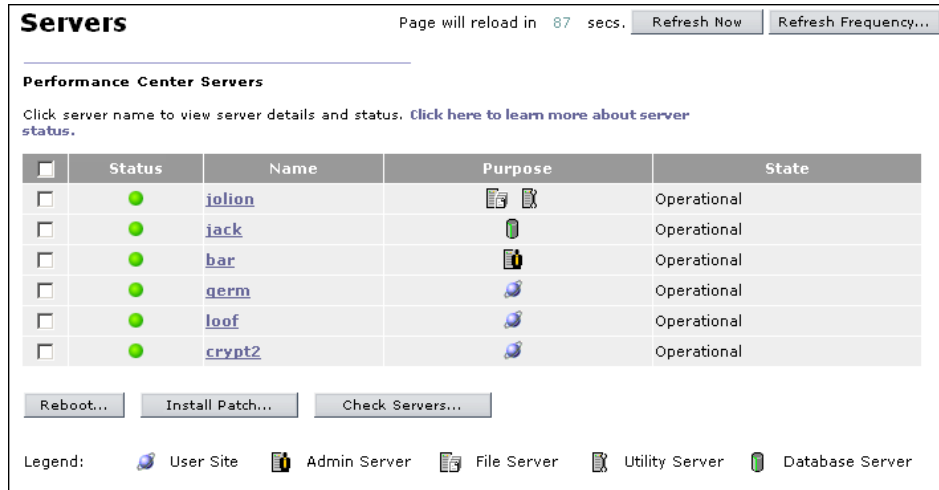
The Servers page displays information about the Performance Center servers. It also enables you to reboot machines, install patches, and check server connectivity.

When performing administrative tasks on 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 100.
- ▶ **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 107.
- ▶ **Install Patch.** Enables you to install patches remotely on servers. For more information, see “Uploading and Installing Patches” on page 66.
- ▶ **Check Servers.** Enables you to check the connections between various servers and machines within your system. For more information, see “Checking Servers” on page 112.

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 enable 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.

Properties	Status	Processes	Logs
Server Name:	kentucky		
OS Type:	Win2000/XP		
Purpose:	User Site Server		
Comments:	*!@		
State:	Operational		
Login Information			
User Name:	IUSR_METRO		
Password:	*****		
Domain:			
Installed Components:	Version 9.50.0.0 User Site Server Remote Management Agent		
Security Mode:	N/A		
<input type="button" value="Edit"/>			

- **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.

The screenshot shows a 'Properties' dialog box with the following fields and values:

- Server Name:** tomato
- OS Type:** Win2000/XP
- Purpose:** User Site Server, Admin Server, File Server, Utility Server, Database Server
- Comments:** None (dropdown menu)
- State:** Operational (dropdown menu)
- Database Instance:** (empty text box)
- Enable SiteScope Monitoring

Buttons: Save, Cancel

- 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 47.
- 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.

- 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 112.

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

Check Servers

State:

Ping to Server: Succeeded to ping 3 times. Average time is 0 ms.

FileServer: Succeeded to write, read and delete from file server.

Database: Succeeded to connect to database server.

Ping to URL:

Ping to URL Status: Succeeded to ping 3 times. Average time is 5 ms.

SiteScope Data

State	Name	Status
●	DISK 'F'	70% full, 9235MB free, 30444MB total
●	DISK 'C'	32% full, 21042MB free, 30592MB total

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 101).

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.

Properties						Status						Processes						Logs					
Name	% Processor Time	Mem. Usage (Bytes)	Elapsed Time (Hours)	PID	Kill																		
ALWrapperServer	1.538	9195520	2.157	1788	✖																		
AHOST32	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 performed in

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

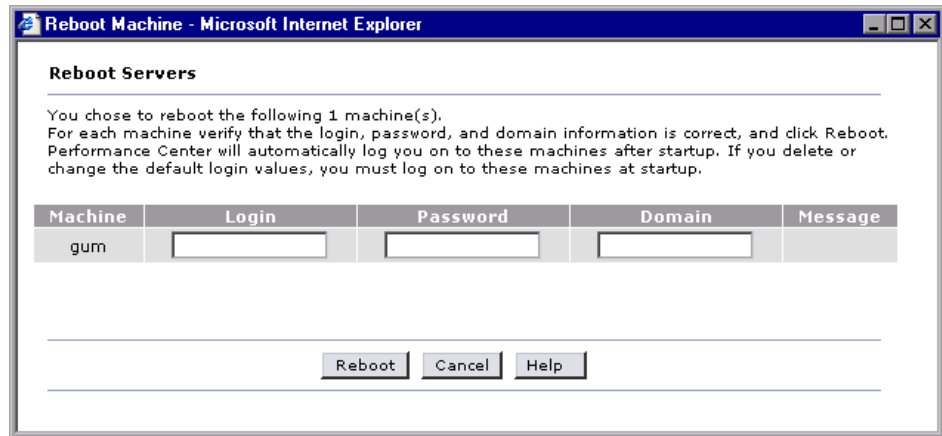
Performance Center enables you to remotely reboot server machines from the Administration Site.

Notes:

- ▶ 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.

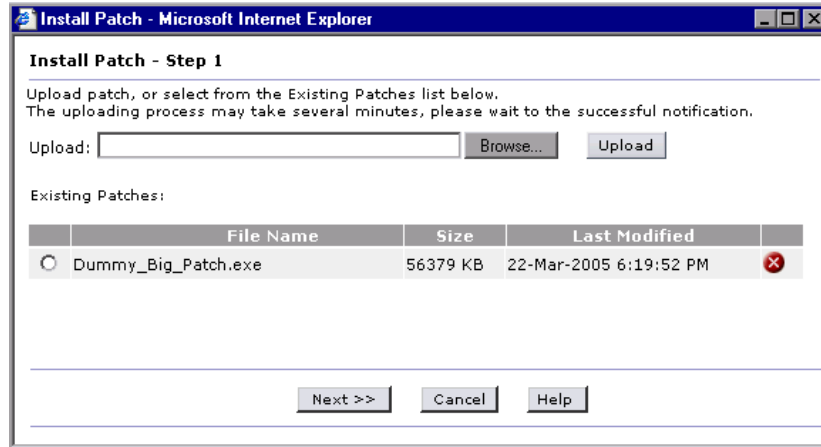
The process consists of two stages: uploading the patch and installing the patch.

Notes:

- 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.
-

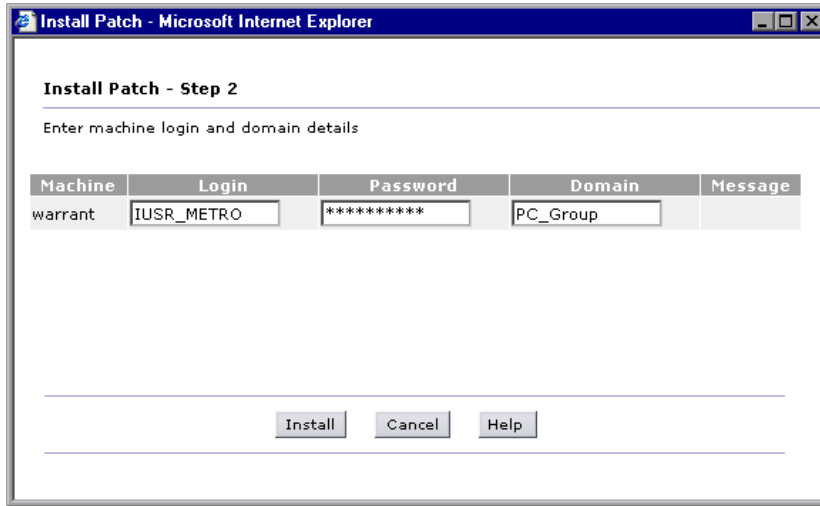
To install patches on servers:

- 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.

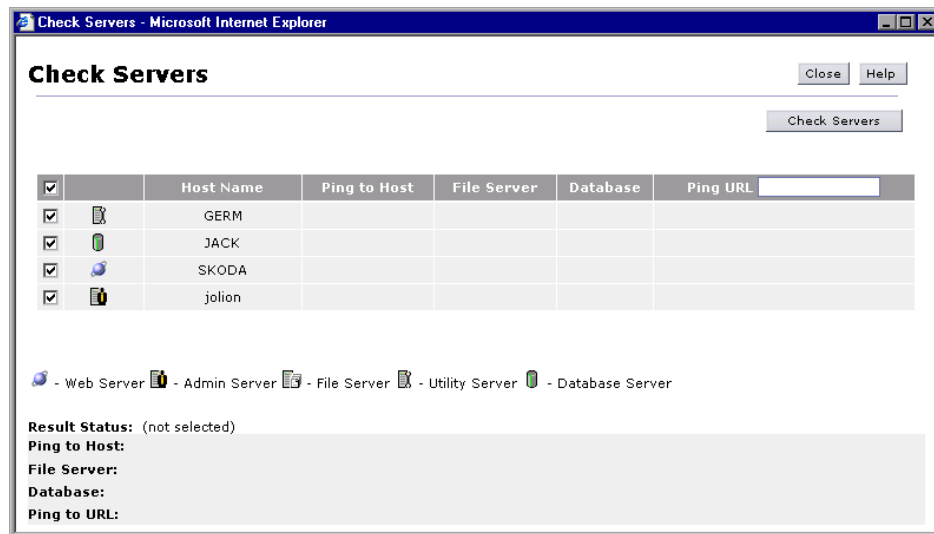
The patch is removed from the list and deleted from the File server.

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.

Check Servers [Close] [Help]

[Check Servers]

<input checked="" type="checkbox"/>	Host Name	Ping to Host	File Server	Database	Ping URL
<input checked="" type="checkbox"/>	GERM	✓	✓	✓	N/A
<input checked="" type="checkbox"/>	JACK	✓	N/A	N/A	N/A
<input checked="" type="checkbox"/>	SKODA	✓	✓	✓	N/A
<input checked="" type="checkbox"/>	jolion	✓	✓	✓	N/A

- Web Server
 - Admin Server
 - File Server
 - Utility Server
 - Database Server

Result Status: jolion

Ping to Host: Succeeded to ping: 3 times. Average time is: 0 ms.

File Server: Succeeded to write, read and delete from file server.

Database: Succeeded to connect to database server.

Ping to URL: N/A

5 Click **Close** to close the Check Servers dialog box.

Part III

Site Management

6

Managing Test Runs

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

This chapter includes:

- About Managing Test Runs on page 117
- Test Runs Page on page 118
- Changing a Test Run State on page 122
- Deleting a Test Run on page 124
- Deallocating Hosts from a Test Run on page 125
- Deactivating the Collator Process on page 126
- Using the Fast Recovery on page 127

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. You can sort and filter the test runs according to your preferences.

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. To access this page, on the Performance Center left menu, select **Site Management > Test Runs**.

Test Runs (190 runs in DB)



Run ID	Test Name	Project Name	State	Users	User Name	Run Date	Timeslot
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
86	tsafTest	Default	Before Creating Analysis Data	10	AdminA	10/11/2007 6:42:07 PM	51
85	tsafTir	Default	Finished	10	AdminA	9/25/2007 12:35:28 PM	50
84	tsafTir	Default	Stopping	1	AdminA	9/25/2007 12:20:00 PM	50
83	tsafTir	Default	Run Failure	0	AdminA	9/25/2007 11:33:52 AM	49
82	tsafTir	Default	Run Failure	0	AdminA	9/25/2007 11:02:57 AM	49
81	tsafTest	Default	Run Failure	0	AdminA	9/24/2007 10:00:27 PM	44
80	tsafTest	Default	Before Creating Analysis Data	10	AdminA	9/24/2007 9:00:35 PM	42
79	tsafTest	Default	Before Creating Analysis Data	10	AdminA	9/24/2007 8:30:38 PM	41
78	tsafTest	Default	Before Creating Analysis Data	10	AdminA	9/23/2007 10:30:23 PM	40
77	tsafTest	Default	Collating Results	0	AdminA	9/23/2007 9:30:32 PM	38

Displaying items 1 to 10 from 12

Details for Run ID : 77		
Duration (minutes):	Users: 0	Analysis Start Date: Time:
Controller Machine:	Max Concurrent Users: 0	Collator Status: Active
Load Generator (Users):	State:	<input type="text" value="Temporary Results Deleted"/>
Results Directory:	<input type="button" value="Save"/> <input type="button" value="Restore"/>	

The Test Runs page includes the following components:

- Test Runs Table (described on page 119)
- Test Runs Details Pane (described on page 120)
- Test Runs Toolbar (described on page 121)

Test Runs Table

Each row in the table represents a unique run. You can select the amount of runs to be displayed in the **displaying <n> items per page** list. The total number of all runs in the Performance Center database is displayed in parentheses next to page heading.

The Test Runs table includes the following columns:

- **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.
- **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 122.
- **Vusers.** The total number of Vusers used in the run.
- **User name.** The name of the user who ran the test.
- **Run Date.** The date and start time of the test run.
- **Timeslot.** The ID for the test’s timeslot.

Sorting and Filtering Test Runs

You can sort the test runs in the table in ascending or descending order by clicking the heading of the column by which you want to sort. Click the column heading again to reverse the sort order.

You filter the test runs using the filter boxes below the column headings.

Note: Sorting and filtering settings are saved per user. The next time the same user enters the Test Runs page, the page displays results based on the most recent sort order and filter.

To filter the test runs:

- 1 In one of the filter boxes below the column headings, type the relevant text or select a value from the list. Press ENTER.

The table displays test runs according to the selected filter option.

- 2 You can filter these results further by entering additional filter values for other columns in the table.

Notes:

- ▶ The filter supports partial text entries. For example, if you entered **th**, the display list might include **Seth, Thomas, and Anthony**.
 - ▶ The filter does not support regular expressions or the following characters: `; & * \ ' / # ~ , ? { } $ % | < > + = ` ^ [] !`
-

Test Runs Details Pane






When you select a test run from the table, the following run details are displayed in the details pane on the lower part of the page:

- ▶ **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 and the amount of vusers that ran on each host.
- ▶ **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.
- ▶ **Analysis Start Date.** The start date and time of the analysis process. (If the test results analysis is not complete, the value remains empty.)

- ▶ **Collator Status.** Indicates whether or not the collator is running. The collator status is defined as either **Active** or **Inactive**.
- ▶ **State.** The state of the run. You can use this list to change the run state. 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 122.

Test Runs Toolbar

You use the toolbar buttons to perform actions on the selected runs.

Function	Button	Enables You To
View event log for run		See the Event Log filtered by the Run ID. For more information about the event log, see “Managing Events” on page 143.
Delete		Delete the selected test run. For more information, see “Deleting a Test Run” on page 124.
Deallocate Host		Detach all hosts that are allocated to a particular test run. For more information, see “Deallocating Hosts from a Test Run” on page 125.
Deactivate Collator process		Deactivate the collating process. See “Deactivating the Collator Process” on page 126.
Fast Recovery		Terminate the test run, free up all the system resources, and reset the run state to Before Collating Results . For information about when to use this option, see “Using the Fast Recovery” on page 127.



Note: You can refresh the data on the page by clicking the **Refresh** button on the top right side of the page. You can also set the auto-refresh frequency by selecting the relevant frequency from the **Automatic refresh** list.

Changing a Test Run State

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

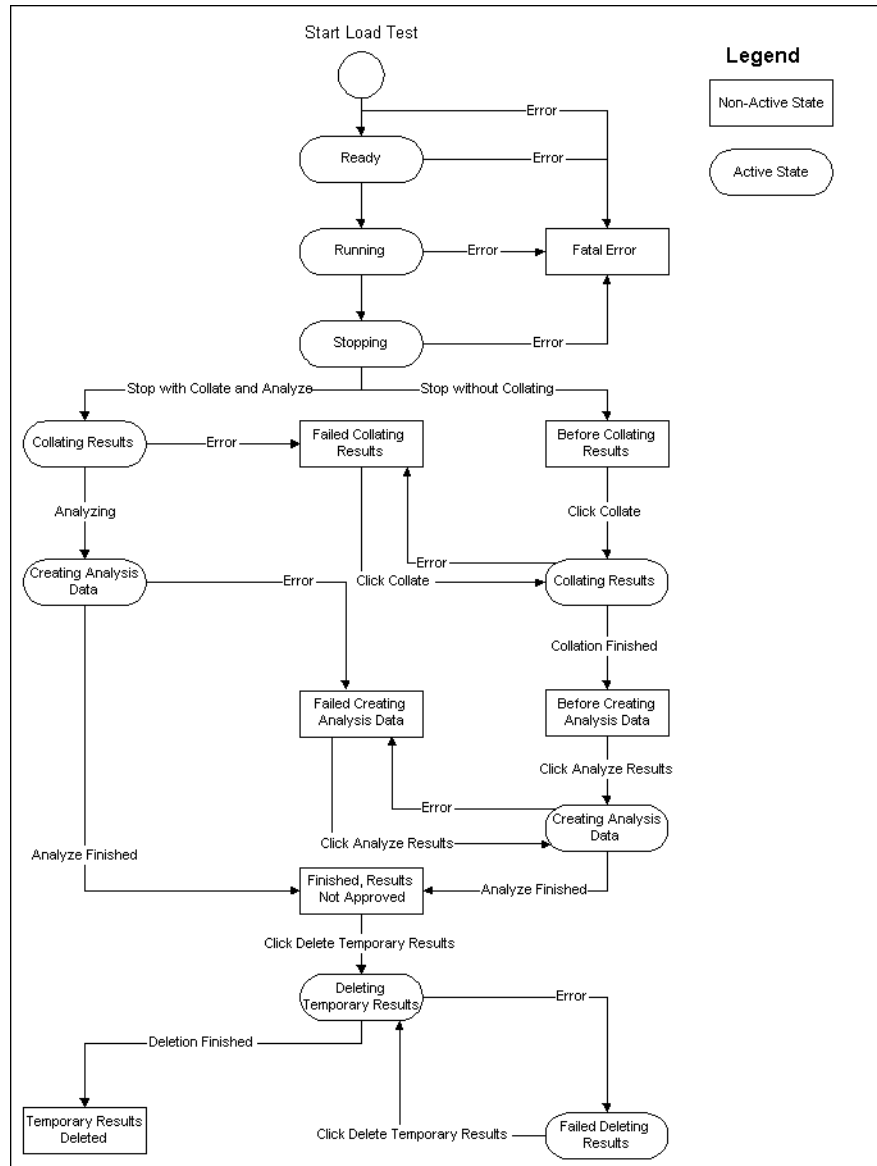
Changing the state of the test run is another way to handle a frozen test. For example, if the test is stuck in the **Running** state, you can change to the **Before Collating Results** state. Since the **Before Collating Results** state occurs after the **Running** state, by changing the test to this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

To change the state of a test run:

- 1 Select the relevant run from the test runs table.
- 2 In the details pane, select the appropriate state from the **State** list.
 - To revert back to the original state, click **Restore**.
 - To save your changes to the state, click **Save**.

Understanding Test Run States

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.

Deleting a Test Run

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

The delete option is not available when the run is in one of the following states: **Running, Collating Results, Stopping, Creating Analysis Data, or Deleting Temporary Results.**

To delete a test run:



Select the test run you want to delete, and click the **Delete** button located in the toolbar. The test run is deleted from the database and file server, and is no longer displayed in the table.

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 toolbar, click the **Deallocate Hosts** button. The Deallocate Hosts dialog box opens.




- 2** Specify the type of host you are deallocating (Load Generator or Analysis) and click **OK**.
- 3** A dialog box opens confirming the host's deallocation. Click **Close** to close the dialog box.

Deactivating the Collator Process

When a run seems to be stuck during collation (for example, if collating the run is taking a lot longer than usual) you can manually deactivate the collator process.

Note: The option to deactivate the collator process is only enabled when the **Collator Status**, as indicated in the details pane, is **Active**.

To deactivate the collator process for the run:

- 1 Select the relevant run from the test runs table.
- 2  In the test runs toolbar, click the **Deactivate Collator process** button.
The Deactivate Collator dialog box opens.
- 3 Click **OK** to confirm that you want to deactivate the collator process.
A dialog box opens confirming that the process was deactivated.
- 4 Click **Close** to close the dialog box.

Using the Fast Recovery

Important: The fast recovery option 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.

You use the fast recovery option to free up all the system resources, stop the test run, and resets the run state to **Before Collating Results**.

Notes:

- ▶ To access this option, users need to be assigned with **Fast recovery** permissions.
 - ▶ This option is only enabled when the state of the run, as indicated in the details pane, is **Running**, **Stopping**, or **Ready**.
-

To perform a fast recovery:

- 1 Select the relevant run from the test runs table.
- 2 In the test runs toolbar, click the **Fast Recovery** button.



7

Managing Timeslots

From the Administration Site, you can monitor timeslot reservations.

This chapter includes:

- About Managing Timeslots on page 129
- Understanding the Timeslots Page on page 130
- Viewing Timeslot Allocations on page 130
- Viewing Resource Availability on page 133

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. You can also view information about which projects are reserving resources from the same host pool. If necessary, you can delete reservations.

Understanding the Timeslots Page

Select **Site Management > Timeslots** to open the Timeslots page. The page has the following views:

- ▶ **Timeslots table view.** Displays details for currently reserved timeslots. For more information, see “Viewing Timeslot Allocations” on page 130.
- ▶ **Resources Availability table view.** Displays the distribution of resources over any time period. For more information, see “Viewing Resource Availability” on page 133.

Viewing Timeslot Allocations

You view information about currently reserved timeslots from the Timeslots Table and the Timeslot details sections.

Understanding the Timeslots Table

The Timeslots Table displays details of all reserved timeslots. You use the table to see which projects have reserved which timeslots, and how many machines and Vusers are reserved for each timeslot.

To specify a date range for which to view timeslots, use the browse buttons adjacent to the **Show timeslots from** and **to** boxes. Then click **Go** to update the table according to your selection.

Timeslots [\[Switch to Resources Availability Table\]](#) Page will reload in 64 secs. Refresh screen every: 1.5 minute

Timeslots Table Time on Server : 11-Mar-2008 1:47:22 PM

Show timeslots from: 11-Mar-2008 12:00:00 AM ... to: 11-Mar-2008 11:00:00 PM ...

ID	Project Name	User Name	From Time	To Time	Machines	Vusers	Host Pool	Run Id	Delete
1888	boaza	benny mizrachi	11-Mar-2008 12:43:40 PM	11-Mar-2008 12:52:35 PM	2	2800	General	2332	
1887	boaza	benny mizrachi	11-Mar-2008 11:37:45 AM	11-Mar-2008 12:37:45 PM	2	2800	General	2331	
1882	boaza	Admin	11-Mar-2008 6:30:00 AM	11-Mar-2008 6:34:20 AM	2	N/A	General	-	
1885	Monitors	Admin	11-Mar-2008 5:00:00 AM	11-Mar-2008 9:00:00 AM	4	N/A	Monitors_pool	2330	
1881	Diagnostics	Admin	11-Mar-2008 4:00:00 AM	11-Mar-2008 6:00:00 AM	2	N/A	diagnostics	2329	
1884	benny project	Admin	10-Mar-2008 11:00:00 PM	11-Mar-2008 3:51:31 AM	4	N/A	benny merged	2323	

The Timeslots Table displays the following information:

- **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 times 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 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.
- **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 89.
- **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. For more information, see “Deleting a Timeslot” on page 132

Viewing Timeslot Details

You view details about reserved timeslots in the Timeslot Details pane.

Timeslot details:			
Duration:	04:51	Run Vusers on Controller:	Yes
Load Test:	Benny LT4 Part 1 and 2	Machines:	No machines specified
Post-run analysis:	Collate and Analyze results		
		Comments:	

When you select a timeslot in the Timeslots Table, the Timeslots details pane displays the following information:

- **Duration.** The total length of time (in hours) reserved for the timeslot.
- **Load Test.** The name of the load test.
- **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 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 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.

You can sort the Timeslots Table according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. Click the column heading to reverse the order.

Deleting a Timeslot

To delete a timeslot reservation, select a timeslot and click the corresponding Delete button. The timeslot is removed from the table.

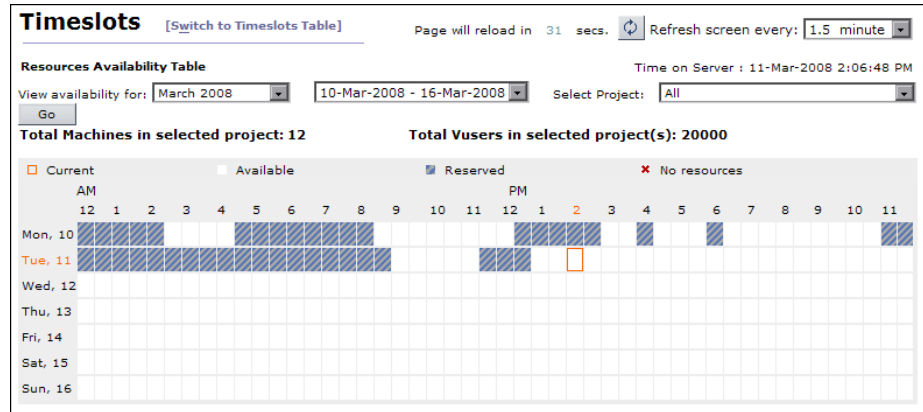


Note: You can delete future timeslots only.

Viewing Resource Availability

To display the distribution of resources over any time period, you click the **Switch to Resources Availability Table** link at the top of the Timeslots page to open the Resources Availability table.

The table displays how many resources are available to a selected project for a specific timeslot.



The Resources Availability table contains the following elements:

- ▶ **Time on Server.** The current date and time according to the server.
- ▶ **Total Load Generators in selected project(s).** 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.

Filtering the Resources Availability Table

You define the date range and projects for which to show timeslots as follows:

To filter the Resources Availability table:

- 1 Specify the date range for which you want to view resource availability in the **View availability for** dropdown lists. The table provides access to timeslot information over a twelve month range (the six previous, and six future months).
- 2 Select the project for which you want to view resource availability.
- 3 Click **Go** to show available timeslots for the selected filter criteria.

The table is divided into half-hour timeslots displayed over a seven day period. Each timeslot is represented by a rectangle. Place the mouse cursor over a timeslot for a tooltip that displays exact resource availability details for that timeslot.

Resource availability is displayed in the table as follows:

- **Available.** All resources are available for the timeslot.
- **No resources.** There are no resources available.
- **Reserved (When all projects selected).** Some resources for this timeslot have been reserved. The tooltip displays the number of remaining available resources.
- **Reserved by this project (When single project selected).** Resources for this timeslot have been reserved by the selected project. The tooltip displays the number of remaining available resources.
- **Reserved by other projects (When single project selected).** Resources for this timeslot have been reserved by other projects. The tooltip displays the number of remaining available resources.
- **Reserved by this and other projects (When single project selected).** Resources for this timeslot have been reserved by the selected project and by other projects. The tooltip displays the number of remaining available resources.

Viewing Timeslot Details

You view details about resource and host pool usage for any selected timeslot in the Timeslot Details pane below the Resources Availability table.

The information displayed in the Timeslot Details pane varies, depending on whether all projects or a single project is selected in the Resources Availability table.

- For information on viewing timeslot details for a single project, see “Viewing Timeslot Details for a Single Project” on page 135.
- For information on viewing timeslot details for all projects, see “Viewing Timeslot Details for all Selected Projects” on page 137.

Viewing Timeslot Details for a Single Project

The Timeslot Details pane shows a breakdown of resource and host pool status information for the selected project in the Resources Availability Table. The information is displayed for the timeslot selected in the Resources Availability Table.

Resource Status Table (Single project selected)

When a single project is selected in the Resources Availability Table, the Resource Status table displays the following information:

Resource Status						
Resource	License Limit	Project Limit	Host Pool Limit	Reserved - other projects	Reserved - this project	Available to this project
Vusers	20000	1000	-	0	10	990
Runs	10	5	-	0	1	4
Machines	-	10	6	0	2	4

- **Resource.** The resource name.
- **License Limit.** The Performance Center license for the resource.
- **Project Limit.** The maximum number of the resource allowed for the selected project as defined in project settings (**User Management > Projects**).
- **Host Pool Limit.** The number of machines in the host pool assigned to the project.

- **Reserved - other projects.** The amount of the resource reserved by other projects in the system. For Machines, only projects in the same host pool are taken into account.
- **Reserved - this project.** The amount of the resource reserved by the selected project.
- **Available to this project.** The amount of the resource that is available.

Host Pool Status (Single project selected)

The Host Pool status section of the Timeslot Details pane displays information for the host pool assigned to the selected project.

Host status for host pool 'Kate_pool'			
Total Hosts: 1 C, 3 LG, 2 C+LG			
Reserved Hosts: 1 C, 2 LG, 1 C+LG			
Breakdown per project			
Project	Load Generators	Load Generators + Controllers	Controllers
Kate_Pro	1	1	0
Kate_Pro2	1	0	1

- The **Total Hosts** row displays the number of different host types available in the host pool.
- The **Reserved Hosts** row displays the number of reserved hosts for each type.

The **Breakdown per project** table displays a list of all projects which are using various host pool resources.

Viewing Timeslot Details for all Selected Projects

When all projects are selected in the Resources Availability Table, the Timeslot Details pane shows a breakdown of resource and host pool status information for all the projects in system. The information is displayed for the timeslot selected in the Resources Availability Table.

The Resource Status Table (All projects selected)

When all projects in the system are selected in the Resources Availability Table, the Resource Status table displays the following information for the selected timeslot.

Resource Status			
Resource	License Limit	Reserved - all projects	Available
Vusers	20000	10	19990
Runs	10	1	9

- **Resource.** The resource name.
- **License Limit.** The Performance Center license for the resource.
- **Reserved - all projects.** The amount of the resource reserved by all projects in the system.
- **Available.** The amount of the resource that is available.

Host Pool Status (All projects selected)

The Host Pool status section of the Timeslot Details pane displays information for all the projects in the system for the selected timeslot.

Host Status (all PC hosts)
Total Hosts: 1 C, 8 LG, 3 C+LG
Reserved Hosts: 0 C, 0 LG, 0 C+LG

The first row displays the number of different host types available in the host pool. The second row displays the number of reserved hosts for each type.

8

Autostart Viewer

The Autostart Viewer 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 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 Guide*.

This chapter includes:

- The Autostart Viewer at a Glance on page 140
- Viewing Autostart Load Test Reports on page 142

The Autostart Viewer at a Glance

To open the Autostart Viewer, On the Performance Center left menu, select **Site Management > Autostart Viewer**. The Autostart Viewer opens.

Autostart Viewer Page will reload in 29 secs. [Refresh Now](#) [Refresh Frequency...](#)

Currently Showing : 1 - 20 / 43 ▶ ◀

ID	Date and Time	Project Name	User Name	Test Name	Status	Duration	Hosts	Users	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	

The Autostart Viewer 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 122. 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.

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.

Autostart Load Test Report Close

Load Test (test I)

Run Date and Time 6/26/2003 6:37:59 PM
 Duration (min) 29
 Total Vusers Involved 2
 Max Concurrent Vusers 0
 Controller (#Vusers) tomato(2)
 Host List (#Vusers)

Currently Showing : 1 - 3 / 3

Time	Status
26-Jun-2003 6:37:55 PM	Start of AutoStarted test
26-Jun-2003 6:38:18 PM	Test Initialization.
26-Jun-2003 7:08:05 PM	End of AutoStarted test

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.

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 includes:

- ▶ Viewing the Event Log on page 144
- ▶ Filtering and Sorting Events on page 146

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:

Event Log Page will reload in 62 secs. Refresh Now Refresh Frequency...

Total events in database: 19 Filter by: Time: All Severity: All

Export Event Log Host: - All - Run Id: Go

Currently Showing: 1 - 19 / 19

ID	Time	Description	Event	Source	Severity	Run Id	Host
19	20-Feb-2007 3:00:17 AM	IISResetTask : Fully reset IIS on server riba01 as part of scheduled maintenance	0	Maintenance Service	Info	-	riba01
18	19-Feb-2007 3:00:17 AM	IISResetTask : Fully reset IIS on server riba01 as part of scheduled maintenance	0	Maintenance Service	Info	-	riba01
17	18-Feb-2007 3:00:18 AM	IISResetTask : Fully reset IIS on server riba01 as part of scheduled maintenance	0	Maintenance Service	Info	-	riba01
16	17-Feb-2007 3:00:16 AM	IISResetTask : Fully reset IIS on server riba01 as part of scheduled maintenance	0	Maintenance Service	Info	-	riba01
15	16-Feb-2007 3:00:16 AM	IISResetTask : Fully reset IIS on server riba01 as part of scheduled maintenance	0	Maintenance Service	Info	-	riba01
14	15-Feb-2007 3:00:17 AM	IISResetTask : Fully reset IIS on server riba01 as part of scheduled maintenance	0	Maintenance Service	Info	-	riba01

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.

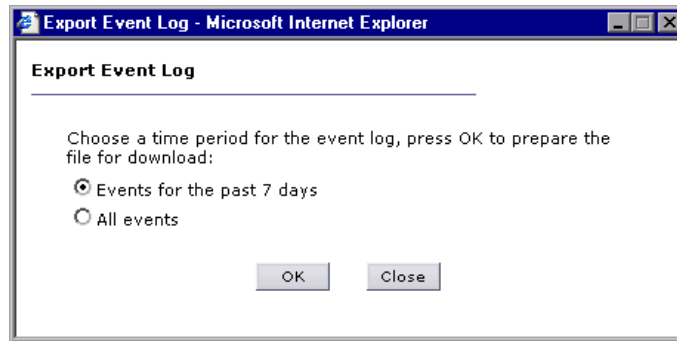
- **Severity.** The severity of the event (Info, Error, Fatal Error).
- **Run ID.** The identification number of the test run.
- **Host.** The host from which the event was generated.

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** Select 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 select 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.

You configure the Performance Center system user and host security settings using utilities installed on the Administration Site server.

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 global, autostart, project, and system check 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.
- **Server Authentication 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.
- **System Identity Utility.** Using this utility, you can change the Performance Center system user. For details, see Chapter 17, “Performance Center System User.”
- **Host Security Manager Utility.** Using this utility, you can simultaneously define or update security settings on all the Performance Center hosts. For details, see Chapter 18, “Secure Host Communication.”

11

Performance Center License Information

Performance Center licence key details are provided during the initial Performance Center configuration. You can view and update these details, and add new license keys from the Performance Center Administration Site.

This chapter includes:

- Viewing License Information on page 152
- Updating License Keys on page 156

Viewing License Information

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

To view the License page:

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

License

Performance Center License

User Limit:	15000
Concurrent Runs Limit:	15
Valid:	From 03-Jun-2008 Until 05-Feb-2009
License Key:	AICCBECN-AABWKFABCD-AMIADMJBUGB-FCAAD

Host License

License Keys	License Key Information					
<ul style="list-style-type: none"> <li style="background-color: #e0e0e0; padding: 2px;">Summary <li style="padding: 2px;">LicenseKey1 	License Key: License Type: License Validity:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">User Types</th> <th style="width: 50%;">Monitors & Modules</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Global</td> <td style="padding: 2px;"> <ul style="list-style-type: none"> <li style="background-color: #e0e0e0; padding: 2px;">All Monitors <li style="padding: 2px;">WAN Emulation <li style="padding: 2px;">J2EE Diagnostics Module <li style="padding: 2px;">Tuning Module <li style="padding: 2px;">Siebel Breakdown <li style="padding: 2px;">Oracle DB Breakdown <li style="padding: 2px;">Siebel DB Breakdown </td> </tr> </tbody> </table>	User Types	Monitors & Modules	Global	<ul style="list-style-type: none"> <li style="background-color: #e0e0e0; padding: 2px;">All Monitors <li style="padding: 2px;">WAN Emulation <li style="padding: 2px;">J2EE Diagnostics Module <li style="padding: 2px;">Tuning Module <li style="padding: 2px;">Siebel Breakdown <li style="padding: 2px;">Oracle DB Breakdown <li style="padding: 2px;">Siebel DB Breakdown
User Types	Monitors & Modules					
Global	<ul style="list-style-type: none"> <li style="background-color: #e0e0e0; padding: 2px;">All Monitors <li style="padding: 2px;">WAN Emulation <li style="padding: 2px;">J2EE Diagnostics Module <li style="padding: 2px;">Tuning Module <li style="padding: 2px;">Siebel Breakdown <li style="padding: 2px;">Oracle DB Breakdown <li style="padding: 2px;">Siebel DB Breakdown 					
Monitors included: Transaction Breakdown Monitor Resource Monitor Network Delay Monitor						

Performance Center License Details

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 limit.
- **Concurrent Runs Limit.** The maximum number of concurrent load test runs allowed within a project.
- **Valid.** The time validity of the license key.
- **License Key.** The Performance Center license key.

Performance Center License Types

There are two Performance Center license types:

License Type	Description
Regular	The license is limited by time and by the total number of concurrent runs and Vusers.
VUD-based	<p>The 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.</p> <p>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.</p> <p>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.</p>

Host License Details

The **Host License** allows you to access the Vuser protocols and server monitors that are available for the specified host license key. The following details are available:

- **License Keys.** Displays the available license keys. **Summary** displays a summary of all the available host license keys.
 - **License Key Information**
 - **License Key.** The host license key.
 - **License Type.** Displays the type of license available for the license key you selected. The following types of licenses are available:

License Type	Description
Permanent	The license never expires
Time Limited	The license is limited by a start date and an expiration date
Temporary	The license is granted for a predefined number of days after product installation
Plugged	The license requires a dongle

- **License Validity.** Displays the time limitation of the selected license key.

- ▶ **Vuser Types.** Displays a list of Vuser protocols available for the selected license key, or a list of protocol bundles for the new licensing implementation.

Vuser Type	Description
<bundle type> Bundle	Each bundle contains a collection of protocols. When you select a protocol bundle, the dialog box displays a list of included protocols.
Global	The global license lets you run all Vuser types, provided you stay within the global or total limit. The number following Global indicates the total number of Vusers purchased.

- ▶ **Monitors & Modules.** Displays the online monitors available for the selected license key, and the modules included in the license, for example, Diagnostics for J2EE/.NET. If **All Monitors** is displayed in the list, it means that your license enables you to work with all the Controller online monitors. When you select **All Monitors**, the dialog displays a list of included monitors.

Updating License Keys

You can update the details of the Performance Center and Host license keys from the License page.

To update the license key:

- 1 On the Performance Center Administration Site left menu, select **System Configuration > License**. The License page opens.
- 2 Under the relevant license details, click **Set New License**. The Set License dialog box opens.
- 3 Enter the new license key, and click **OK**.

Performance Center checks the validity of the license key and closes the dialog box. To verify that the set license action was successful, refer to the log at the bottom of the page.

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 includes:

- ▶ Viewing General Settings on page 158

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		
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		Specifies the maximum number of

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 193.
- ▶ **Performance Center Installation Name.** (Optional) Specifies the name of the Performance Center installation.
- ▶ **WAN Emulation settings.** Specifies hosts to be excluded from WAN Emulation. Enter the IP address of the machine you want to exclude from WAN Emulation. We recommends that you not type the name of the machine as that may lead to unexpected behavior. The number of IP addresses that you can enter may be limited by the 3rd party software.

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 300. Select **Enable** to enable use of target IPs (default) or select **Disable** to disable their use.
- ▶ **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.
- ▶ **Delete Temporary Results.** Enables automatic deletion of temporary result files from the load generator and controller after a successful collation and/or analysis. This option is selected by default.

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 includes:

- ▶ About Server Configuration on page 161
- ▶ Viewing and Editing Server Configuration Information on page 162

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.

The first time you log on to the Administration Site, you are automatically redirected to this page.

Viewing and Editing Server Configuration Information

You can view and edit server configuration information at any time from the Server Configuration page.

Note: To perform server configuration, the Performance Center system user must have administrative privileges.

To view and edit server configuration information:

- 1 On the Performance Center left menu, select **System Configuration > Server Configuration**. The Server Configuration page opens. The first time you log on to the Administration Site, you are automatically redirected to this page.

The screenshot shows the 'Server Configuration' page with the following fields and controls:

- * Database:** Text field containing 'labm1td20.devlab.ad' (read-only).
- * File Server:** Text field containing 'labm1td20.devlab.ad' (read-only).
- * Utility Server:** Empty text field.
- Test Connection:** Button.
- User site Servers:**
 - * Name:** Section header.
 - Name:** Three empty text fields.
- SiteScope Configuration:**
 - SiteScope Server:** Empty text field.
 - SiteScope Port:** Empty text field.
 - Use HTTPS:**
 - Use Account:**
 - Account:** Empty text field.
- * required fields** (legend)
- Reset** and **Save** buttons.

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

You can click **Test Connection** to test the connection to the database.

Important: For all servers that you specify in the following steps, it is recommended to provide the **name** of the machine, rather than the IP address.

- 2** In the **Utility Server** box, enter the name of the Utility Server machine.
- 3** In the **User Site Servers** section, in the first **Name** box, enter the name of the User Site server machine.

If you want to balance the load on your Performance Center system, you can enter the name of additional User Site servers in the remaining **Name** boxes.

- 4** If you want use SiteScope to monitor your Performance Center resources, enter the relevant values for the SiteScope server.
 - **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.** By default, Performance Center connects to SiteScope using the default SiteScope Administrator user. If the default SiteScope Administrator password was changed, or if you want to connect using a different SiteScope user, select this option. Enter the account name, and the user name and password defined to log in to the relevant SiteScope account.

Note: The administrator account name is **administrator**. For details about how to identify other SiteScope account names, see “Identifying the SiteScope Account Name” on page 164.

- 5** Click **Save** to save the server configuration settings.

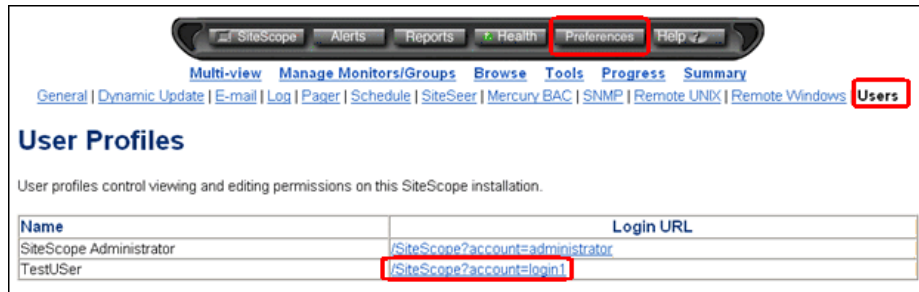
To update the server connections, click **Reset**.

Identifying the SiteScope Account Name

This section describes how to identify the SiteScope account name for a particular SiteScope user.

To identify a SiteScope account name:

- 1 Log on to SiteScope as follows: <SiteScope server>:8888/sitescope.
- 2 Click the **Preferences** button, and then select the **Users** link.



- 3 The User Profiles page shows a table that displays the Login URL associated with each user name. Inside the Login URL you can identify the account name. In the above example, the account name for the user, **TestUser** is **login1**.

14

Configuring Diagnostics

You configure and view HP Diagnostics from the System Configuration pages of the Performance Center Administration Site.

This chapter includes:

- ▶ Setting Up Diagnostics Modules on page 166
- ▶ Configuring ERP/CRM Mediators on page 167
- ▶ Setting Up the HP Diagnostics (J2EE & .NET) Environment on page 169

Setting Up 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 167.

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 169.

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 3, “Managing MI Listeners.”

Note: MSXML 3.0 (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
<input type="checkbox"/>	superman	No	

Delete
Test
Add Mediator...

Setting J2EE/.Net Environment

J2EE/.Net Diagnostics Server Name

Server Name:

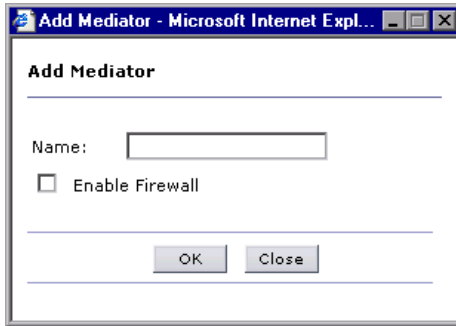
Port Number:

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.



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 “MI Listeners for Monitoring Over a Firewall” on page 84.

- 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 make sure that you have specified Diagnostics Server details on the Diagnostics page in the Performance Center Administration Site.

Adding Diagnostics Servers to Performance Center

You can specify any number of Diagnostics Servers in Performance Center.

When you design a Performance Center project to work with HP Diagnostics, you assign one of these Diagnostics Servers to the project. For more information see “Managing Performance Center Projects” on page 298.

To add the details of a Diagnostics Server:

- 1 On the Performance Center left menu, select **System Configuration > Diagnostics**. The Diagnostics page opens.
- 2 In the **Setting J2EE/.NET Environment** section near the bottom of the page, click **Add diagnostics server**.
- 3 Type the details for the Diagnostics Server in Commander mode.
 - **Alias.** Provide an alias for the Diagnostics Server.
 - **Host Name.** Type the name of the machine that is host to the Diagnostics Server.

- ▶ **Port Number.** Type the port number used by the Diagnostics Server. The default port number is **2006**.
- ▶ **User Name.** Type the user name with which you log on to HP Diagnostics. The default user name is **admin**.
- ▶ **Password.** Type the password with which you log on to HP Diagnostics. The default password is **admin**.

The user name that you specify should have **view**, **change** and **execute** privileges. For more information about user privileges, see the *HP Diagnostics Installation and Configuration Guide*.

- ▶ **Use SSL.** If Performance Center is communicating with Diagnostics through SSL, select this option.
- 4** Click **OK**. The Diagnostics Server is added to the Diagnostics page.
 - 5** To test the connectivity of the Diagnostics Server, select it in the list and click **Test**. The connectivity status is displayed in the **Status** column.

To edit Diagnostics Server details:

- 1** On the Performance Center left menu, select **System Configuration > Diagnostics**. The Diagnostics page opens.
- 2** In the **Setting J2EE/.NET Environment** section near the bottom of the page, select the Diagnostics Server to edit and click **Edit**.
- 3** Edit the details and click **OK**.
- 4** To test the connectivity of the Diagnostics Server, select it in the list and click **Test**. The connectivity status is displayed in the **Status** column.

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 includes:

- ▶ LDAP Server Authentication on page 172
- ▶ SSO Server Authentication on page 177
- ▶ Restoring Default Performance Center Server Authentication on page 185

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.

Make sure that there is a 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 “Creating Users” on page 270.

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, type the LDAP user credentials.

To configure Performance Center to use LDAP server authentication:

- 1** On the Performance Center left menu, select **System Configuration > Server Authentication**. The Server Authentication 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.

- 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 173.
 - 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 “Creating Users” on page 270. 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
/Admin/Include/ASPXSessionBridge	HTML Form Template	Unprotected
/Admin/General/ASPNetBridge	HTML Form Template	Unprotected
/Admin/Include/SetSession	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
/Loadtest/Include/ASPXSessionBridge	HTML Form Template	Unprotected
/Loadtest/General/ASPNetBridge	HTML Form Template	Unprotected
/Loadtest/Include/SetSession	HTML Form Template	Unprotected

- 5** In the **LogoffURI** field, type the URL to which to direct the browser when logging off Performance Center. Type the URL as follows:
- ▶ If all the SSO system servers are set up with a specified logoff URL, type 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, type `SSOLogoutPage.asp`.
 - ▶ If the Administration and User sites are installed on the same server, then in the **LogoffURI** field, type:

```
/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** Type 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 type the SSO authentication credentials again.

- 3** Log on to the Performance Center Administration site using the Performance Center user's login credentials.
 - 4** Make sure 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 “Creating Users” on page 270.

- 5 On the Performance Center left menu, select **System Configuration > Server Authentication**. The Server Authentication page opens.
- 6 Scroll down the page, and select **SSO Server Authentication**.
- 7 In the **Login Parameter** box, type the HTTP header that contains the user's mapping key (see step 9 below).
- 8 In the **Logout URL** box, type the URL to which to direct the browser when logging off Performance Center. Type the URL as follows.
 - ▶ If all the SSO system servers are set up with a specified logoff URL, in the **Logout URL** box type 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 type the default logoff URL, **SSOLogoutPage.asp**.
 - ▶ If the Administration and User sites are on the same server, in the **Logout URL** box type

```
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, type 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 185.

- ▶ **Local PC Custom Field.** Type 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), type 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 “Creating Users” on page 270.

Important:

- ▶ If, when defining the SSO Server Authentication details above, you selected **Map users according to user's login name**, type the exact SSO user (login) name into new Performance Center user's **User Name** box.
- ▶ If, when defining the SSO Server Authentication 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 type 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), type 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 Server Authentication page.

To revert back to the default server authentication:

- 1** On the Performance Center left menu, select **System Configuration > Server Authentication**.
- 2** Select **PC Server Authentication**, and click Save.

Note: Reverting back to the default Performance Center server authentication through the Server Authentication 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\PCAuthenticiationModeUtility.exe** to a local drive on your computer.
- 2 Run **PCAuthenticiationModeUtility.exe** from the local drive.
The Restore Default Authentication Method utility opens.
- 3 Type the Database Server name.
- 4 Type the type of Database Server—**MS-SQL** or **Oracle**.
- 5 Type the Database Server login credentials. You can accept the default credentials, or type customized credentials.

To customize the Database Server login credentials, select **Customized Database Login**, and type 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.

Alerts Configuration

Performance Center uses e-mail alerts to let you know when certain events occur. 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 suppose to run is not running. Specify the frequency that alerts should be sent when an event is detected, and the addresses where the alert is to be sent.

Alert Frequency

Once

Every time(s) that event occurs

Each time that event occurs

Never

Initial Alert Trigger

Trigger alert after event occurred time(s)

E-mail Account Configuration

Alert E-mail Addresses: (separate multiple addresses with commas)

Mail Server Domain Name:

Backup Mail Server Domain Name:

From E-mail Address:

Administrator Status Reports

Administrator E-mail Address:

SiteScope Status Report: Daily Status SiteScope Starts/Restarts

To enable alerts configuration you have to define SiteScope server.

- 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 **Email Account Configuration**, type the following information:
 - **Alert Email Address.** Type the email addresses where the alert is to be sent. You can type 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 Email Address.** Type the email address from where the alert is generated.
- 5** Under **Administrator Status Reports**, type the following information:
 - **Administrator Email 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

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 includes:

- About Performance Center System User on page 192
- Changing the System User on page 193
- Verifying System User on Administration Site Server on page 198
- Checking Host Status on page 201
- Remote Performance Center Server and Host Administration on page 202

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 on 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 Chapter 35, “Troubleshooting System Identity.”

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.

Important Notes

Before changing the system user or user password, take into account the following:

General

- ▶ The instructions described in this section are for Windows 2000. Similar instructions apply to other versions of Windows but the paths may differ slightly.
- ▶ When changing the system user, Performance Center must be down. That is, all users must be logged off the system and no load tests may be running.

Changing User Password

When changing the user password:

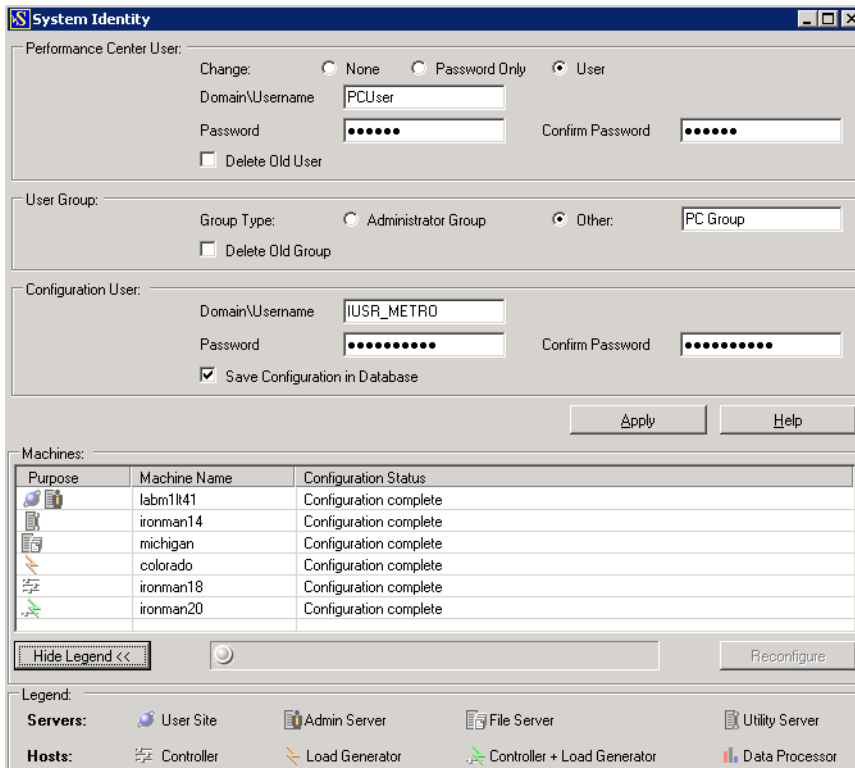
- ▶ Ensure that each host is listed in the Machines table under **one alias only**.
- ▶ In the case of a domain user, when the domain IT team notifies you that the password is to be changed, you need to temporarily change the Performance Center system user on all the servers and hosts to a different 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 Ensure that all users are be logged off the system and no load tests are running.
- 2 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.



3 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. See notes in "Changing User Password" on page 193.
 - **User.** Select this option to change the Performance Center system user.
- b** Enter the details relevant 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.

4 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 6.

5 If you are creating a non-administrative 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 192).

If you selected **Delete Old User** to delete the old system user (see step 3 above), ensure that the Configuration user you are configuring is not the same as the user you are deleting. Alternatively, do not delete the old user.

- 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.

- 6** 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 utility 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.”

- 7** 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.

- 8** Verify that the system user was changed on the Administrator Site server as described in “Verifying System User on Administration Site Server” on page 198.
- 9** If you changed the system user’s password:

- a** Check the status of all the servers. For details, see “Checking Servers” on page 112.



If a red cross is displayed in the **File Server** column of a server, reboot the server. For details, see “Rebooting Servers” on page 107.

- b** Check the status of all the hosts. For details, see “Checking Host Status” on page 201.

If a red cross is displayed in the **File Server** column of a host, reboot the host. For details, see “Rebooting Hosts” on page 65.

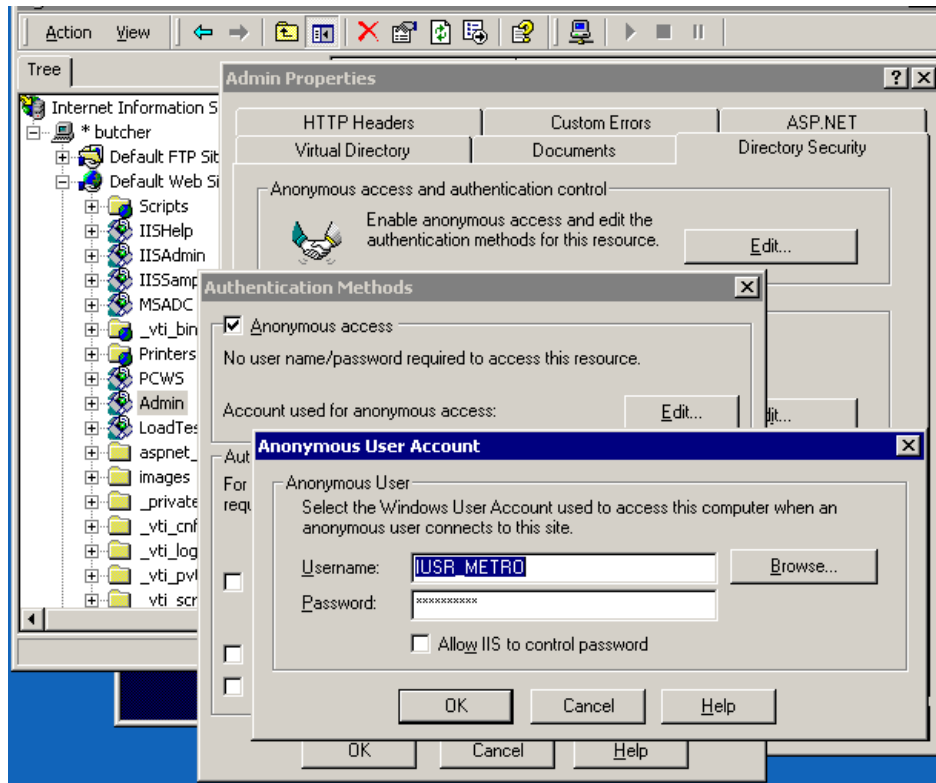
Verifying System User on Administration Site Server

After changing the system user using the System Identity utility, verify that the system user was changed on the Administrator Site server.

To verify the system user:

- 1** Open Internet Information Service Manager.
- 2** In the Admin directory, verify that Account used for anonymous access is the Performance Center user as follows:
 - a** Under **Default Web Site**, right-click **Admin** and select **Properties**.
 - b** In the **Directory Security** tab, under **Anonymous access and authentication control**, click **Edit**.
 - c** Select **Anonymous access** and next to **Account used for anonymous access**, click **Edit**.

- d Verify that the Performance Center system user appears. If not, enter the Performance Center system user details.



- e Click **OK** to close each of the open dialog boxes.

- 3 If the User Site is installed on the Admin Site server, in the LoadTest directory, verify that Account used for anonymous access is the Performance Center user.

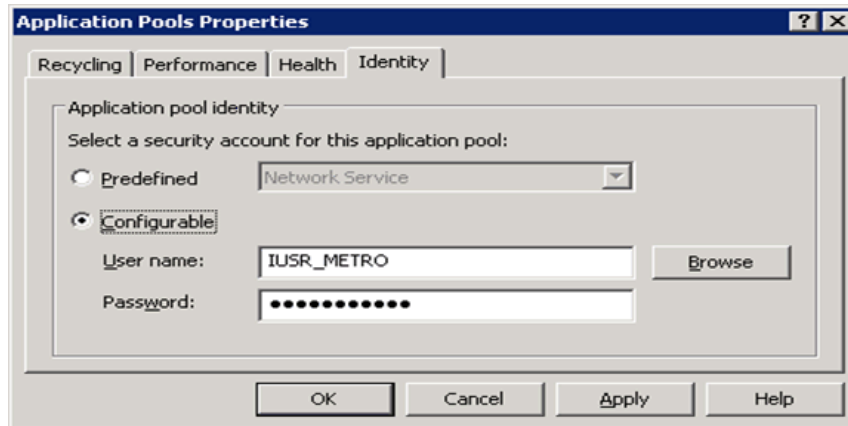
Repeat step 2 above in the **LoadTest** directory instead of the **Admin** directory.

4 (IIS 6.0 only) Check that the application pool identity is the Performance Center user.

- a** Under **Application pool**, for each application pool in the table below, right-click the application pool and select **Properties**.

Performance Center Machine	Application Pool
Administration Site server	AdminAppPool; PCWSAppPool
User Site is on Administration Site server	DefaultAppPool

- b** In the **Identity** tab, under **Configurable**, ensure that Performance Center user details are defined. If not, enter the Performance Center user details.



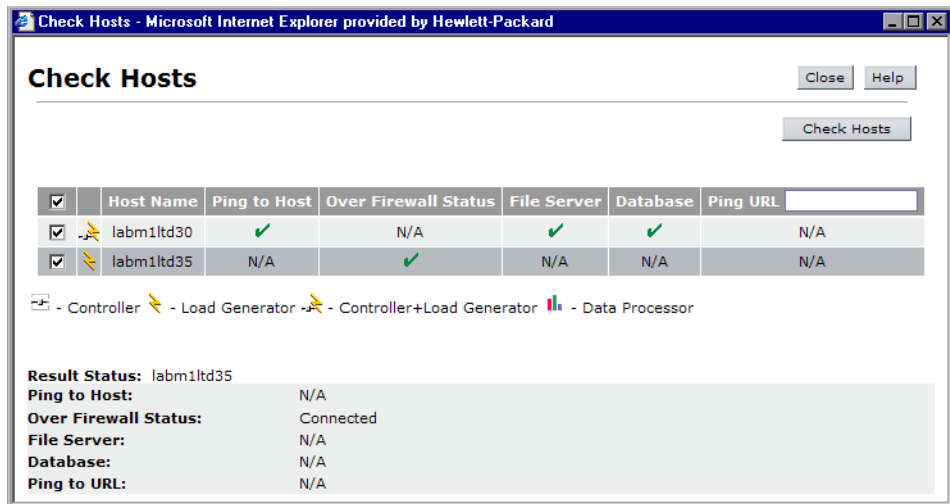
- c** Click **OK**.

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 On 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.

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 5 of “Changing the System User” on page 193)

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 5 of “Changing the System User” on page 193.

18

Secure Host Communication

The need to secure communication channels from hackers attacking the corporate networks is critical. The ability to secure communication channels ensures confidentiality, integrity, and the user's authenticity within the scope of the load testing application.

Since load generators and Controllers serve so many projects, it is essential that the channels between Controllers and load generators remain opaque to all machines except for the Controllers and load generators participating in running load tests or collating load test run data after a load test run.

This chapter includes:

- ▶ Communication Between Hosts on page 206
- ▶ Configuring Host Security Settings on page 207
- ▶ Local Security Configuration on page 208
- ▶ Remote Security Configuration on page 210
- ▶ Host Security Best Practices on page 221
- ▶ Troubleshooting Secure Host Communication on page 221

Communication Between Hosts

Secure communication is established between hosts (Controller or load generator) using a **security key**. Each host in the system must be set up with the same security key.

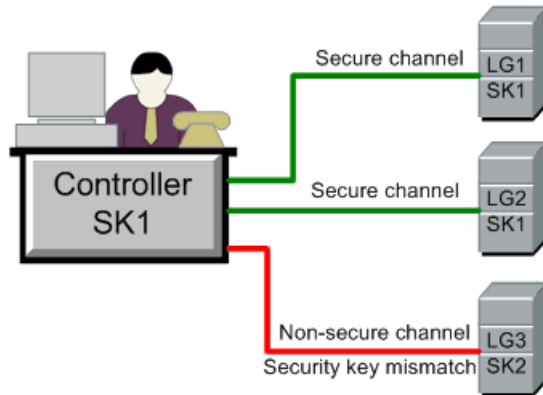
A host is in **secure mode** when it has a security key and security is enforced.

A host is in **non-secure mode** when:

- has no security key
- has a security key but allows non-secure communication

If a host is in secure mode and it tries to communicate with a host in non-secure mode, security is automatically enforced on the non-secure host—assuming their security keys match—allowing secure communication to be established.

If security keys on the hosts do not match, secure communication cannot be established.



Note:

- ▶ When you run a load test, if secure communication cannot be established between a host (Controller or load generator) in secure mode and another host participating in the load test, the load test cannot run.
- ▶ By definition, hosts in non-secure mode can communicate with each other and participate in load test runs over non-secure channels.

This can be summarized in the following table:

	Both Hosts in Secure Mode	Security Mode on Hosts Differ	Both Hosts in Non-Secure Mode
Security keys match	Load test runs over secure channel	Load test runs over secure channel	Load test runs over non-secure channel
Security keys do not match	Load test does not run	Load test does not run	Load test runs over non-secure channel

Configuring Host Security Settings

When you install the hosts (Controllers and load generators), by default no security settings are defined, and communication channels between hosts are not secure. In order to enforce secure communication between the hosts, you must configure security settings on each host machine immediately after installing the hosts.

HP Host Security Manager is a utility installed on the Administration Site server that enables you to configure security settings simultaneously across all the hosts in the LoadRunner / Performance Center system.

In the case of **initial security configuration**, to avoid configuring security settings over non-secure channels, we recommend configuring the security settings on each host locally using the Host Security Setup utility (see “Local Security Configuration” on page 208).

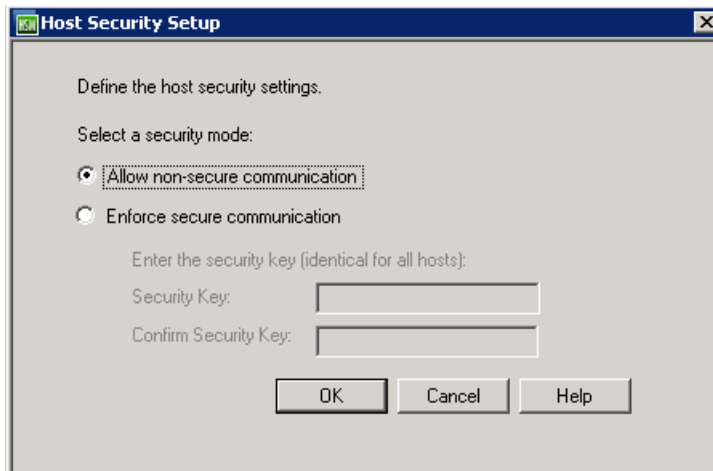
After initial security configuration, you can update security settings locally or simultaneously across all the hosts in the LoadRunner / Performance Center system from a remote location using the Host Security Manager. For details, see “Remote Security Configuration” on page 210.

Local Security Configuration

You can update a host’s security settings manually using the Host Security Setup utility.

To update the security settings manually (Windows):

- 1 Launch the Host Security Setup utility on the host machine:
 - **Performance Center users:** Select **Start > Programs > Performance Center > Tools > Host Security Setup**.
 - **LoadRunner users:** Select **Start > Programs > LoadRunner > Tools > Host Security Setup**.



- 2 Select a security mode for the host:
 - **Allow non-secure communication.** Allows the host to communicate with other machines over a non-secure channel. (Default)
 - **Enforce secure communication.** Enforces the host to communicate with other machines over a secure channel.

- 3 If you selected **Enforce secure communication**, you must provide the host with a security key. This security key must match the security key on other machines with which it needs to communicate.

In the **Security Key** box, enter the host security key. The key must be 6 - 16 characters long.

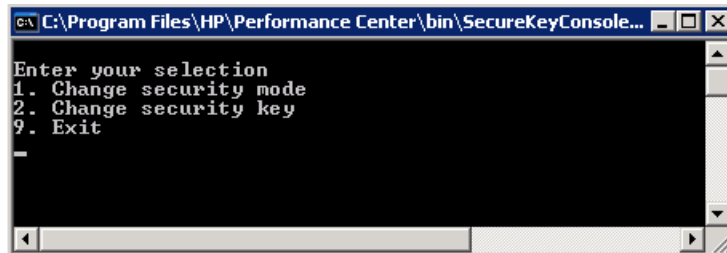
- 4 Enter the key a second time for confirmation.
- 5 Click **OK** to save the security settings and close the utility.

To update the security settings manually (UNIX):

- 1 Log in as root user and change for tcsh.
- 2 Go to the `/opt/HP/HP_LoadGenerator` directory and type:

```
>source ./env.csh
```

- 3 Run **SecurityKeyConsole.exe**, located in `<Installation_folder>/bin/` directory.



- 4 In the Console window, enter an option as follows:
 - To change the security mode, enter 1.
 - To change the security key, enter 2.
- 5 If you are changing the security mode:
 - To turn the security on, enter 1.
 - To turn the security on, enter 0.
- 6 If you are changing the security key, enter the new key. A valid key is 6 - 16 characters long.

Remote Security Configuration

You can align security settings across all the hosts in the LoadRunner / Performance Center systems simultaneously from a remote location using the **HP Host Security Manager**.

The utility lists all the hosts in the LoadRunner / Performance Center system, as well as the MI Listeners required to connect to the hosts that are over a firewall, where applicable.

Using Host Security Manager, you can update the security key on all the hosts, or update the security mode on selected hosts.

This section includes:

- “Considerations for Updating UNIX Load Generators” on page 210
- “Launching Host Security Manager” on page 211
- “Setting Up the Master Security Key” on page 211
- “Host Security Manager at a Glance” on page 212
- “Adding Hosts to Host Security Manager” on page 213
- “Updating the Host Security Settings” on page 215
- “Update Errors” on page 219
- “Viewing Update History” on page 220

Considerations for Updating UNIX Load Generators

- UNIX load generators that use rsh (remote shell) to connect to the Controller cannot be updated using the Host Security Manager utility. To update security settings on such load generators, use the local Host Security Setup utility. See “Local Security Configuration” for UNIX load generators on page 209.
- To update security settings on a UNIX load generator using Host Security Manager, you must launch the load generator daemon for a user and manually grant write permissions to the user on **<installation folder>/config**.

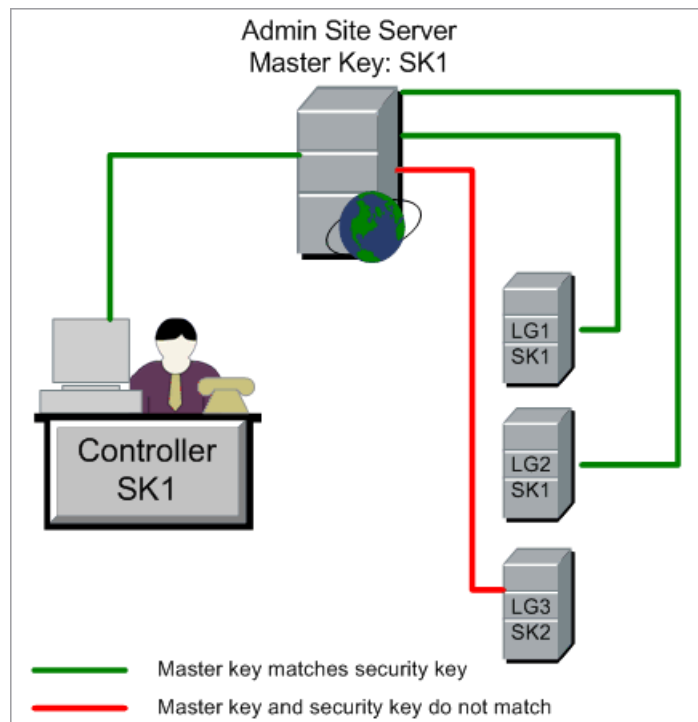
Launching Host Security Manager

- **Performance Center users.** On the Administration Site server, select **Start > Programs > Performance Center > Tools > Host Security Manager**.
- **LoadRunner users.** On the Controller machine, Host Security Manager, select **Start > Programs > LoadRunner > Tools > Host Security Manager**.

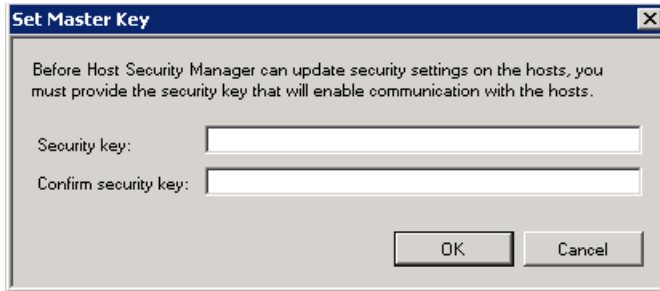
Setting Up the Master Security Key

In order for Host Security Manager to update security settings on the hosts, you must provide it with a key that matches the security key on the hosts.

Host Security Manager stores this key as a master key for communicating securely with the hosts. If the master key and security key on a particular host do not match, Host Security Manager cannot update security settings on that host.



When you open Host Security Manager for the first time, you are prompted for the master key.



If you do not enter the key at this point, or you will be prompted for it again when you try to update the security settings.

Host Security Manager at a Glance

Host Security Manager lists all of the hosts in the load testing system.

Host Name/IP	Host Type	MI Listener	Last Key Update	Key Update Status	Last Security Mode Update	Security Mode Update Status
vmltqa26	Load Generator					
vmltqa20	Controller+Load Gen...					
vmltqa19	Load Generator	dunpero07				
vmltqa18	Controller+Load Gen...					
vmltqa16	Controller+Load Gen...					

The list displays the following information:

Host Name/IP	The name or IP address of the host
Host Type	The type of host: Controller / Load Generator
MI Listener	When the host is over a firewall, the name of the MI Listener through which the host communicates with the other hosts
Last Key Update	The last time the security key was updated
Key Update Status	The status of the last security key update
Last Security Mode Update	The last time the security mode was updated
Security Mode Update Status	The status of the last security mode update

Tip: You can sort the details in ascending or descending order by clicking the heading of the column by which you want to sort. Click the column heading again to reverse the sort order.

Adding Hosts to Host Security Manager

In order for Host Security Manager to communicate with the LoadRunner / Performance Center hosts, you must first import the list of hosts into Host Security Manager.

Note: Every time you use Host Security Manager to update security settings, make sure that the list of hosts is updated, that is hosts that were added to the system must be added to the list of hosts, and those deleted, should be deleted from the list.

Performance Center Users

To add the Performance Center hosts to Host Security Manager, click **Get Performance Center Hosts**. The hosts—and, where relevant, their associated MI Listeners—are imported from the Performance Center database into the utility.

LoadRunner Users

To register a host with Host Security Manager you must:

- Add the host to the list
- For a host over a firewall, provide the name of the MI Listener the host uses to communicate over the firewall

To add a host to Host Security Manager:

- 1** Click **Add Hosts**. The Add Hosts dialog box opens.
- 2** In the **Controller** box, enter the name or IP address of the Controller host.
- 3** In the **Load Generators** box, enter the names or IP addresses of the load generator hosts. You can enter more than one load generator at a time, separated by commas.
- 4** Click **Add**. The hosts are added to the list of hosts, specifying the host type.
- 5** For hosts over a firewall, set the MI Listener as follows:
 - a** Select the host in the list. If other hosts communicate through the same MI Listener, select these hosts as well to set the MI Listener for all of the hosts simultaneously.

Tip: To select multiple hosts, hold down the CTRL key on your keyboard while selecting the relevant hosts.

- b** Click **Set MI Listener**.
- c** In the box that opens, enter the name / IP address of the MI Listener that the host (or hosts) uses to communicate over the firewall.
- d** Click **OK**. The host details are updated with the relevant MI Listener.

To delete a host from Host Security Manager:

- 1 Select the host in the list, and click **Delete**.

Tip: To select multiple hosts, hold down the CTRL key on your keyboard while selecting the relevant hosts.

- 2 Click **Yes** to confirm that you want to delete the host.

The host is removed from the list.

Updating the Host Security Settings

This section describes how to update the host security settings on the LoadRunner / Performance Center systems.

Note: You must provide Host Security Manager with a master security key before you can update the security settings. See “Setting Up the Master Security Key” on page 211.

Updating the Host Security Key

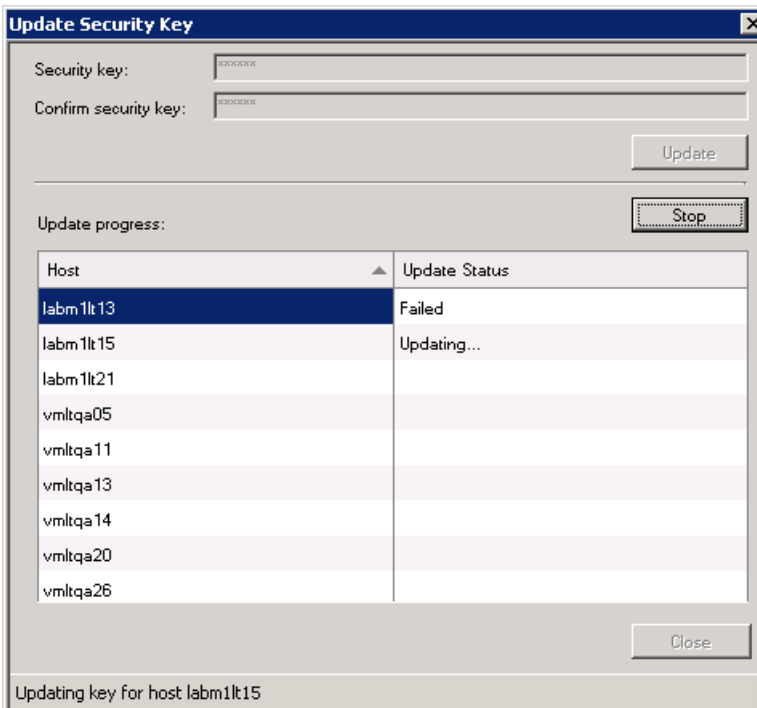
When you update the security key using Host Security Manager, the key is updated on all of the hosts simultaneously. The master key of the Host Security Manager is updated as well.

Note: To update the security key on a single host, use the Host Security Setup utility on that host. For details, see “Local Security Configuration” on page 208.

To update the security key on the hosts:

- 1** Click **Update Security Key**. The Update Security Key dialog box opens listing all of the hosts.
- 2** In the **Security key** box, enter the host security key. The key must be 6 - 16 characters long. Enter the key a second time for confirmation.
- 3** Click **Update**.

Host Security Manager attempts to update the security key on all of the hosts. As it attempts to update each host, it displays the update status, **Updated** or **Failed**, before attempting to update the next host.



If the update was unsuccessful, see “Update Errors” on page 219, for possible reasons.

Note: You can stop the update process by clicking **Stop**.

- 4 When Host Security Manager has finished updating all the hosts, click **Close**.

Host Security Manager displays the time and status of the security key update for each host.

Updating the Host Security Mode

You can update the security mode for selected hosts.

To update the security mode on a host:

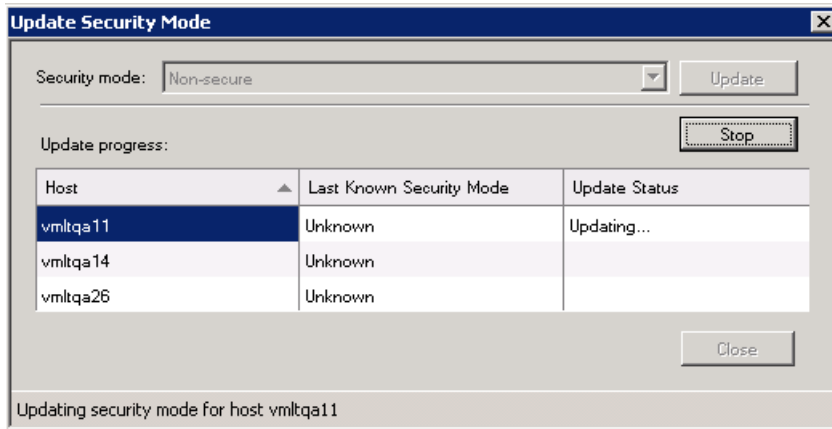
- 1 Select the hosts whose security mode you want to update.

Tip: To select multiple hosts, hold down the CTRL key on your keyboard while selecting the relevant hosts.

- 2 Click **Update Security Mode**. The Update Security Mode dialog box opens, listing the selected hosts.
- 3 In the **Security mode** box, select the security mode with which to update the hosts. The mode can be:
 - **Non-secure**. Allows non-secure communication.
 - **Secure**. Enforces secure communication.

4 Click **Update**.

Host Security Manager attempts to update the security mode on the selected hosts. As it updates each host, it displays the update status, **Updated** or **Failed**, before moving on to the next host.



If the update was unsuccessful, see “Update Errors” on page 219, for possible reasons.

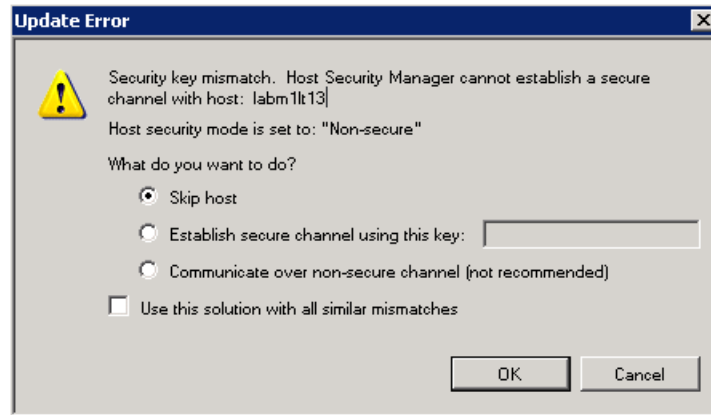
Note: You can stop the update process by clicking **Stop**.

5 When Host Security Manager has finished updating the selected hosts, click **Close**.

Host Security Manager displays the time and status of the security mode update for each host.

Update Errors

When updating security settings, if the master security key in Host Security Manager does not match the security key of the host it is trying to update, the update will not succeed. The following dialog box opens:



Select one of the following options:

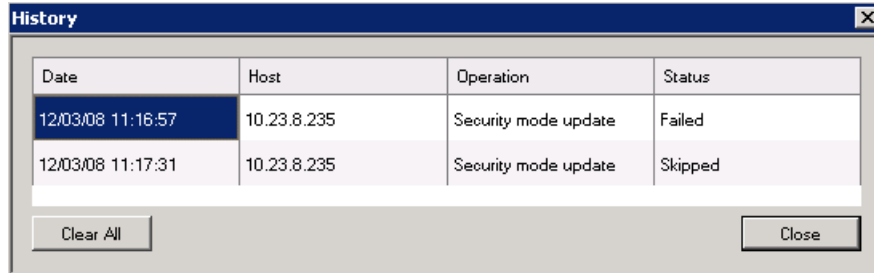
- **Skip host.** Skip updating this host.
- **Establish a secure channel using this key.** Use a different security key to communicate securely with the host.
- **Communicate over non-secure channel.** Update the security setting over a non-secure channel. This option is not recommended, especially when updating the host security to secure mode. You should rather update the security setting locally on the host (see “Local Security Configuration” on page 208).

If you want to apply the selected option to all similar mismatches, select **Use this solution with all similar mismatches**.

Viewing Update History

When you update the host security settings, Host Security Manager logs the details of the update operations in a history log file.

- To view the history of the security setting updates, in the main Host Security Manager window click **History**.



The History window displays the following information:

Date	The date on which the update operation was performed
Host	The host (name/IP address) on which the update operation was performed
Operation	The update operation that was performed
Status	The status of the update operation

Tip: You can sort the details in ascending or descending order by clicking the heading of the column by which you want to sort. Click the column heading again to reverse the sort order.

- To clear the History log, in the History window click **Clear All**.
- To close the History log, in the History window click **Close**.

Host Security Best Practices

- To avoid sending security settings over a non-secure channel, perform **initial configuration** of the security settings on each host locally using the Host Security Setup utility (see “Local Security Configuration” on page 208).
- Security settings should be changed once a month.
- Security settings can be updated:
 - Manually on each host, using the Host Security Setup utility
 - Remotely on all hosts simultaneously, using the Host Security Manager utility.

If, when using the Host Security Manager utility, updating a host’s settings fails, update the settings manually using the Host Security Setup utility on that particular host machine.

Troubleshooting Secure Host Communication

This section provides troubleshooting for problems that occur when using secure host communication.

This section includes:

- “Cannot Run Load Test Over Secure Channels” on page 222
- “Load Test Run Fails. Load Generator Status is Changed to Resource Failure” on page 222
- “When Opening Host Security Manager Get Unhandled Exception (Performance Center Only)” on page 222

Cannot Run Load Test Over Secure Channels

Problem description: When you try to run a load test over secure channels, the load test cannot initialize because cannot connect to Controller or load generator.

Troubleshooting

Verify that the load test cannot run due to a security mismatch by trying to run the same load test with the same hosts from a local Controller.

If a Security Key Mismatch error is displayed in the error log, then the keys do not match, and you need to align the security keys on all the machines.

Load Test Run Fails. Load Generator Status is Changed to Resource Failure

Problem description: When trying to run a load test over secure channels, the load test fails to run and the load generator status changes to **Resource Failure**.

Troubleshooting

When trying to run a load test over secure channels, if the security keys on the Controller and load generator do not match the load test run fails, and the status of the load generators changes to **Resource Failure**. To re-enable the load generators, you must manually reset the status on each affected load generator to Operational.

When Opening Host Security Manager Get Unhandled Exception (Performance Center Only)

Problem description: On the Administration Site server, when you open Host Security Manager for the first time, a message displays the following exception: **Unhandled exception has occurred...**

Troubleshooting

Click **Continue** to close the message window.

Part V

Performance Center Reports

19

Understanding Performance Center Reports

The Reports section of the Administration Site provides you with an overall analysis of Performance Center site users, resource usage, concurrent resource usage vs. license limitations, timeslot usage, as well as resource usage by duration and runs.

This chapter includes:

- ▶ About Reports on page 225
- ▶ Working With Reports on page 226

About Reports

- ▶ The Site Users Report provides detailed user information, including the projects that each user can access, user privilege levels, user status, and user expiration dates. For more information, see Chapter 20, “Site Users Report.”
- ▶ The Resource Summary Report provides aggregate data regarding the way projects used the various resources of the system. For more information, see Chapter 21, “Resource Summary Report.”
- ▶ The Concurrency vs. License Report provides details of concurrent resource usage per project, as well as information regarding how resources were used within license limitations. For more information, see Chapter 22, “Concurrency vs. License Report.”
- ▶ The Timeslot Usage Report provides information about the reservation and usage of resources associated with timeslots. For more information, see Chapter 23, “Timeslot Usage Report.”

- ▶ The Resource by Duration Report provides details of resource usage on a per-project or per-user basis, measured over time. For more information, see Chapter 24, “Resource by Duration Report.”
- ▶ The Resource by Runs Report provides aggregate details of runs on a per-project or per-user basis. For more information, see Chapter 25, “Resource by Runs Report.”

Working With Reports

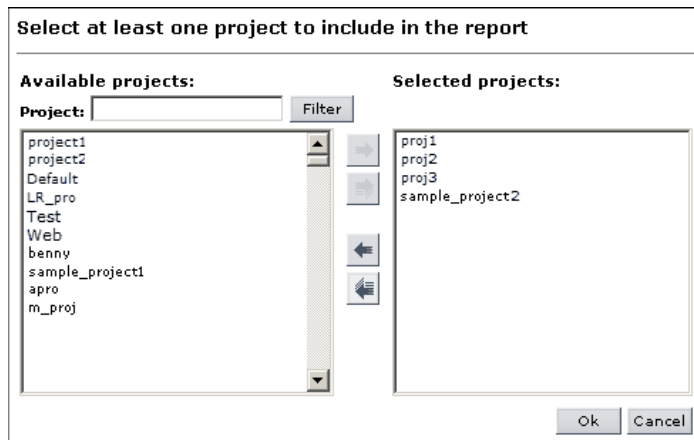
This section describes working with the Performance Center reports.

Setting Report Filter Criteria

In order to display a report, you must first set the filter criteria. The filter criteria define which projects are to be included in the report and over which time frame to display results.

To set the filter criteria:

- 1 Click the browse button adjacent to the **Projects** box. The project selection dialog box opens.



The dialog box displays a list of available projects. By default, all the projects are selected. You can filter the list using the filter box above the list. The filter supports partial text entries.

- 2 Use the arrow buttons to select single or multiple projects from the list. To select or deselect all the projects simultaneously, you click the double arrow buttons.



Note: You must select at least one project to generate a report.

- 3 Select the desired time frame from the **Time Frame** drop down list. In addition to the given options, you can set a custom time frame.

Note: The time frames are as follows:

- ▶ **Today.** From 00.00 to 23.59 of the current day.
 - ▶ **Yesterday.** From 00.00 to 23.59 of the previous day.
 - ▶ **This week.** From Monday to Sunday of the current week.
 - ▶ **Previous week.** From Monday to Sunday of the previous week.
 - ▶ **This month.** From beginning to end of the current calendar month
 - ▶ **Previous month.** From beginning to end of the previous calendar month.
 - ▶ **This quarter.** The current quarter.
 - ▶ **Previous quarter.** The previous quarter.
 - ▶ **This year.** From January to December of the current year.
 - ▶ **Previous year.** From January to December of the previous year.
-

- 4 Click **Generate**. The report displays the information for the selected projects and time frame.

Note: The project and time range filters do not appear in the Site Users Report.

Exporting Reports

You can export the reports to PDF, or to editable Excel files.



- To export a report to a PDF file, click the Export to PDF icon in the upper right corner of the report.



- To export a report to an editable Excel file, click the Export to Excel icon in the upper right corner of the report.

20

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.

This chapter includes:

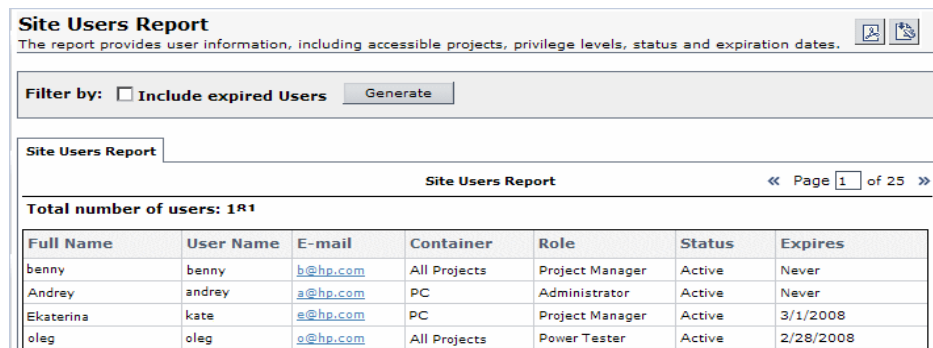
- Understanding the Site Users Report on page 229
- Exporting the Report on page 230

Understanding the Site Users Report

The Site Users Report displays information for the total number of users in the Performance Center system.

To open the Site Users Report:

On the Performance Center left menu, select **Reports > Site Users**. The Site Users Report opens.



The screenshot shows the 'Site Users Report' interface. At the top, there is a title 'Site Users Report' and a subtitle 'The report provides user information, including accessible projects, privilege levels, status and expiration dates.' Below this is a filter section with a checkbox for 'Include expired Users' and a 'Generate' button. The main content area shows 'Site Users Report' and 'Page 1 of 25'. Below that, it states 'Total number of users: 181'. A table follows with columns for Full Name, User Name, E-mail, Container, Role, Status, and Expires. The table contains four rows of user data.

Full Name	User Name	E-mail	Container	Role	Status	Expires
benny	benny	b@hp.com	All Projects	Project Manager	Active	Never
Andrey	andrey	a@hp.com	PC	Administrator	Active	Never
Ekaterina	kate	e@hp.com	PC	Project Manager	Active	3/1/2008
oleg	oleg	o@hp.com	All Projects	Power Tester	Active	2/28/2008

Select the **Include expired Users** check box to include expired, as well as current users in the report. Then click **Generate** to update the report.

The Site Users report displays the following information:

- **Full Name.** The user's real name.
- **User Name.** The user's Performance Center user name.
- **Email.** The users email address.
- **Container.** The container the user is assigned to. For more information on Containers, see Chapter 30, "Privilege Management."
- **Role.** The roles required of the user in it's container. For more information on Roles, see Chapter 30, "Privilege Management."
- **Status.** The status of the user in the Performance Center system. The status can be **Locked**, **Active** or **Not Active**. A user with a **Not Active** status cannot log on to the system. For information on changing a user's status, see Chapter 26, "Introducing User Management."
- **Expires.** The user's account expiration date.

Note: Users that have been assigned more than one role or container appear more than once in the Site Users Report. Each role/container combination is shown as a separate entry.

Sorting Results

You can sort the Site Users Report according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. Click the column heading to reverse the order.

Exporting the Report

You can export the Site Users Report to a PDF, or to an editable Excel file. For more information, see "Exporting Reports" on page 228.

21

Resource Summary Report

The Resource Summary Report provides aggregate data regarding the way projects used the various resources of the system. You access the Resource Summary Report from the Performance Center left menu (**Reports > Resource Summary**).

This chapter includes:

- ▶ Resource Usage by Project Table on page 232
- ▶ Top Projects by Machines Graph on page 233
- ▶ Top Projects by Runs Graph on page 234
- ▶ Top Projects by Vusers Graph on page 235
- ▶ Exporting the Report on page 235

Resource Usage by Project Table

The Resource Usage by Project table provides information about resource usage information for each selected project.

On the Resource Summary Report page, you click the **Resource Usage by Project** tab. The Resource Usage by Project table is displayed.

Resource Usage by Project						
Project	(x = Deleted project)	Tests	Runs	Vusers	Machines	Duration [hrs:mins]
sample_project1		12	46	18289	72	76:42
sample_project2		4	43	335	34	6:22
e_project		9	32	557	48	15:38
r-pro		16	37	261	31	32:08
v_proj		3	7	110	5	2:05

The table displays the following information:

- **Project.** The project name. Deleted projects are also included in the report.
- **Tests.** The number of load tests in the project.
- **Runs.** The total number of test runs in the project, aggregated over all the tests.
- **Vusers.** The total number of Vusers in the project, aggregated over all the runs.
- **Machines.** The total number of machines that were used in the project, aggregated over all the runs.
- **Duration.** The total time tests were run in the project.

Sorting Results

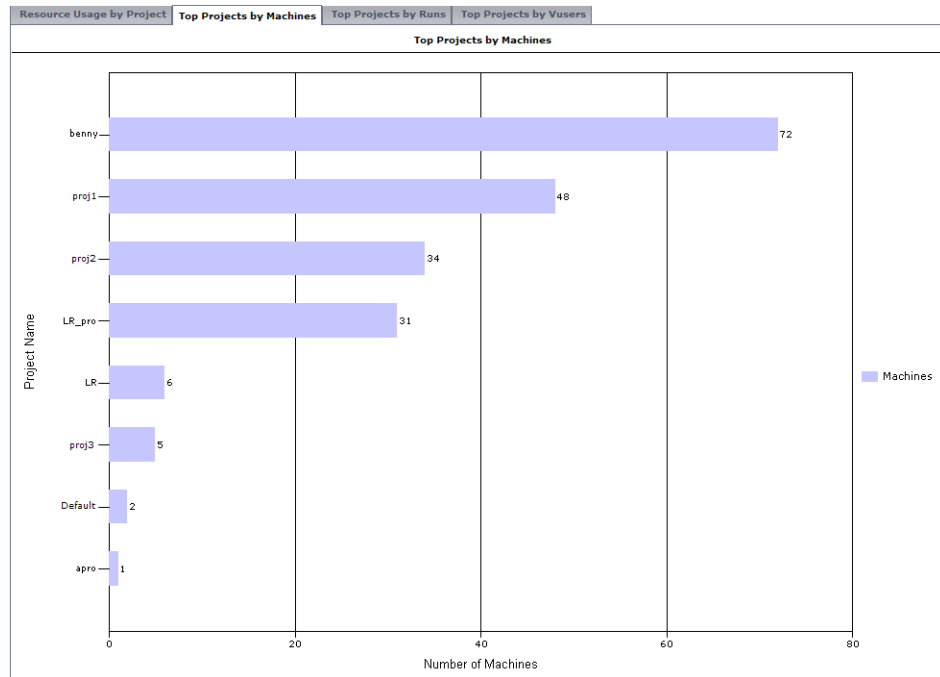
You can sort the Resource Usage by Project table according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. Click the column heading to reverse the order.

Top Projects by Machines Graph

The Top Projects by Machines graph displays the number of machines used per project, aggregated over all the runs.

In most circumstances, the graph displays information for up to ten selected projects. If there is more than one selected project with the same number of machines, all these projects are displayed. In that case, more than ten projects might be displayed.

On the Resource Summary Report page, you click the **Top Projects by Machines** tab. The Top Projects by Machines graph is displayed.

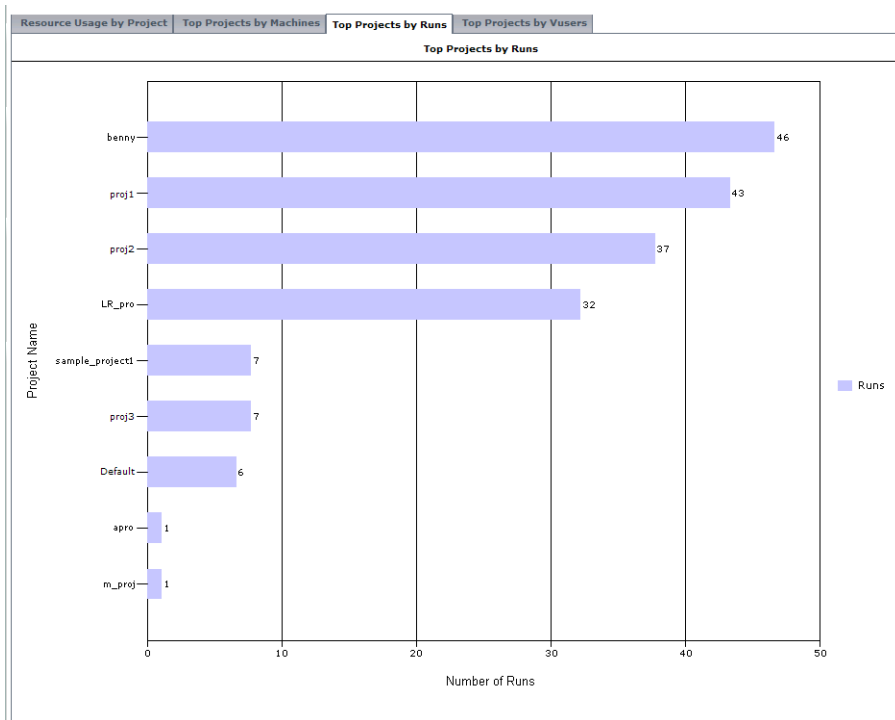


Top Projects by Runs Graph

The Top Projects by Runs graph displays the number of test runs per project.

In most circumstances, the graph displays information for up to ten selected projects. If there is more than one selected project with the same number of test runs, all these projects are displayed. In that case, more than ten projects might be displayed.

On the Resource Summary Report page, you click the **Top Projects by Runs** tab. The Top Projects by Runs graph is displayed.

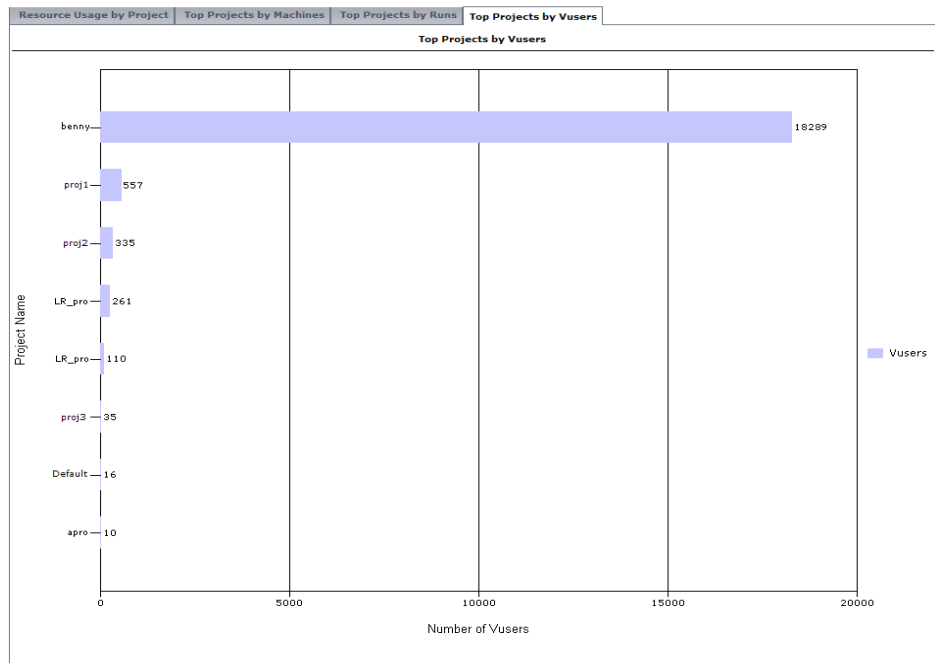


Top Projects by Vusers Graph

The Top Projects by Vusers graph displays the number of Vusers per project, aggregated over all the runs.

In most circumstances, the graph displays information for up to ten selected projects. If there is more than one selected project with the same number of Vusers, all these projects are displayed. In that case, more than ten projects might be displayed.

On the Resource Summary Report page, you click the **Top Projects by Vusers** tab. The Top Projects by Vusers graph is displayed.



Exporting the Report

You can export the Resource Summary Report to a PDF, or to an editable Excel file. For more information, see “Exporting Reports” on page 228.

22

Concurrency vs. License Report

The Concurrency vs. License Report provides details of concurrent resource usage per project, as well as information regarding how system resources were used within license limitations. You access the Concurrency vs. License Report from the Performance Center left menu (**Reports > Concurrency vs. License**).

This chapter includes:

- ▶ Concurrency by Project Table on page 238
- ▶ Overall Concurrency Table on page 240
- ▶ Overall License Usage Graph on page 241
- ▶ Top Projects by Runs Graph on page 242
- ▶ Top Projects Vusers Graph on page 244
- ▶ Exporting the Report on page 245

Concurrency by Project Table

The Concurrency by Project table displays concurrent resource usage information for each selected project.

On the Concurrency vs. License Report page, you click the **Concurrency by Project** tab. The Concurrency by Project table is displayed.

Concurrency by Project										
Overall Concurrency										
Overall License Usage										
Top Projects by Runs										
Top Projects by Users										
Concurrency by Project										
Project (x = Deleted project)	Concurrent Runs			Concurrent Users			Concurrent Machines			Overall Duration [hrs:mins]
	Max	Avg	Limit	Max	Avg	Limit	Max	Avg	Limit	
project1 x	3	1.3	10	6028	1.831.0	20000	8	2.9	10	11:03
project2	1	1.0	2	11	8.2	1000	1	1.0	2	9:14
Default	2	1.1	5	29	9.3	1000	3	1.6	10	5:11
LR_pro	3	1.2	10	10	8.4	100	3	1.2	10	2:05

The table contains the following information:

- **Project.** The project name. Deleted projects are also included in the report.
- **Concurrent Runs Max.** The maximum number of concurrent test runs for the project. For the purposes of this report, a single test run is considered a concurrent run.
- **Concurrent Runs Average.** The average number of concurrent test runs for the project. For the purposes of this report, a single test run is considered a concurrent run.
- **Concurrent Runs Limit.** The maximum number of concurrent runs allowed for this project as defined in the project settings (**User Management > Projects**). For the purposes of this report, a single test run is considered a concurrent run.
- **Concurrent Users Max.** The maximum number of concurrent running Users in all of the project's concurrent test runs.
- **Concurrent Users Average.** The average number of concurrent running Users in all of the project's concurrent test runs.
- **Concurrent Users Limit.** The maximum number of concurrent Users allowed for this project as defined in the project settings (**User Management > Projects**).

- ▶ **Concurrent Machines Max.** The maximum number of concurrent running machines (controllers and load generators), in all of the project's concurrent test runs.
- ▶ **Concurrent Machines Average.** The average number of concurrent running machines (controllers and load generators), in all of the project's concurrent test runs.
- ▶ **Concurrent Machines Limit.** The maximum number of concurrent machines allowed for this project as defined in the project settings (**User Management > Projects**).
- ▶ **Overall Duration.** The total time tests were run in the project. This value shows the actual amount on time the system was used to run load tests, and not concurrent duration.

Sorting Results

You can sort the Concurrency by Project table according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. Click the column heading to reverse the order.

Overall Concurrency Table

The Overall Concurrency table displays concurrent resource usage information aggregated over all selected projects, as well as aggregated over all projects in the system.

On the Concurrency vs. License Report page, you click the **Overall Concurrency** tab. The Overall Concurrency table is displayed.

Overall Concurrency									
Project	Concurrent Runs			Concurrent Vusers			Concurrent Machines		Overall Duration [hrs:mins]
	Max (License %)	Avg (License %)	PC License	Max (License %)	Avg (License %)	PC License	Max	Avg	
All Projects	3 (30%)	1.3 (13.3%)	10	6028 (30.1%)	711.9 (3.6%)	20000	8	2.03	36:46
Selected Projects	3 (30%)	1.3 (13.3%)	10	6028 (30.1%)	578.8 (2.9%)	20000	8	2.03	35:04

The table contains the following information:

- **Project.** All Projects or Selected Projects.
- **Concurrent Runs Max (License %).** The maximum number of concurrent runs. The value in brackets is the maximum number of concurrent runs as a percentage of the Performance Center license.
- **Concurrent Runs Avg (License %).** The average number of concurrent runs. The value in brackets is the average number of concurrent runs as a percentage of the Performance Center license.
- **Concurrent Runs PC License.** The maximum number of concurrent runs allowed by the Performance Center license.
- **Concurrent Vusers Max (License %).** The maximum number of concurrent running Vusers. The value in brackets is the maximum number of concurrent running Vusers as a percentage of the Performance Center license.
- **Concurrent Vusers Avg (License %).** The average number of concurrent running Vusers. The value in brackets is the average number of concurrent running Vusers as a percentage of the project Performance Center license.
- **Concurrent Vusers PC License.** The maximum number of concurrent running Vusers allowed by the Performance Center license.

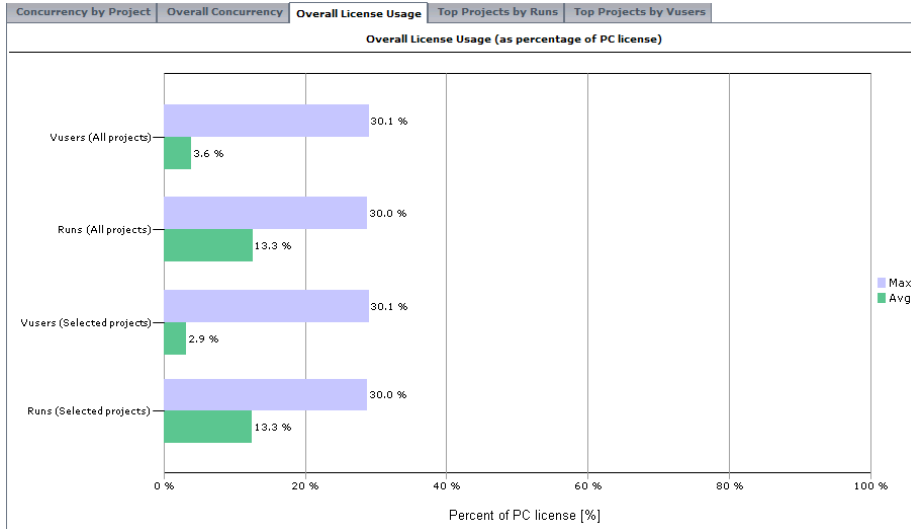
- ▶ **Concurrent Machines Max (License %).** The maximum number of concurrent running machines. The value in brackets is the maximum number of concurrent running machines as a percentage of the Performance Center license.
- ▶ **Concurrent Machines Avg (License %).** The average number of concurrent running machines. The value in brackets is the average number of concurrent running machines as a percentage of the Performance Center license.
- ▶ **Overall Duration.** The total time tests were run aggregated over all the projects.

Overall License Usage Graph

The Overall License Usage Graph displays maximum and average Runs and Vuser usage as a percentage of the Performance Center license limitations. The usage is aggregated over all selected projects, as well as aggregated over all projects in the system.

For example, in the image below, the maximum number of Vusers for all projects in the system used just 30.1% of the Performance Center license, while the average number of Vusers for all projects used just 3.6% of the license. This tells the administrator that a significant portion of the Performance Center license is not being used.

On the Concurrency vs. License Report page, you click the **Overall License Usage** tab. The Overall License Usage is displayed.

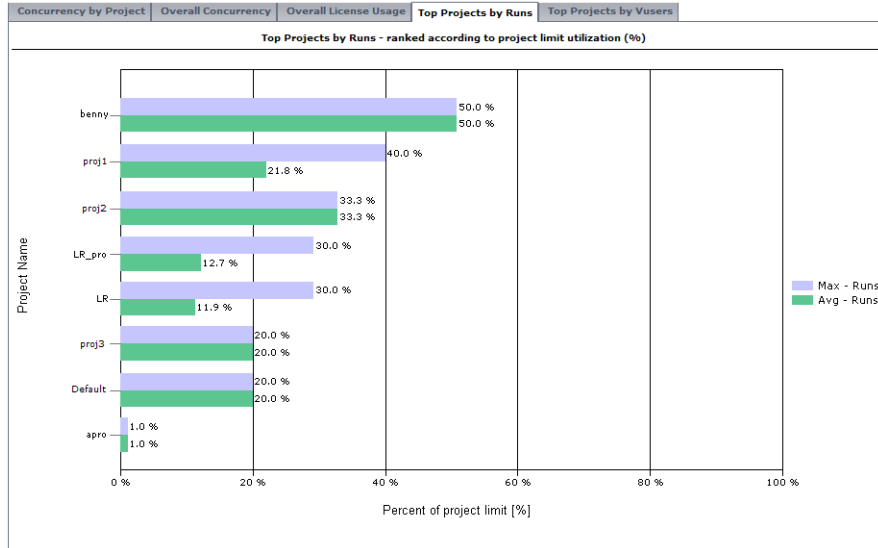


Top Projects by Runs Graph

The Top Projects by Runs graph shows those projects that best used the amount of concurrent runs that were designated to them. To display the graph, click the **Top Projects by Runs** tab. The Top Projects by Runs graph is displayed.

The graph shows the maximum and average number of concurrent runs per project as a percentage of the project limit, which is defined in the project settings (**User Management > Projects**). The projects are displayed in descending order according to the maximum amount of concurrent runs.

For example, in the image shown below, the Max - Runs value for the project **LR_pro** is 30%. This means that the maximum number of concurrent runs for this project reached 30% of its limit. The Avg - Runs value for this project shows that the average number of concurrent runs reached 12.7% of its limit. These values tell the administrator that a significant portion of the project's defined limit of concurrent runs is not being utilized.



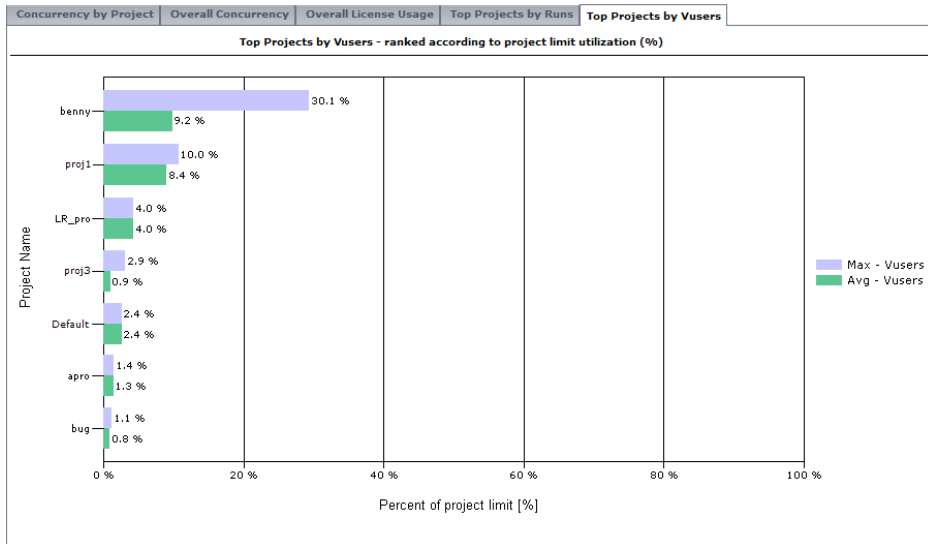
In most circumstances, the graph displays information for up to ten selected projects. If there is more than one selected project with the same number of maximum concurrent runs, all these projects are displayed. In that case, more than ten projects might be displayed.

Top Projects Vusers Graph

The Top Projects by Vusers graph shows those projects that best used the amount of concurrent running Vusers that were designated to them. To display the graph, click the **Top Projects by Vusers** tab. The Top Projects by Vusers graph is displayed.

The graph shows the maximum and average number of concurrent running Vusers per project as a percentage of the project limit, which is defined in the project settings (**User Management > Projects**). The projects are displayed in descending order according to the maximum amount of concurrent running Vusers.

For example, in the image shown below, the Max - Vusers value for the project **proj1** is 10%. This means that the maximum number of concurrent running Vusers for this project reached 10% of its limit. The Avg - Vusers value for this project shows that the average number of concurrent running Vusers reached 8.4% of its limit. These values tell the administrator that a significant portion of the project's defined limit of concurrent running Vusers is not being utilized.



In most circumstances, the graph displays information for up to ten selected projects. If there is more than one selected project with the same number of maximum concurrent running Vusers, all these projects are displayed. In that case, more than ten projects might be displayed.

Exporting the Report

You can export the Concurrency vs. License Report to a PDF, or to an editable Excel file. For more information, see “Exporting Reports” on page 228.

23

Timeslot Usage Report

The Timeslot Usage Report provides information about the reservation and usage of resources associated with timeslots. You open the Timeslot Usage Report from the Performance Center left menu (**Reports > Timeslot Usage**).

This chapter includes:

- ▶ Timeslot Usage by Project Table on page 247
- ▶ Top Projects by Duration Usage Graph on page 249
- ▶ Top Projects by Vusers Usage on page 250
- ▶ Top Projects by Machines Usage Graph on page 251
- ▶ Exporting the Report on page 251

Timeslot Usage by Project Table

The Timeslot Usage by Project table displays reservation and usage information for Duration, Machines, and Vusers per project.

On the Timeslot Usage Report page, you click the **Timeslot Usage by Projects** tab. The Timeslot Usage by Projects table is displayed.

Timeslot Usage By Project								
Project (x = Deleted project)		Duration [hrs:mins]		Machines		Vusers		
		Reserved	Used	Reserved	Used	Reserved	Used	
project1 x		115:42	76:33	65	63	71520	18273	
project2		119:00	6:22	10	8	122	94	
Default		48:57	11:12	35	30	599	329	
LR_pro		48:36	32:08	32	25	250	221	

The table displays the following information:

- **Project.** The project name. Deleted projects are also included in the report.
- **Duration Reserved.** The amount of time reserved for the project.
- **Duration Used.** The amount of time used within the project.
- **Machines Reserved.** The number of machines reserved for the project.
- **Machines Used.** The number of machines used in the project.
- **Vusers Reserved.** The number of Vusers reserved for the project.
- **Vusers Used.** The number of Vusers used in the project.

Sorting Results

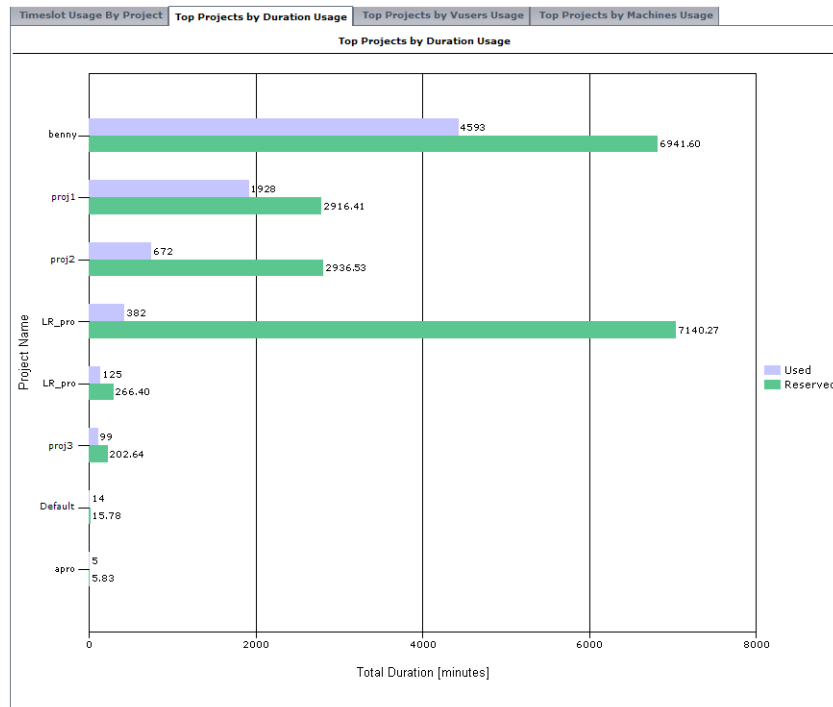
You can sort the Timeslot Usage per Project Table according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. Click the column heading to reverse the order.

Top Projects by Duration Usage Graph

The Top Projects by Duration Usage graph displays reservation and usage information for timeslot Duration per project. The projects are displayed in descending order according to Duration usage.

In most circumstances, the graph displays information for up to ten selected projects. If there is more than one selected project with the same amount of Duration usage, all these projects are displayed. In that case, more than ten projects might be displayed.

On the Timeslot Usage Report page, you click the **Top Projects by Duration Usage** tab. The Top Projects by Duration Usage graph is displayed.

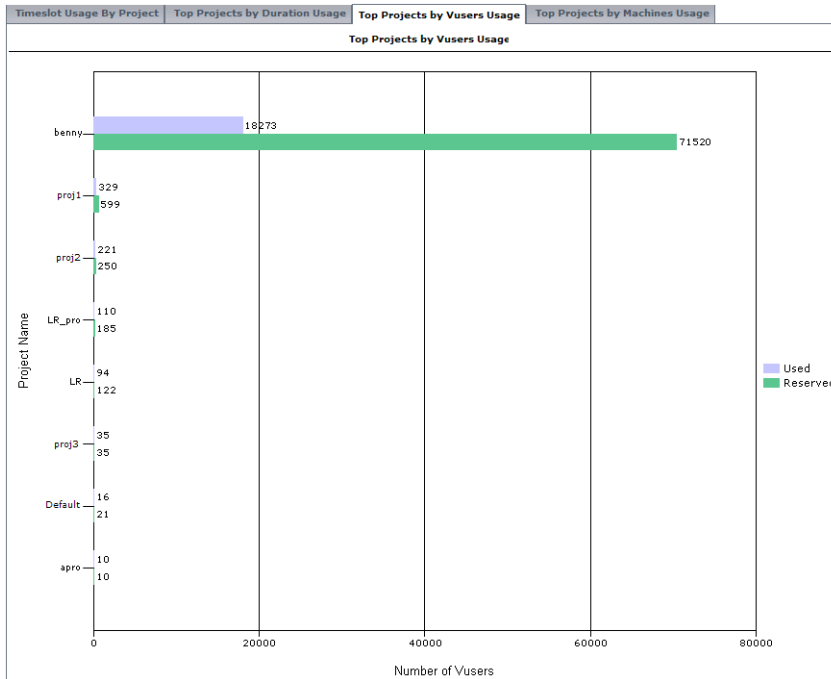


Top Projects by Vusers Usage

The Top Projects by Timeslot Usage by Vusers graph displays reservation and usage information for timeslot Vusers per project. The projects are displayed in descending order according to Vusers usage.

In most circumstances, the graph displays information for up to ten selected projects. If there is more than one selected project with the same amount of Vusers usage, all these projects are displayed. In that case, more than ten projects might be displayed.

On the Timeslot Usage Report page, you click the **Top Projects by Vusers Usage** tab. The Top Projects by Vusers Usage graph is displayed.

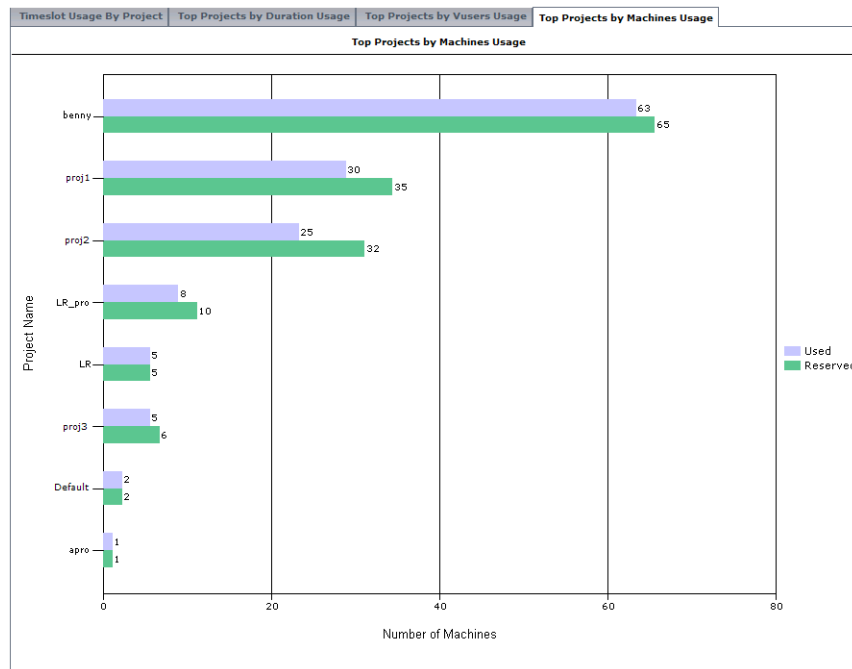


Top Projects by Machines Usage Graph

The Top Projects by Machines Usage graph displays reservation and usage information for timeslot Machines per project. The projects are displayed in descending order according to Machines usage.

In most circumstances, the graph displays information for up to ten selected projects. If there is more than one selected project with the same amount of Machines usage, all these projects are displayed. In that case, more than ten projects might be displayed.

On the Timeslot Usage Report page, you click the **Top Projects by Machines Usage** tab. The Top Projects by Machines Usage graph is displayed.



Exporting the Report

You can export the Timeslot Usage Report to a PDF, or to an editable Excel file. For more information, see “Exporting Reports” on page 228.

24

Resource by Duration Report

The Resource by Duration Report provides general information about the usage of your system resources over the selected time frame. You can view statistics for total usage by project, or per user within a project. You open the Resource by Duration Report from the Performance Center left menu (**Reports > Resource by Duration**).

This chapter includes:

- Resource Usage by Project Table on page 254
- Resource Usage by User Table on page 255
- Exporting the Report on page 256

Resource Usage by Project Table

The Resource Usage by Project table shows resource usage per project over the selected time frame.

On the Resource by Duration Report page, you click the **Resource Usage by Project** tab. The Resource Usage by Project table is displayed.

Resource Usage by Project		Resource Usage by User			
Resource Usage by Project					
Project (x = Deleted project)	Total Active Duration [hrs:mins]	Total Reserved Duration [hrs:mins]	Avg Hosts Per Active Hour	Avg Vusers Per Active Hour	
project1 x	76:42	100:56	2.6	1,422.0	
project2	15:38	32:58	1.6	20.7	
Default	32:08	39:10	1.0	9.4	
LR_pro	2:05	3:29	1.0	27.0	

The Resource Usage by Project table contains the following information:

- ▶ **Project.** The name of the project. Deleted projects are also included in the report.
- ▶ **Total Active Duration.** The total time tests were run during reserved timeslots.
- ▶ **Total Reserved Duration.** The total time reserved, in the Timeslots page, by the 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 within the selected time frame.

Sorting Results

You can sort the Resource Usage by Project table according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. Click the column heading to reverse the order.

Resource Usage by User Table

The Resource Usage by User table shows resource usage per user.

Note: Only users with privileges in selected projects are shown.

On the Resource by Duration Report page, you click the **Resource Usage by User** tab. The Resource Usage by User table is displayed.

Resource Usage by Project		Resource Usage by User			
Full Name (x = Deleted user)	Total Active Duration [hrs:mins]	Total Reserved Duration [hrs:mins]	Avg Hosts Per Active Hour	Avg Vusers Per Active Hour	
benny	45:42	77:01	1.0	11.4	
Andrey x	76:29	98:56	2.6	1,425.9	
Ekaterina	9:37	24:36	1.8	20.3	
oleg	0:55	1:44	1.0	1.4	

The table contains the following information:

- ▶ **Full Name.** The name of the user. Deleted users are also included in the report.
- ▶ **Total Active Duration.** The total time tests were run during reserved timeslots.
- ▶ **Total Reserved Duration.** The total time reserved, in the Timeslots page, by the user.
- ▶ **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 by User table according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. Click the column heading to reverse the order.

Exporting the Report

You can export the Resource by Duration Report to a PDF, or to an editable Excel file. For more information, see “Exporting Reports” on page 228.

25

Resource by Runs Report

The Resource by Runs report provides general information about the test runs. You can view statistics for total usage by project, or per user within a project. You open the Resource by Runs Report from the Performance Center left menu (**Reports > Resource by Runs**).

This chapter includes:

- Resource Usage by Project Table on page 257
- Resource Usage by User Table on page 259
- Exporting the Report on page 260

Resource Usage by Project Table

The Resource Usage by Project table shows test run statistics per project over the selected time frame.

On the Resource by Runs Report page, you click the **Resource Usage by Project** tab. The Resource Usage by Project table is displayed.

Resource Usage by Project		Resource Usage by User					
Resource Usage by Project							
Project	(x = Deleted project)	Total Runs	Total Vusers Involved	Avg Vusers per Run	Total Duration [hrs:mins]	Avg Duration per Run [hrs:mins]	Avg Machines per Run
project1	x	46	18289	397.6	76:42	1:40	1.6
project2		43	335	7.8	6:22	0:09	0.8
Default		37	261	7.1	32:08	0:52	0.8
LR_pro		7	110	15.7	2:05	0:18	0.7

The Resource Usage by Project table displays the following information:

- **Project.** The name of the project. Deleted projects are also included in the report.
- **Total Runs.** The total number of runs in the project.
- **Total Vusers Involved.** The total number of Vusers in the project.
- **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 Machines per Run.** The average number of machines used per run.

Note: Details of all runs with any amount of duration, even retries of a single run, are included in the table.

Sorting Results

You can sort the Runs per Project table according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. Click the column heading to reverse the order.

Resource Usage by User Table

The Resource Usage by User table shows test run statistics per user.

Notes:

- Runs of users that have been deleted from the system, or no longer have any privileges are also included in the table.
- Details of all runs with any amount of duration, even retries of a single run, are included in the table.

On the Resource by Runs Report page, you click the **Resource Usage by User** tab. The Resource Usage by User table is displayed.

Resource Usage by Project		Resource Usage by User				
Resource Usage by User						
Full Name (x = Deleted user)	Total Runs	Total Vusers Involved	Avg Vusers per Run	Total Duration [hrs:mins]	Avg Duration per Run [hrs:mins]	Avg Machines per Run
benny	98	920	9.4	45:42	0:28	0.9
Andrey x	41	18181	443.4	76:29	1:52	1.7
Ekaterina	21	356	17.0	9:37	0:27	1.6
oleg	5	11	2.2	0:55	0:11	1.0

The Resource Usage by User table contains the following information:

- **Full Name.** The name of the user. Deleted users are also included in the report.
- **Total Runs.** The total number of runs associated with the user.
- **Total Vusers Involved.** The total number of Vusers associated with the user.
- **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 Machines per Run.** The average number of machines used per run.

Sorting Results

You can sort the Runs per User table according to the values of any column. The arrow in the heading displays whether the column is sorted in ascending or descending order. Click the column heading to reverse the order.

Exporting the Report

You can export the Resource by Runs Report to a PDF, or to an editable Excel file. For more information, see “Exporting Reports” on page 228.

Part VI

User and Project Management

26

Introducing User Management

The User Management module enables you to view and manage project information, user information, user roles and privileges, and project-user-role assignments.

- ▶ For more information about viewing and managing Performance Center users, see Chapter 27, “Users.”
- ▶ For more information about user roles, see Chapter 28, “User Roles.”
- ▶ For more information about viewing and managing Performance Center projects, see Chapter 29, “Performance Center Projects.”
- ▶ For more information about managing project-user-role assignments, see Chapter 30, “Privilege Management.”

27

Users

This chapter describes how to view and manage Performance Center users.

This chapter includes:

- ▶ Understanding User Information on page 266
- ▶ Managing Your Personal Details on page 267
- ▶ Users Page at a Glance on page 268
- ▶ Managing Performance Center Users on page 270

Understanding User Information

You view and manage your personal details and other users' details on the Personal Details and Users pages. This information includes the user's login details, personal details, and other general information.

	Detail	Description
Login Details	User Name	The user's user name for logging in to Performance Center.
	Password Confirm Password	The user's password for logging in to Performance Center. (Not available when adding LDAP/SSO users, where the password is stored in the records of the respective system.)
	Account Expiration	<ul style="list-style-type: none"> ▶ Account Expires. The expiration date of the user account. ▶ Account Never Expires. The user account never expires.
Personal Details	Full Name	The user's full name.
	Email	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—recorded automatically when the user is created. It cannot be edited.
	Status	The status of the user— Active or Not active . (Not editable for LDAP/SSO users.) Note: A user with a Not Active status cannot log in to Performance Center.
	Creation Date	The date the user account was created in the system.

Managing Your Personal Details

You view your personal details on the Personal Details page.

If you have **Edit Personal Information** privileges, you can also edit your personal details.

To view and edit your personal details:

- 1 On the Performance Center left menu, select **User Management > Personal Details**.

Personal Details

User Details for User Name: Admin

User Name:	<input type="text" value="Admin"/>	Full Name:	<input type="text" value="Admin"/>	User Creator:	Admin
Password:	<input type="password" value="....."/>	Email:	<input type="text" value="bob.smith@hp.com"/>	Status:	Active
Confirm Password:	<input type="password" value="....."/>	Additional Data:	<input type="text" value="Do Not change User Status."/>	Creation Date:	Dec 30 2007
<input type="radio"/> Account Expires	<input type="text"/>				
<input checked="" type="radio"/> Account Never Expires					

- 2 Edit your details. (See “Understanding User Information” on page 266.)
- 3 To revert back to the original details without saving your changes, click **Restore**.

To save your changes, click **Save**.

Users Page at a Glance

The Users page displays a list of all the users in the Performance Center system.

To access the Users page, on the Performance Center left menu, select **User Management > Users**.

Users

* X ↺

User Id ▲	User Name	Full Name	Status	Expires
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
1	Admin	Admin	✓	
2	oleg	Oleg Gilenko	✓	
3	benny	Benny Mizrahi	✓	
4	efrat	Efrat Mininberg	✓	
5	ayala	Ayala Alon	✓	
6	menny	Menny Menahemov	✓	
7	Michal	Michal Cohen	✓	
8	rnuriel	Roy Nuriel	✓	
9	katya	Ekaterina Novikova	✓	
10	vova	Vova Chukhalenok	✓	

Displaying items per page (1 - 10 of 22)
 « / 3 »

User Information for User Name: Admin

User Name:	<input type="text" value="Admin"/>	Full Name:	<input type="text" value="Admin"/>	User Creator:	Admin
Password:	<input type="password" value="....."/>	Email:	<input type="text" value="Admin@mercury.com"/>	Status:	<input type="text" value="Active"/>
Confirm Password:	<input type="password" value="....."/>	Additional Data:	<input type="text"/>	Creation Date:	Jul 9 2008
<input type="radio"/> Account Expires <input type="text"/>		<input checked="" type="radio"/> Account Never Expires			

The Users page includes the following components:

- ▶ **User list.** Displays all of the users in the Performance Center system.

By default the table displays 10 users at a time. To change the number of users displayed in the list, select the appropriate number in the **Displaying <n> items per page** area. You can display 10, 15, or 20 users per page.

22	steve_paris	Steve Paris	✓	
37	syedh	Syed Hussainy	✓	
Displaying <input type="text" value="10"/> items per page (1 - 10 of 320) « <input type="text" value="1"/> / 32 »				

- ▶ **User Information pane.** Displays the details of the user selected in the list.

Refreshing the List of Users



- ▶ To refresh the list of users, click the **Refresh** button on the toolbar.

Sorting and Filtering the List of Users

- ▶ You can sort the users in ascending or descending order by clicking the heading of the column by which you want to sort.

Click the column heading again to reverse the sort order.

- ▶ You can filter the users using the filter boxes below the column headings.

In the filter boxes below the column headings, type the relevant text or select values from drop-down lists. Press ENTER. The table displays users according to the selected filter options.

Notes:

- ▶ The filter supports partial text entries. For example, if you type **th**, the filter results might include **Seth**, **Thomas**, and **Anthony**. The filter does not support regular expressions or the following characters: `; & * \ ' / # ~ , ? { } $ % | < > + = ` ^ [] !`
 - ▶ Sort order and filter settings are saved per user. The next time you access the Users page, the page displays your most recent sort order and filter.
-

Managing Performance Center Users

You view and manage Performance Center users from the Users page. You can modify or delete users, and create users.

Note: You must have the appropriate user management privileges to perform these tasks, as described in the sections below.

Creating Users

If you have **Create user** privileges, you can create Performance Center users.

To create a user:

- 1** On the Performance Center left menu, select **User Management > Users**.
- 2** On the Users page, click the **Add New User** button on the toolbar. The Add New User dialog box opens.



- 3** Enter the new user's details. (See "Understanding User Information" on page 266.)
 - a** Enter a user name and password for the new user. Re-enter the password for confirmation.

Note: When creating LDAP or SSO users, the password fields are not available. The password is taken from the user records in the respective system.

- b** Enter the user's full name, email address, and any additional details.
- c** Select an expiration option:
 - To set an expiration date for the user account, select **Account Expires**, click the calendar icon, and select a date. The expiration date must be later than the current date.
 - To create a user account that never expires, select **Account Never Expires**.
- d** Select a status for the user—**Active** or **Non Active**.

Note: A user must have the **Active** status in order to log in to Performance Center.

- 4** Click **Add**. The user is added to the list of users.

Editing User Information

If you have **Edit user** privileges, you can edit user information.

To edit a user's details:


- 1 On the Performance Center left menu, select **User Management > Users**.
- 2 Select the user whose details you want to edit. The details are displayed in the User Information pane.
- 3 Edit the details. (See “Understanding User Information” on page 266.)
- 4 To revert back to the original details without saving your changes, click **Restore**.

To save your changes, click **Save**.

Deleting Users

If you have **Delete user** privileges, you can delete users from Performance Center.

To delete a user:

- 1 On the Performance Center left menu, select **User Management > Users**.
- 2  Select the user you want to delete, and click the **Delete User** button on the toolbar.
- 3 Click **OK** to confirm that you want to delete the user.

The user is deleted from the list of users.

28

User Roles

This chapter describes roles in Performance Center. Roles are groups of permissions assigned to users. A role determines what information a user is allowed to access, and which tasks the user can perform.

This chapter includes:

- ▶ User Roles Page at a Glance on page 274
- ▶ Understanding User Roles on page 275
- ▶ Canned Roles on page 276
- ▶ User-Defined Roles on page 278
- ▶ Understanding Role Permissions on page 283
- ▶ Assigning Roles to Users on page 293

User Roles Page at a Glance

You view user roles on the Roles page (**User Management > Roles**).

The Roles page displays lists of roles on the left, and role properties on the right.



The lists of roles display **canned roles** which are predefined groups of permissions, and **user-defined roles**, that is, roles made up of user-defined groups of permissions.

Understanding User Roles

Performance Center has two types of roles:

- ▶ **Performance Center roles.** Allow users to perform Performance Center administrative tasks, including:
 - ▶ Management of Performance Center assets, that is, projects, users, roles, and license information
 - ▶ Management of Performance Center system resources, that is, hosts, host pools, timeslots and runtime information
 - ▶ General server administration

Note: Most Performance Center administration is performed from the Administration site. However, you can define Performance Center roles with limited administrative permissions that allow users to perform project and/or user management **in the User Site only**.

- ▶ **Project roles.** Allow users to perform project-related tasks, including:
 - ▶ Managing project-related resources, that is hosts and timeslots
 - ▶ Defining load test settings, monitor profiles, Dashboard settings, and other general settings
 - ▶ Defining load test run-time settings for tasks that you can perform on running load tests



Performance Center has **canned roles** which are predefined groups of permissions. For more information about the canned roles in Performance Center, see “Canned Roles” on page 276.



Roles can also be **user-defined**, that is, made up of user-defined groups of permissions. If you have role management privileges, you can create and manage user-defined roles. For details, see “User-Defined Roles” on page 278.

Filtering Roles

To locate a specific role, you can filter the list of roles by role name.

To filter the list of roles:

- 1 In the relevant roles tab (**Performance Center** or **Project**), in the **Role** box, enter the name of the role you are looking for.
- 2 Click **Filter**. The list displays all the roles whose names contain the string that you entered.

Note:

- ▶ The filter supports partial text entries. For example, if you enter **th**, the display list might include **Seth**, **Thomas**, and **Anthony**.
- ▶ The filter is applied in the selected tab only.

To clear the filter:

- ▶ In the **Role** box, clear the text and click **Filter**. All the roles are redisplayed.

Canned Roles



Performance Center comes packaged with predefined roles, called **canned roles**. For example, the **Project Manager** role is a canned role that grants a user permission to perform all project management tasks.

Canned roles cannot be modified. To assign other permissions to users, you can create user-defined roles. For more information, see “Creating User-Defined Roles” on page 279.

The following table describes the canned roles that are built into Performance Center.

Canned Role	Description
Administrator (Performance Center role)	Privileges: <ul style="list-style-type: none"> ➤ Can perform Performance Center administration —project/user/roles/licence management ➤ Can manage Performance Center resources— hosts and servers, events ➤ Can manage reports and general Performance Center administration settings
Project Manager (Project role)	Manages the engagement between the LOB (Life of Business) and the COE (Center of Excellence). Not expected to perform any load testing (although he has permissions to do so), but rather ensures that the project works as planned. Privileges: <ul style="list-style-type: none"> ➤ Can manage projects and project resources ➤ Can manage reports, Dashboard, events
Power Tester (Project role)	Load testing user. Can manage limited resource tasks. Privileges: <ul style="list-style-type: none"> ➤ Can configure and run load tests ➤ Can share/import/export project-related assets ➤ Can publish to Dashboard ➤ Can reboot machines
Tester (Project role)	Load testing user. No resource management privileges. Privileges: <ul style="list-style-type: none"> ➤ Can configure and run load tests

Canned Role	Description
LT Adviser (Project role)	Privileges: <ul style="list-style-type: none"> ▶ Can monitor load test runs, Vuser groups, graphs ▶ Can perform manual operations on Vusers and Vuser groups
Guest (Project role)	Privileges: <ul style="list-style-type: none"> ▶ Can edit personal details and configure own graphs ▶ Can monitor load test runs, graphs, Vuser groups

User-Defined Roles

Performance Center enables you to create user-defined groups of permissions, that is, user-defined roles.

Note: You must have the appropriate role management privileges to perform these tasks, as described in the sections below.

This section describes:

- ▶ “Creating User-Defined Roles” on page 279
- ▶ “Editing User-Defined Roles” on page 280
- ▶ “Copying Roles” on page 282
- ▶ “Deleting User-Defined Roles” on page 282

Creating User-Defined Roles

If you have **Create role** privileges, you can create user-defined roles. 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.

You can create Performance Center roles, or project-related roles, as described in “Understanding User Roles” on page 275.

When creating a Performance Center role, you can limit the permissions to allow administration **from the User Site only**. Such a role can include project and/or user management permissions only.

To create a user-defined role:

- 1** On the Performance Center left menu, select **User Management > Roles**.
- 2** On the Roles page, in the left pane, select the type of role you want to create—**Performance Center** or **Project**.
- 3** 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 can include alphanumeric characters, and any of the following special characters: **_ @ # ()**
- 5** In the **Description** box, type a description for the role.
- 6** If you are creating a Performance Center role to allow users to perform project and/or user management tasks from the User Site only, select **Administration from User Site only**.

- 7 Select permissions for the role. (See “Understanding Role Permissions” on page 283.)
 - If you selected **Administration from User Site only**, only Project Management and User Management permissions (in the Project and User Management tab) are selectable.

The screenshot shows a 'Permissions' dialog box with a checked checkbox for 'Administration from User site only'. Below this, there are three tabs: 'Project and User Management', 'Resource Management', and 'General'. The 'Project and User Management' tab is active, displaying a list of permissions with checkboxes. The permissions are organized into three columns: Project Management (Create project, Edit project, Delete project), User Management (Create user, Edit user, Delete user, Assign user to role, Remove user from role, Edit personal information), and Role Management (Create role, Edit role, Delete role, Copy role). At the bottom, there is a 'License Management' section with a checkbox and some partially visible options.

- Some permissions are directly associated with other permissions. If you select a permission with associated permissions, Performance Center informs you of the associations, and automatically selects them as well.
 - To select all the permissions under a specific category, select the check box adjacent to the category name.
- 8 Click **Save**. The role is saved and a message is displayed in the **Messages** area below the form.

Editing User-Defined Roles

If you have **Edit role** privileges, you can edit user-defined roles.

Note: You cannot edit canned roles.

To edit a user-defined role:

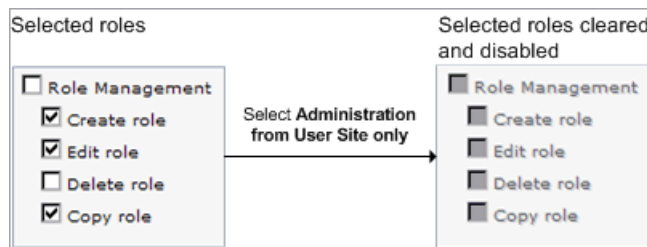
- 1 On the Performance Center left menu, select **User Management > Roles**.
- 2 On the Roles page, select the role that you want to edit.

Tip: You can use the filter feature to locate a role in the list. See “Filtering Roles” on page 276.

3 Edit the role.

- ▶ If you select or clear a permission that is directly associated with other permissions, Performance Center informs you of the associations, and automatically selects or clears them as well.
- ▶ If you select **Administration from User Site only**, all permissions except Project Management and User Management permissions become unavailable.

If any of the unavailable permissions were selected for the role you are editing, these selections are cancelled.



- 4 Click **Save**. The role is saved and a message is displayed in the **Messages** area below the form.

Copying Roles

If you have **Copy role** privileges, you can copy canned and user-defined roles.

To copy a role:

- 1** On the Performance Center left menu, select **User Management > Roles**.
- 2** On the Roles page, select the role you want to copy.

Tip: You can use the filter feature to locate a role in the list. See “Filtering Roles” on page 276.

- 3** Below the list of roles, click **Copy**. A copy of the role, **Copy of <role name>**, appears in the list of roles.
- 4** Edit the role as described in “Editing User-Defined Roles” on page 280.
- 5** Click **Save**.

Deleting User-Defined Roles

If you have **Delete role** privileges, you can delete user-defined roles.

Notes:

- You cannot delete canned roles.
 - You cannot delete a role that is assigned to a user.
-

To delete a user-defined role:

- 1** On the Performance Center left menu, select **User Management > Roles**.
- 2** On the Roles page, select the role you want to delete.

Tip: You can use the filter feature to locate a role in the list. See “Filtering Roles” on page 276.

- 3** Below the list of roles, click **Delete** and confirm that you want to delete the role.

Understanding Role Permissions

Roles include permissions for performing administrative or project-related tasks in the Performance Center system.

Some permissions are directly associated with other permissions. If a role includes such a permission, it automatically includes the associated permissions too.

For example, creating a load test is directly associated with editing a load test, so if a role includes the **Create load test** permission, it automatically includes the **Edit load test** permission too.

This section describes:

- ▶ “Performance Center Role Permissions” on page 284
- ▶ “Project Role Permissions” on page 289

Performance Center Role Permissions

This section describes permissions for Performance Center administrative tasks.

Project and User Management Permissions

The **Project and User Management** tab displays project management and user management permissions, as well as role management and license management permissions.

- ▶ Project management and user management can be performed from both the Administration and User Sites.
- ▶ Role management and license management can be performed from the Administration Site only.

Permission	Description
Project Management (Can be performed from Administration and User Sites)	
Create project	Allows the user to create projects Associated with: ▶ Edit project
Edit project	Allows the user to edit projects
Delete project	Allows the user to delete projects

Permission	Description
User Management (Can be performed from Administration and User Sites)	
Create user	Allows the user to create Performance Center users. Associated with: <ul style="list-style-type: none"> ▶ Edit user ▶ Edit user personal information
Edit user	Allows the user to edit user details Associated with: <ul style="list-style-type: none"> ▶ Edit user personal information
Delete user	Allows the user to delete users
Assign user to role	Allows the user to assign roles to users, and to change user-role assignments
Remove user from role	Allows the user to remove user-role assignments from projects, and to change user-role assignments
Edit personal information	Allows the user to edit personal information
Role Management (Can be performed from Administration Site only)	
Create role	Allows the user to create roles Associated with: <ul style="list-style-type: none"> ▶ 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 Associated with: <ul style="list-style-type: none"> ▶ Create role ▶ Edit role
License Management (Can be performed from Administration Site only)	
Manage License	Allows the user to insert or edit a Performance Center license or a host license

Resource Management Permissions

Resource Management can be performed from the Administration Site only.

The **Resource Management** tab displays the following permissions:

Permission	Description
Host Pool Management	
Create pool	Allows the user to create host pools Associated with: ► Edit pool
Edit pool	Allows the user to edit host pools
Delete pool	Allows the user to delete host pools
Host Management	
Add host	Allows the user to add hosts Associated with: ► Edit host (all data) ► Edit host (partial)
Edit host (all data)	Allows the user to edit host details Associated with: ► 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

Permission	Description
Host Maintenance	
Install patch	Allows the user to install patches on Performance Center servers/hosts Associated with: ► 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
Fast recovery	Allows the user to use the fast recovery option to terminate a test run, free up all the system resources, and reset the run state to Before Collating Results
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 Server Administration Permissions

General server administration can be performed from the Administration Site only.

The **General** tab displays the following 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 Role Permissions

This section describes permissions for project-related tasks.

Load Testing - Design Permissions

Permission	Description
Load Test Management	
Create load test	Allows the user to create load tests Associated with: ▶ Edit load test
Edit load test	Allows the user to edit load tests
Delete load test	Allows the user to delete load tests Associated with: ▶ Delete run ▶ Delete timeslot ▶ Delete monitor profile ▶ Delete run results
Upload script	Allows the user to upload scripts from VuGen
Edit script details	Allows the user to edit script details on the User Site Vuser Scripts page
Delete script	Allows the user to delete scripts
Monitor Profile Management	
Create monitor profile	Allows the user to create monitor profiles Associated with: ▶ 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 statuses	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 Associated with: ► Upload scripts
Integration with Analysis	Allows the user to enable integration with Standalone Analysis

Project Resource Management Permissions

Permission	Description
Timeslot Management	
Create timeslot	Allows the user to create timeslots Associated with: ▶ 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 Associated with: ▶ 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
Edit host (partial)	Allows the user to change the state of Performance Center hosts on the User Site

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
Delete run	Allows the user to delete runs Associated with: ► 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 Associated with: ► 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

Assigning Roles to Users

In order to access Performance Center, a Performance Center user must be assigned at least one role in at least one active project.

If you have **Assign user to role** privileges, you can assign roles to users. You create project-user-role assignments on the Privilege Management page.

To access the Privilege Management page from the Roles page, click the **Assign Project-User-Role** button. For details on assigning roles to users in Performance Center projects, see Chapter 30, “Privilege Management.”

29

Performance Center Projects

This chapter describes how to manage projects in Performance Center. Project details includes a project's name, status, Vuser limit, machine limit, and other information about the project. You can view, add, edit, and delete project information.

This chapter includes:

- ▶ Viewing Project Information on page 296
- ▶ Managing Performance Center Projects on page 298

Viewing Project Information

You view Performance Center projects information on the Projects page. The Projects page displays a list of all the projects in the Performance Center system. If you have the relevant Project Management privileges, you can edit and delete projects, and also create new projects.

To access the Projects page, on the Performance Center left menu, select **User Management > Projects**.

The **Project Information** pane below the list of projects displays information about the project selected in the list. This information includes:

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 Not Active . Note: In order to log in to Performance Center, at least one of the projects to which a user is assigned must be active .
Running Vusers on Controller	Enables users to run Vusers on the Controller. This provides greater flexibility when resources are scarce. To give users more control in advanced projects, the Allow project users to override this selection option allows project users at the administration level to override the Running Vusers on Controller setting. Note: For best results, running Vusers on dedicated load generators is recommended. 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 of Vusers used by all of the project's concurrent load tests must not exceed this limit.
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 the project.

Detail	Description
Host Pool	Specification of what class of host machines should be assigned to the project for load tests. If you have administrative privileges, you can edit the set of available pools. For details, see Chapter 4, “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.
Use Target IP Definitions	Allows the user to define IP addresses to use as targets for load testing. For details, see “Using IP Addresses” on page 300.
J2EE\ .NET Diagnostics Server	The J2EE\ .NET Diagnostics Server selected for the project. For details on adding J2EE\ .NET Diagnostics Servers to Performance Center, see “Setting Up the HP Diagnostics (J2EE & .NET) Environment” on page 169.

Sorting the List of Projects

You can sort the projects in the list in ascending or descending order by clicking the heading of the column by which you want to sort.

Click the column heading again to reverse the sort order.

Filtering the List of Projects

To locate a specific project, you can filter the list of projects by project name.

To filter the list of projects:

- 1** In the **Find project** box, enter the name of the project. The filter supports partial text entries. For example, if you enter **th**, the display list might include **Seth, Thomas, and Anthony**.
- 2** Click **Find**. The list displays all the projects whose names contain the string that you entered.

To clear the filter:

- ▶ Click the **Show All** button. All the projects are redisplayed.

Notes:

- ▶ The filter supports partial text entries. For example, if you type **th**, the filter results might include **Seth, Thomas, and Anthony**. The filter does not support regular expressions or the following characters: `: ; & * \ ' / # ~ , ? { } $ % | < > + = ` ^ [] !`
 - ▶ Sorting and filtering settings are saved per user. The next time you access the Projects page, the page displays your most recent sort order and filter.
-

Managing Performance Center Projects

You manage Performance Center projects from the Projects page.

Note: To manage Performance Center projects, you must have Project Management privileges. For more information, see “Performance Center Role Permissions” on page 284.

This section includes:

- ▶ “Creating Performance Center Projects” below
- ▶ “Editing Project Information” on page 302
- ▶ “Deleting Performance Center Projects” on page 303

Creating Performance Center Projects

If you have **Create project** privileges, you can create Performance Center projects.

To add a project:

- 1** On the Performance Center left menu, select **User Management > Projects**.
- 2** On the Projects page, click **Add New Project**. The Project Information pane (below the list of projects) changes to Add mode and displays an empty Project Information form.
- 3** Enter details of the new project. (See “Viewing Project Information” on page 296.)
 - a** Enter a name for the project.
 - b** Select the **Project Status**—either **Active** or **Not Active**.
 - c** Select whether to allow Vusers to run on the Controller.
 - Under **Running Vusers on Controller**, select **Disable** or **Enable**.
 - To allow Vusers to override this selection, select **Allow project users to override selection**.
 - d** In the **Vuser Limit** box, enter the maximum number of Vusers a project can run at a time.
 - e** In the **Machine Limit** box, enter the maximum number of host machines a project can use at a time.
 - f** In the **Concurrent Runs** box, enter the maximum number of concurrent runs allowed within a project.
 - g** From the **Host Pool** list, select the class of host machines that should be assigned to the project.
 - h** Set an expiration date for the project.
 - Under **Expiration Date**, click the **Select expiration date** link. A calendar window opens. Select the desired date and time (this must be later than the current date), and click **Set**. The calendar closes and the account expiration date is updated.
 - To create a project that never expires, select **Never Expires**.

- i** To use IP addresses as targets for load testing, select the **Use Target IP Definitions** option. Later, you must define the IP addresses to use as targets for load testing. For details, see “Using IP Addresses” below.
 - j** If you are working with HP Diagnostics, select a **J2EE\ .NET Diagnostics Server** from the list. For more information about adding Diagnostics Servers to Performance Center, see “Setting Up the HP Diagnostics (J2EE & .NET) Environment” on page 169.
- 4** Click **Add**. The project is added to the list.

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).

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.

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 or **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 00000000 00000000** (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 can 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 pane displays the selected project's information.
- 2 If **Use Target IP Definitions** has not been selected, click **Edit** to change the Project Information area to edit mode, and select it.
- 3 Click **Save**.
- 4 Below the Project Information pane, click **Define Target IP**. The Define Target IP Addresses for Project dialog box opens.


Define Target IP Addresses for Project: CrsProject

Define target IP and mask addresses for load testing in Project CrsProject.

Note: If the 'Use Target IP Definitions' checkbox is checked, and IP addresses aren't defined, load tests for this Project will not run in Performance Center. Please define IP target addresses or uncheck the 'Use Target IP Definitions' checkbox.

IP Address	Mask	
<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>	<input type="text"/> 255 . <input type="text"/> 255 . <input type="text"/> 255 . <input type="text"/> 255	<input type="button" value="New Line"/>

- 5 In the **IP Address** column, enter a target IP address.
- 6 To add another IP address, click **New Line** and enter the address.

- 7 To edit an address, place the cursor in the box you want to edit, and type the new address.
-  8 To delete a line, click the **Delete Line** button for the relevant IP address.
- 9 Click **Save** to save changes and close the dialog box.

Editing Project Information

If you have **Edit project** privileges, you can edit project information.

To edit a project's details:

- 1 On the Performance Center left menu, select **User Management > Projects**.
- 2 On the Projects page, select the project whose information you want to edit.
- 3 Click **Edit**. The Project Information pane changes to Edit mode.
- 4 Edit the information in the editable fields. (See “Viewing Project Information” on page 296.)

Note: If you edit the project's host pool allocation, reserved timeslots may not appear in the Timeslots page.

- 5 Click **Save** to save changes to the project's information.

Deleting Performance Center Projects

If you have **Delete project** privileges, you can delete Performance Center projects.

Note: Deleting a project also deletes associated load test results, test definitions, Vuser scripts, and monitor profiles from the system.

To delete a project:

- 1** On the Performance Center left menu, select **User Management > Projects**.
- 2** On the Projects page, select the project you want to delete and, below the Project Information pane, click **Delete**.
- 3** Click **OK** to confirm that you want to delete the project.

The project is deleted from the list of projects.

30

Privilege Management

The Privilege Manager stores all the project-user-role assignments in Performance Center.

This chapter includes:

- ▶ About Privilege Management on page 305
- ▶ Accessing the Privilege Manager on page 306
- ▶ Privilege Manager at a Glance on page 306
- ▶ Managing User Privilege Assignments on page 307

About Privilege Management

The Privilege Manager 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 page.

- ▶ To access the Privilege Manager from the Performance Center left menu, select **User Management > Privilege Management**.
- ▶ To access the Privilege Manager from the Roles 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.

The screenshot shows the 'Privilege Management' interface. On the left, there is a tree view of containers under the 'PC' project. The tree includes 'All Projects' and a list of containers such as ACC, benny_proj, bklemm, Blamb, CCC, Dani, Danka, Default, Domtar, efrat, Enbridge, eops, FootLocker, GAP, Gilead_eClinical, Gillette, and more. A 'Project:' field and a 'Filter' button are at the top left. On the right, there is a 'Users' table with columns for 'User Name' and 'Role'. The table lists 16 users, including MSPUser - PC and Administrator. A 'Filter By:' section at the top right allows filtering by 'User Name' and 'Role'. At the bottom, there are three buttons: 'Assign New User...', 'Change User Roles...', and 'Remove Assignment'.

User Name	Role
<input type="checkbox"/> aa05753	MSPUser - PC
<input type="checkbox"/> aa05754	MSPUser - PC
<input type="checkbox"/> aa08623	MSPUser - PC
<input type="checkbox"/> aa08625	MSPUser - PC
<input type="checkbox"/> aa08628	MSPUser - PC
<input type="checkbox"/> aa08725	MSPUser - PC
<input type="checkbox"/> aa08941	MSPUser - PC
<input type="checkbox"/> aa08942	MSPUser - PC
<input type="checkbox"/> aa08943	MSPUser - PC
<input type="checkbox"/> aditya_chati	MSPUser - PC
<input type="checkbox"/> Admin	Administrator
<input type="checkbox"/> admin01	Administrator
<input type="checkbox"/> adminwatcher	Administrator
<input type="checkbox"/> admorch	Administrator

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.

Using the Privilege Manager, you can:

- View all the users assigned to a container, and the roles assigned to them in that container
- Assign users to a container
- Change roles assigned to users in a container
- Remove users assigned to a container

Managing User Privilege Assignments

You use the Privilege Manager to assign users to the Performance Center or Performance Center project containers, and manage their roles therein.

Note: You must have **Assign user to role** and/or **Remove user from role** privileges to perform these tasks, as described in the sections below.

This section includes:

- “Assigning Users to Performance Center/Project Containers” on page 308
- “Changing User-Role Assignments” on page 310
- “Removing Users from Containers” on page 311

Assigning Users to Performance Center/Project Containers

If you have **Assign user to role** privileges, you can assign users to containers where they can manage Performance Center tasks or project-related tasks.

Assigning users to the **Performance Center** or **All Projects** container, or to a project, involves a two-fold operation:

- ▶ Selecting a container to which to assign the users
- ▶ Assigning roles to users that allow them to perform tasks in the selected container

To assign users to the Performance Center or All Projects container:

- 1** On the Performance Center left menu, select **User Management > Privilege Management**.
- 2** On the Privilege Management page, 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.

- 3** Below the User-Roles table, click **Assign New User**. The Assign New User-Role to <PC/All Projects> dialog box opens.
- 4** In the **Role** list, select a role that you want to assign to users.
Users already assigned this role in the selected container are displayed in the **Assigned to users** box.
- 5** In the **Available users** list, select the users to whom you want to assign the selected role.

Tip: You can filter the **Available users** list by entering a user name (or part thereof) in the **User** box, and clicking **Filter**.

Click the single right-arrow button to move the selected user to the **Assigned to users** box. Alternatively, to move all of the available users simultaneously, click the double right-arrow button.

- 6 Click **Apply**.
- 7 To assign another role, repeat steps 4 through 6.
- 8 Click **OK**. The Assign New User-Role dialog box closes, and the User-Role table displays the new user-role assignments for the selected container.

Note: Roles assigned in **All Projects** are marked with an asterisk (*).

To assign users to a single project:

- 1 On the Performance Center left menu, select **User Management > Privilege Management**.
- 2 On the Privilege Management page, in the container list, select the project to which to assign the users.

The User-Roles table on the right lists all the existing user-role assignments in the selected project.

- 3 Below the User-Roles table, click **Assign New User**. The Assign New User-Role to <project> dialog box opens.
- 4 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 for all projects are displayed in the **All Projects Assignment** box.

- 5 In the **Available users** list, select the users to whom you want to assign the selected role.

Tip: You can filter the **Available users** list by entering a user name (or part thereof) in the **User** box, and clicking **Filter**.

Click the single right-arrow button to move the selected user to the **Assigned to users** box. Alternatively, to move all of the available users simultaneously, click the double right-arrow button.

- 6 Click **Apply**.
- 7 To assign another role to users in the project, repeat steps 4 through 6.
- 8 Click **OK**. The Assign New User-Role dialog box closes, and the User-Role table displays the new user-role assignments for the selected project.

Changing User-Role Assignments

If you have both **Assign user to role** and **Remove user from role** privileges, you can change the roles assigned to users in a container.

To change the roles assigned to a user:

- 1 On the Performance Center left menu, select **User Management > Privilege Management**.
- 2 On the Privilege Management page, in the container list, select the container in which you want to change the user's roles.

Note: Roles assigned to a user in one container can differ from roles assigned to the same user in a different container.

- 3 In the User-Roles table, select the user whose roles you want to change.

- 4 Below the User-Roles table, click **Change User Roles**.

Note: The **Change User Roles** button is enabled when **one user only** is selected in the User-Roles table.

- 5 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.

- 6 Select roles to assign to the user and clear the roles that you want to take away from the user.

Note: Roles assigned to the user for all projects are displayed in read-only format. To change these roles, you must perform this procedure in the **All Projects** container (in step 2, select the **All Projects** container).

- 7 Click **Assign**. The Change User-Role Assignments dialog box closes, and the changes are displayed in the User-Roles table.

Removing Users from Containers

If you have **Remove user from role** privileges, you can remove a user from a container. Removing a user from a container deletes all the user-role assignments for the user in that container.

To remove a user from a container:

- 1 On the Performance Center left menu, select **User Management > Privilege Management**.
- 2 On the Privilege Management page, select the container from which you want to remove the user.

- 3 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 (in step 2, select the **All Projects** container).

- 4 Below the User-Roles table, click **Remove Assignment**.

Note: The **Remove Assignment** button is enabled only if **at least one user** is selected in the User-Roles table.

- 5 In the message box that opens, click **OK** to confirm that you want to remove the user.

The user and the role assignments for the user are deleted from the User-Roles table.

Part VII

Troubleshooting

31

Troubleshooting Hosts and Servers

This chapter provides information on troubleshooting host-related problems.

This chapter includes:

- ▶ Host in Resource Failure on page 316
- ▶ Unable to Add a Load Generator Due to High Latency on page 322
- ▶ Problems Changing SiteScope Server in Administration Site on page 323
- ▶ SiteScope Server Fails to Monitor the MS-SQL Database on page 324
- ▶ Failure to Add Host on page 325
- ▶ Failure to Reboot Host from Administration Site on page 327
- ▶ Not Enough Server Storage Available on page 328

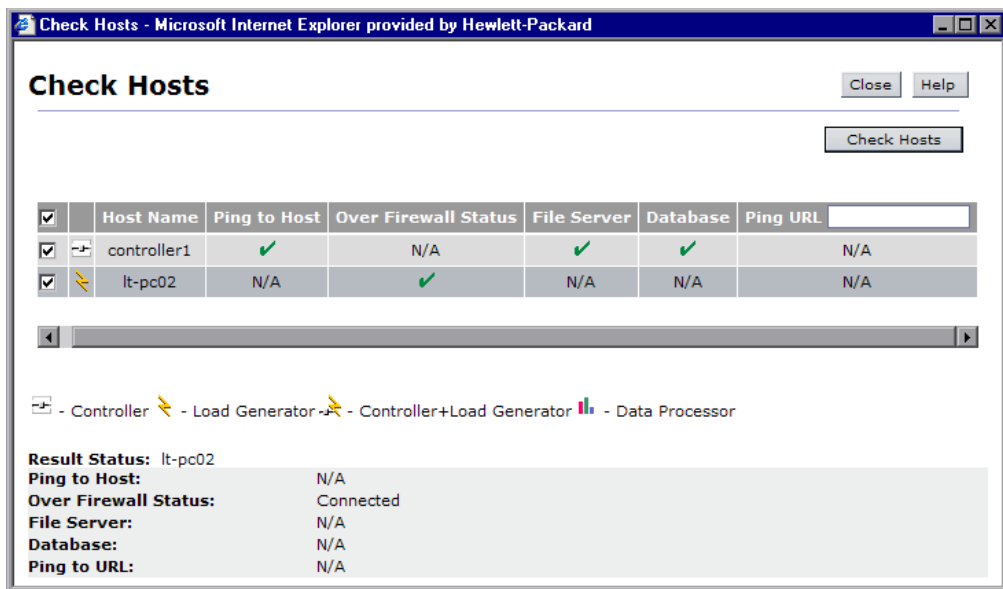
Host in Resource Failure

Problem description: The 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 User Site (**Project > Hosts > Check Hosts**).



► 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 to the target host from the Performance Center Web server, utility server, and database 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.
- **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 in any of the following ways:
 - In the command line, execute the following:

```
net use \\fileserver\LRFS / user:
<Performance_Center_user><Performance_Center_user_password>
```

- Log in to the host machine as the Performance Center system user, and in the command line, execute the following:

```
% 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 the HP Performance Center system user full control.
 - Make sure that the 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 Service Connectivity” on page 343.

► **If the database fails:**

- Check the <HP 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 Server Hangs” on page 364.
- Verify ADODB connectivity to the database as described in “Login to Database Server Fails” on page 366.

Option 2: Check the Performance Center version

Make sure that the version of Performance Center service pack level and feature pack level on all your host and server machines are the same as those on the Performance Center Web and Utility servers. That is, all Performance Center hosts and servers **MUST** be at the same service pack and feature pack level.

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 wlrn.exe manually from the Controller host machine

If the host check succeeds, but the host is still not operational, launch the Controller manually from the Controller host machine as follows:

- 1** Log in to the host machine.
- 2** Configure the **wlrn.LrEngine** application to run as an interactive user:
 - Launch **dcomcnfg.exe**.
 - In the **Application** tab, select **wlrn.LrEngine** from the list of DCOM applications.
 - Click **Properties** to view the properties for **wlrn.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 **wlrn.LrEngine** back to its original identity. By default, this is This User with the Performance Center user name and password. If you used a different identity, restore it.

- 3** Launch the Controller (**wlrn.exe**) from the **<HP 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 verify that the Controller works.

Note: Scripts uploaded to the Performance Center LRFS reside in the `\\fileserver\LRFS\<ProjectID>\Scripts` directory. To obtain the `<ProjectID>`, select **User Management > Projects**.

The following is an example path to the **USR** file for a script named **MyTest**:
`\\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 whether the following processes are displayed in the Task Manager on the Controller host:
 - **OrchidActiveSession.exe OR ORCHID~1.exe**
 - **WLRUN.EXE**
 - Check whether the Controller is displaying a dialog box 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 dialog boxes 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 Web site (<http://www.hp.com/go/hpsoftwaresupport>) for assistance.

Note: When you are finished with this step, set **wlrun.LrEngine** back to its original identity. By default, this 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.

- 1** Uninstall Performance Center (**Start > Settings > Control Panel > Add/Remove Programs**). (This is really the Performance Center host.)
- 2** Delete **HKEY_LOCAL_MACHINE\SOFTWARE\Mercury Interactive** from the registry.
- 3** Clean the Performance Center machine, as described in the section about cleaning Performance Center machines in the *HP Performance Center System Configuration and Installation Guide*.
- 4** 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 an Performance Center server (such as a Utility Server, Web Server, or File Server) on the same machine as the Performance Center host (such as a data processor, Controller, or load generator).

Unable to Add a Load Generator Due to High Latency

Problem description: You are 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 greater than 50 ms. This applies only to hosts added as load generators.

Troubleshooting

- 1** Create a temporary host location over a firewall.
 - a** On 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** On 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.

Problems Changing SiteScope Server in Administration Site

Problem description: You are unable to change the SiteScope server details on the Server Configuration page in the Administration Site (**System Configuration > Server Configuration**). When you type a new SiteScope server in the **SiteScope Server** box and click **Save**, you receive one of the following error messages:

- ▶ Service unavailable
- ▶ An unspecified error occurred while processing your request. Try to refresh your browser or to open another browser instance.

Troubleshooting



- 1** On the Server Configuration page (**System Configuration > Server Configuration**), clear the contents of the **SiteScope Server** box and click **Save**.
- 2** In the **SiteScope Server** box, type the name of the new SiteScope server and click **Save**.

Note: As a result of this action, Performance Center host or server groups may have been created on the new SiteScope server. We recommend that you remove these groups from the SiteScope server.

- 3** Re-enable SiteScope monitoring on the relevant Performance Center hosts and servers.
 - ▶ To enable SiteScope monitoring for a host, open the Hosts page (**Resources > Hosts**), and click the relevant host. In the **Properties** tab, click **Edit** and select **Enable SiteScope Monitoring**.
 - ▶ To enable SiteScope monitoring for a server, open the Servers page (**Resources > Servers**), and click the relevant server. In the **Properties** tab, click **Edit** and select **Enable SiteScope Monitoring**.
- 4** Reconfigure the SiteScope alert settings on the Alerts Configuration page (**System Configuration > Alerts Configuration**).

SiteScope Server Fails to Monitor the MS-SQL Database

When using a SiteScope server to monitor a Performance Center farm working with Microsoft SQL Server 2005, SiteScope fails to monitor the database service.

SiteScope Data		
State	Name	Status
	MEMORY	24% used, 4305MB free, 4.37402 pages/sec
	SERVICE 'RemoteManagement Agent Service'	running
	SERVICE 'MSSQLSERVER'	not installed
	SERVICE 'Performance Center TaskManager Service'	running
	SERVICE 'Performance Center Disk Cleaner'	running

Troubleshooting

This problem is caused due to a discrepancy in the service names between the Microsoft SQL Server 2000 and Microsoft SQL Server 2005. By default, Performance Center is configured with the service name of Microsoft SQL Server 2000.

- 1 If SiteScope was already added to monitor the Performance Center farm, and was enabled to monitor the database server (from the Administrator Site > Servers page), disable SiteScope from monitoring the database server.
- 2 Change the SQL Server's service name in Performance Center by running the following SQL statement on the Performance Center database:

```
UPDATE SiSMonitors SET Instance='SQL Server (MSSQLSERVER)' WHERE
Instance='MSSQLSERVER'
```

- 3 Re-enable SiteScope to monitor the database server.

Failure to Add Host

Problem description: Add host fails.

This may occur as a result of any of the following problems:

- Cannot Add Host as a Performance Center Host
- Performance Center Incorrectly Asks for Administrator Account
- System User Passwords Do Not Match
- .NET Framework
- Oracle Database Connection

Cannot Add Host as a Performance Center Host

Problem description: When trying to add a host, you receive an error stating that HP Performance Center cannot identify the host as an Performance Center host.

Troubleshooting

Verify that the **ManagementUtil.exe COM** object is defined as the Performance Center system user.

Performance Center Incorrectly Asks for Administrator Account

Problem description: Failure to add hosts is often mistakenly accompanied by a request for administrator account credentials.

Troubleshooting

- 1** Make sure the Default Web Site directory in IIS is defined with port **80** and **IP address** is set to **(All Unassigned)**.
- 2** Make sure that IIS is configured properly.
 - **IIS 5.0.x:** In the **Default Web Site > PCWS** folder's Properties, make sure that **Application Protection** is set to **High**.

► **IIS 6.0.x:**

- Make sure that **Application Pools > PCWSAppPool** exists. If not, create it with default options.
- In the **Default Web Site > PCWS** folder's Properties, make sure that the application pool selected is **PCWSAppPool**.
- In the Web Service Extensions, make sure that the following are allowed:

Active Server Pages; ASP.NET v2.0.50727; Server Side Includes

If any of them are not allowed, allow them and reset IIS.

- 3** Make sure the **ServerManagerWS** Web Service is available (see “Testing Web Service Connectivity” on page 344).

System User Passwords Do Not Match

The Performance Center system user credentials on the new host machine must be the same as those of the Performance Center system user on the rest of the Performance Center system.

If the system user exists on the host with a different password, Performance Center will not add the host to the system. Before attempting to add a host, Make sure that the credentials match.

.NET Framework

There may be a problem with the .NET Framework installation.

Repair the .NET Framework installation as follows:

- 1** Select **Start > Run**.
- 2** Type the following command:

```
c:\WINDOWS\Microsoft.NET\Framework\v2.0.50727\aspnet_regiis.exe -i
```

Oracle Database Connection

If you are working with Oracle, this problem might be related to the Oracle database connection.

Verify that the following connection works from the host server machine:

```
% sqlplus <username>/<password>@<connect_string>
```

If the command fails, check the TNS entry on the host machine (in the **<Oracle_client installation directory>\network\admin\tnsnames.ora** file). This should be the same as the TNS entry on the database server (in the **<Oracle_server installation directory>\network\admin\tnsnames.ora** file).

If the TNS entry is different to that of the database server, you need to copy the TNS entry from the database server to the host.

Failure to Reboot Host from Administration Site

Problem description: When a host is rebooted from the Hosts page of the Administration Site, the host has been rebooted, but the host state is not updated accordingly.

Troubleshooting

Reset IIS as follows:

- 1** Select **Start > Run**.
- 2** Type `iisreset`.
- 3** Press **Enter**.

Not Enough Server Storage Available

Problem description: The following error message appears in the Analysis results and Performance Center logs (<Performance Center installation>\orchidtmp\LTLogger\ANALYS~1\log.txt) on the host machine:

"Not enough server storage is available to process this command."

Troubleshooting

This error occurs when the value of the IRPStackSize entry in the machine's registry is too low.

Important: The following procedure contains steps that instruct you how to modify the registry. Serious problems might occur if you modify the registry incorrectly. Therefore, make sure that you follow each step carefully. For added protection, back up the registry before you modify it. Then, you can restore the registry if a problem occurs. For more information about how to back up and restore the registry, see the following article in the Microsoft Knowledge Base: 322756 (<http://support.microsoft.com/kb/322756/>) How to back up and restore the registry in Windows.

To increase the value of the IRPStackSize registry entry:

- 1 Select **Start > Run**, type **regedit**, and click **OK**.
- 2 Locate the following registry subkey:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Parameters
```


- 3** If the `IRPStackSize` entry is not present in this subkey:
 - a** From the Edit menu, select **New > DWORD Value**.
 - b** Type `IRPStackSize`, and press `ENTER`.

Note: Type `IRPStackSize` exactly as it appears. The value name is case sensitive.

- 4** Select `IRPStackSize` and, from the Edit menu, select **Modify**.
- 5** In the **Data Value** box, type a higher value, and click **OK**.

Values may range from `0x1` to `0xC`. These values are equivalent to 1 to 12 in decimal notation.

If the problem persists after you have completed this procedure, gradually increase the value of `IRPStackSize` until you find the minimum value that resolves the problem. Using a value that is higher than necessary might waste system resources.

Other factors can also lead to this error message. If problems persist after you have used all the valid values for `IRPStackSize`, restore `IRPStackSize` to its original value, and seek another explanation for the error

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Troubleshooting Accessing the Performance Center Sites

This chapter provides information on troubleshooting Web-related problems.

This chapter includes:

- ▶ Login Fails on page 331
- ▶ User Site Does Not Exist After Initial Configuration on page 333
- ▶ Unable to Log In to the Administration/User Site on page 334
- ▶ Administration Site Page Cannot Be Displayed on page 335
- ▶ Cannot Connect to Administration or User Site on page 336

Login Fails

Logging in to Performance Center fails in the following cases:

- ▶ “New Users Cannot Log In to Performance Center” on page 332
- ▶ “Cannot Log In to Performance Center with Any User or Administrator Account” on page 332

New Users Cannot Log In to Performance Center

Problem description: New users cannot log in to Performance Center. Get the following error: **The system could not retrieve your personal information. Please contact your administrator.**

Troubleshooting

This usually happens after upgrading the database.

Make sure that the **Default** project exists in Performance Center and is enabled.

- 1 Open the database, and locate the Companies table.
- 2 Make sure that for **Default** project, **state** is set to **1**.

If not, run the following line on the database:

```
update MI_LRDB.companies set state=1 where companyID=1
```

Cannot Log In to Performance Center with Any User or Administrator Account

Problem description: You cannot log in to Performance Center 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. Select **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. For more information about troubleshooting Web services, see the relevant section in the *HP Performance Center Administrator Guide*.
- 4 Check that you are able to connect to the database server from the Utility Server and the Web Server. Download the **TclN_AdoDBTester.exe** utility from the HP Software Support site's Self-solve Knowledge Search (<http://support.openview.hp.com/selfsolve/documents>) (ID: **39475**).
- 5 Make sure that the maximum number of connections to the database server has not been exceeded. Run **Perfmon.exe** or the database server's management tool to verify the number of connections. You should contact your database administrator if you need further assistance.

User Site Does Not Exist After Initial Configuration

Error message: 'Page Not Found' (displayed in browser).

Problem description: 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 Administration Site (**System Configuration > Server Configuration**). In this case, after the User Site (<http://<servername>/LoadTest>) has been created, it does not exist on the Performance Center server.

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 the following step.

If **LoadTest** is not defined, log in to the Performance Center Administration Site and check if an entry exists for **User Site Servers** on the Server Configuration page (under **System Configuration > Server Configuration**). If the name of the server is not displayed under **User Site Servers**, add it and save your changes. Try to log in to the User Site (<http://<servername>/loadtest>).

- 2 From the User Site machine, connect to the database or user schema using Microsoft SQL, Oracle Enterprise Manager, or any SQL client and check the **Web Server** entry in the **GlobalData** table of the **MI_LRDB** **tablespace/database**. If the **Web Server** entry contains the name of the server on which you want to install the Performance Center User Site, remove the server name.
- 3 Log in to the Performance Center Administration Site and define **User Site Servers** on the Server Configuration page (under **System Configuration > Server Configuration**).

Unable to Log In to the Administration/User Site

Problem description: You are unable to log in to the Administration Site or the User Site. The system appears to “spin.”

Troubleshooting

- 1 (IIS 5 only) Make sure that 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 (IIS 5 only): Set the Application Protection level to High (isolated)” on page 364.

- 2 Make sure that the permissions level for the **IWAM_<SERVER>** user is set correctly. For more information, see “Option 2: Set the Correct Permissions Level for the IWAM_<SERVER> user” on page 365.
- 3 Make sure that the IWAM password for the IIS account is synced. If this is the first time you are logging in after installing Performance Center, the installation might have been corrupted due to IIS configuration problems. This can happen when installing a Windows service pack and/or updates before IIS is installed. In this case IIS is not updated (this is a Microsoft limitation). For more information, see the section about “Error: Method ~ of object ~ Failed During Installation” in the *HP Performance Center Troubleshooting Guide*.

Administration Site Page Cannot Be Displayed

Problem description: You receive an error message indicating that the Administration Site page cannot be displayed, or the Administration Site is not displayed correctly.

Troubleshooting

- If the Administration Site is not displaying correctly, recreate the Administration Site by running **<Performance Center installation directory>\bin\AdminInstaller.exe1**
- If you receive an error that the page cannot be displayed:
 - a Close the current browser. Relaunch the browser and try to open the Administration Site again.
 - b Select **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.
 - c Clear the browser cache and cookies.
 - d If the problem is still not resolved, try to open the Administration Site from a different machine.
 - e Reset IIS by choosing **Start > Programs > Administrative Tools > Services**, locating **IIS Admin Service**, and clicking **Restart Service**.

Cannot Connect to Administration or User Site

Problem description: When trying to connect to the Administration or User Site Web servers, you receive a **Service unavailable** or **You are not authorized to view this page** error message.

Troubleshooting

- 1** Verify that the Administration Site virtual directory user exists.
- 2** Verify that the user has all the required policies.
- 3** Verify that the application pool is not locked. If it is, consult the event viewer for an explanation.
- 4** Verify that the security policy configuration of the customer domain is compatible with the the configuration of your Performance Center environment.

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Troubleshooting Web Problems

This chapter provides information on troubleshooting Web-related problems.

This chapter includes:

- HTTP 500.x – Internal Server Error on page 337
- Cannot Find Server or DNS Error on page 340
- Maintenance Service Causes IIS Resets on page 341
- HTTP/1.1 100 Continue Randomly Appears on page 341
- Internet Explorer Closes When Selecting Script For Vuser Group on page 342

HTTP 500.x – Internal Server Error

Error message: The page cannot be displayed (HTTP 500.x Internal Server Error).



Troubleshooting

- 1** Reset IIS by choosing **Start > Programs > Administrative Tools > Services**, locating **IIS Admin Service**, and clicking **Restart Service**.
- 2 (IIS 5 only)** If you cannot restart IIS, reboot the machine.
Make sure that 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 (IIS 5 only): Set the Application Protection level to High (isolated)” on page 364.
- 3** Make sure that the anti-virus software is not checking the Performance Center installation directory and sub-directories and thereby causing the error. In addition, make sure that the anti-virus program is not checking the file server directory (generally **LRFS**).
- 4** If you are still receiving an error, perform the following steps to see a more detailed error:

On the client machine:

- a** Open Internet Explorer.
- b** Select **Tools > Internet Options**.
- c** Click the **Advanced** tab.
- d** Under the **Browsing** section, deselect **Show Friendly HTTP Error Messages**.

On the server machine:


- a** Select **Start > Programs > Administrative Tools > Internet Information Services Manager** to open the IIS manager.
- b** Expand **Web Sites**.
- c** Select **Default Web Site**.
- d** Select the virtual directory relevant to the server’s purpose: **Admin** for Administration Site Server, **Loadtest** for User Site Server.
- e** Right click the selected directory and click **Properties**. The <directory> Properties dialog box opens.
- f** Click **Configuration**. The Application Configuration dialog box opens.

- g** Click the **Debugging** tab.
- h** Select **Send detailed ASP error messages to client**.
- i** Click **OK** to close the Application Configuration dialog box.
- j** Click **OK** to close the <directory> Properties dialog box.
- k** Restart IIS by right clicking the server's name in the tree. Select **All tasks > Restart IIS**.

At this point you should have a different, more detailed error message. Try to address the problem indicated in the message, or contact HP Customer Support with this message and all information related to the problem.




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 Verify 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 Select **Start > Programs > Administrative Tools > Services**.
 - b Make sure that **IIS Admin Service** is **Started** and that **Startup type** is set to **Automatic**.
 - c Make sure that **World Wide Web Publishing Service** is **Started** and that **Startup type** is set to **Automatic**.
- 4 Reset IIS by choosing **Start > Programs > Administrative Tools > Services**, locating **IIS Admin Service**, and clicking **Restart Service**.

Maintenance Service Causes IIS Resets

Problem description: 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 that 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 this key to zero.

HTTP/1.1 100 Continue Randomly Appears

Problem description: The 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.

Internet Explorer Closes When Selecting Script For Vuser Group

Problem description: When trying to select a script for a new Vuser group, Internet Explorer closes.

Troubleshooting

When you are designing Vuser groups, there must always be at least one available script in the Scripts list. If you try to select a script and the list is empty, it triggers a known defect in IE7 [version 0.5730.13CO], causing the browser to close.

Make sure that at least one Vuser script has been uploaded to the current project.

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Troubleshooting Web Services

This chapter provides information on troubleshooting Web service-related issues.

This chapter includes:

- ▶ Troubleshooting Web Service Connectivity on page 343
- ▶ Testing Web Service Connectivity on page 344

Troubleshooting Web Service Connectivity

This section provides troubleshooting for Web service connectivity issues.

Important: The following troubleshooting tips apply to the Web service requester agent machine.

After each troubleshooting attempt described below, you can test your Web service connectivity using the test described in “Testing Web Service Connectivity” on page 344.

To troubleshoot Web service connectivity:

- 1** Verify that the PCWS virtual directory exists in IIS.
- 2** If you are using IIS 6, verify that the **ASP.NET V2.0** extension was installed and allowed in IIS.
- 3** If you are using IIS 6, verify that the **PCWSAppPool** application pool is not locked. If it is locked, you can consult the event viewer for an explanation.

- 4 If you are using IIS 5, grant full access permission for **IWAM_<Machine_name>** in the **<Windows directory>\temp** directory.
- 5 Verify that the Performance Center system user exists on the machine.
- 6 Verify 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 Service Connectivity

After you troubleshoot Web service connectivity, you can test your Web service connectivity by trying to access the Performance Center **ConfigWS** Web services on the requester agent machine.

To test Web service connectivity:

- 1 On the requester agent machine, type the following URL:

```
http://<provider agent machine>/PCWS/ConfigWS.asmx
```

- 2 In the **Enter Network Password** box, type your Performance Center system user login details.

The ConfigWS Web service page opens.

Service Descripti'. Below this paragraph is a bulleted list of operations: 'ChangeServerIdentity', 'Create', 'DisposeService', 'InstallWeb', 'InstallWebGraphDir', 'IsAvailable', 'PingService', and 'ResetIIS'. Each item in the list is a blue, underlined link." data-bbox="231 118 899 422"/>

ConfigWS

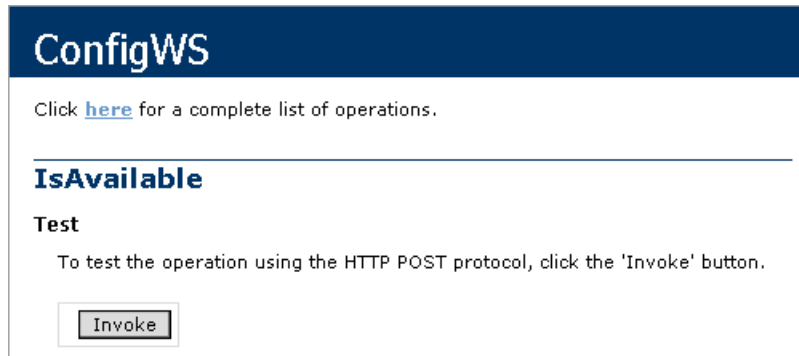
The following operations are supported. For a formal definition, please review the [Service Descripti](#)

- [ChangeServerIdentity](#)
- [Create](#)
- [DisposeService](#)
- [InstallWeb](#)
- [InstallWebGraphDir](#)
- [IsAvailable](#)
- [PingService](#)
- [ResetIIS](#)

Note: If this page does not open, there is still a problem with the Web service 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 service connectivity is operational.

35

Troubleshooting System Identity

This chapter provides information on troubleshooting system identity-related issues.

This chapter includes:

- ▶ Administrator Account Requested on page 347
- ▶ Error in Adding Permissions to Folder/Registry on page 348
- ▶ Identity References Cannot Be Translated on page 348
- ▶ Server/Host Configuration Problems on page 349
- ▶ Admin Tasks Take a Long Time/Time-Out/ ThreadAbortException on page 349
- ▶ Conflicting Credentials when Changing Users on page 350
- ▶ Oracle Database – Cannot Change System User to Non-Admin User on page 350
- ▶ Remote Management Agent Service Disabled After Changing System User on page 351
- ▶ Load Generator Standalone Limitations on page 352

Administrator Account Requested

Problem description: An administrator account is requested even if the Performance Center system user is an administrator.

Troubleshooting

- 1 Verify that you can access the Web service using the browser.
- 2 Verify that the system user exists on the machine.
- 3 Check whether the **ASP.NET V2.0** extension was installed and allowed in IIS.
- 4 Verify that you have the **PCWS** virtual directory.

Error in Adding Permissions to Folder/Registry

Problem description: You receive an error when adding permissions to one of the file/folders or registry keys.

Troubleshooting

- 1 Try to reconfigure the use case again (by clicking the **Reconfigure** button in the System Identity utility).
- 2 Reboot the machine and click the **Reconfigure** button in the System Identity utility.
- 3 Clean out all the unrecognized users from the folder/registry.

Identity References Cannot Be Translated

Error message: Some or all identity references could not be translated.

Problem description: You receive the above error in trying to configure the system.

Troubleshooting

- 1 Verify that the configuration user is not the same user with which you are logged in to the system. If you are logged in to the system with the configuration user, log off and then log in again with a different user.
- 2 Reset IIS on the machine on which you received the error.

Server/Host Configuration Problems

Error message: System.Web.Services.Protocols.SoapException: Server was unable to process request. Unable to generate a temporary class.

Problem description: This error can occur when trying to configure a server or host using the System Identity utility.

Troubleshooting

Grant full access permission for the IWAM_<Machine_name> user in the <Windows directory>\temp directory.

Admin Tasks Take a Long Time/Time-Out/ ThreadAbortException

Problem description: In the following cases, a time-out event or ThreadAbort exception occurs or the action takes a long time:

- The system user is a non-administrative user (lockdown) and you try to add a host.
- The system user is an administrative user and you try to change it to a non-administrative (lockdown) user.

Troubleshooting

Click **Reconfigure** to configure the system user again.

If the problem persists:

In “lock-down mode,” permissions are granted to specific directories, files, and registry keys that Performance Center requires 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.

If the problem still persists, you need to configure the system user manually. For details, see Appendix A, “Configuring Performance Center System User Manually.”

Conflicting Credentials when Changing Users

Error message: The credentials supplied conflict with an existing set of credentials.

Problem description: This error can occur when using the System Identity utility to change the system user.

Troubleshooting

Verify that the configuration user is not the same user with which you are logged in 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.

Note: 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.mspix?mfr=true>).

Oracle Database – Cannot Change System User to Non-Admin User

Problem description: 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 Oracle Client's **SQLNET Authentication Services** option on each of the Performance Center servers and hosts.

To disable the SQLNET Authentication Services option:

- 1 Open the <Oracle installation directory>\network\admin\sqlnet.ora file and locate the following line:

```
SQLNET.AUTHENTICATION_SERVICES = (NTS)
```

- 2 At the beginning of this line, insert a # symbol.
- 3 Save the file.

Remote Management Agent Service Disabled After Changing System User

Problem description: After you change the system user to a non-administrative system user, the Remote Management Agent service is disabled.

Troubleshooting

You need to remove the service and restart it with the new Performance Center system user's credentials.

- 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.

Load Generator Standalone Limitations

This section specifies a number of scenarios of changing the system user, and the load generator standalone limitations associated with each scenario.

Scenario 1

- You changed the system user for all servers and hosts in the Performance Center environment.
- You did not add the changed user manually to Load Generator machine.
- The default Performance Center system user, **IUSR_METRO**, exists on the Load Generator machine.

Feature	Availability
Sitescope monitoring	Works with IUSR_METRO credentials
Default load test monitoring	Does not work
Remote management (reboot and install patch)	Works with IUSR_METRO credentials (type username and password upon request)

Scenario 2

- You changed the system user for all servers and hosts in the Performance Center environment.
- You added the changed user manually to the Load Generator machine.
- The default Performance Center system user, **IUSR_METRO**, exists on the Load Generator machine.

Feature	Availability
Sitescope monitoring	Works with IUSR_METRO credentials
Default load test monitoring	Works with changed user credentials
Remote management (reboot and install patch)	Works with IUSR_METRO credentials (type username and password upon request)

Scenario 3

- You changed the system user for all servers and hosts in the Performance Center environment.
- You added the changed user manually to the Load Generator machine.
- You removed the default Performance Center system user, **IUSR_METRO**, from the Load Generator machine.

Feature	Availability
Sitescope monitoring	Does not work
Default load test monitoring	Works with changed user credentials
Remote management (reboot and install patch)	Does not work Workaround: Remove service and reinstall service with changed user credentials. For details, see “Remote Management Agent Service Disabled After Changing System User” on page 351.

36

General Troubleshooting

This chapter provides information on general troubleshooting problems.

This chapter includes:

- ▶ Problem Related to Data Execution Prevention (DEP) on page 355
- ▶ Reserved Timeslots are Not Displayed in the Calendar View on page 356
- ▶ Problems Configuring Performance Center to Work with HTTPS on page 356
- ▶ Performance Center Pages Are Blocked when Using Internet Explorer 6 on Machine with Skype on page 358
- ▶ Performance Center Machine's CPU Usage Reaches 100% on page 360
- ▶ Results Displayed Incorrectly in Standalone Analysis on page 361
- ▶ When Opening Host Security Manager Get Unhandled Exception on page 361

Problem Related to Data Execution Prevention (DEP)

Problem description: When rebooting a Windows XP SP2 or Windows 2003 machine, you might receive an error message related to Data Execution Prevention (DEP).

Troubleshooting

Modify the Windows DEP settings as follows:

- 1** Open **Start > Control Panel > System**.
- 2** In the Advanced tab, click **Performance settings**.

- 3 In the Performance Options Data Execution Prevention tab, select the first option, **DEP for essential services only**.

If you cannot change this option, click **Add**. Browse to the client program, for example IEXPLORE.EXE.

If neither of these options are possible, try to disable DEP completely.

- a In the Control Panel, click the **Advanced** tab under **System** section.
 - b Under **Startup and Recovery**, click **Edit**.
 - c Replace **NoExecute=OptOut** with **NoExecute=AlwaysOff**.
- 4 Click **OK** to save the settings.
 - 5 Reboot the machine.

Reserved Timeslots are Not Displayed in the Calendar View

Problem: Reserved timeslots are not displayed in the calendar view.

Troubleshooting

When working on non-English environments, the calendar view does not display reserved timeslots.

Workaround: If you are working on a non-English environment, and you want to view reserved timeslots, log in to the User Site server as a Performance Center system user (for example, IUSR_METRO) and set the regional settings to English.

Problems Configuring Performance Center to Work with HTTPS

Problem description: Unable to configure Performance Center to work with HTTPS. The Windows Event Viewer might display one of the following errors:

- **Unable to bind to the underlying transport for 0.0.0.0:443. The IP Listen-Only list may contain a reference to an interface which may not exist on this machine. The data field contains the error number.**
- **Cannot register the URL prefix 'https://*:443/LoadTest/' for site '1'. The site has been deactivated.**

When you try to start IIS, you get the following pop-up error: **The process cannot access the file because it is being used by another process.**

Troubleshooting

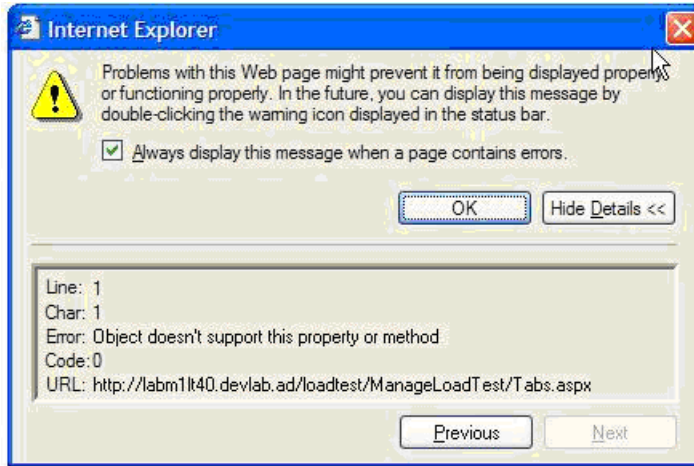
Performance Center utilizes port 443 for some of its own features. To enable working with HTTPS, you must to assign a different port to the `al_agent_service` service.

To assign a different port:

- 1** Open `<PC installation directory>\al_agent\dat\mdrv.dat`.
- 2** Locate the `[launcher]` section and add `OFWPort=<port>`, where `port` is the port number you want to open.
- 3** Save and close the file.
- 4** Open `< PC installation directory >\al_agent\dat\channel_configure.dat`.
- 5** Locate the `[General]` section and add `OFWPort=<port>`, where `port` is the port number you want to open.
- 6** Save and close the file.
- 7** Restart the `al_agent_service` service.

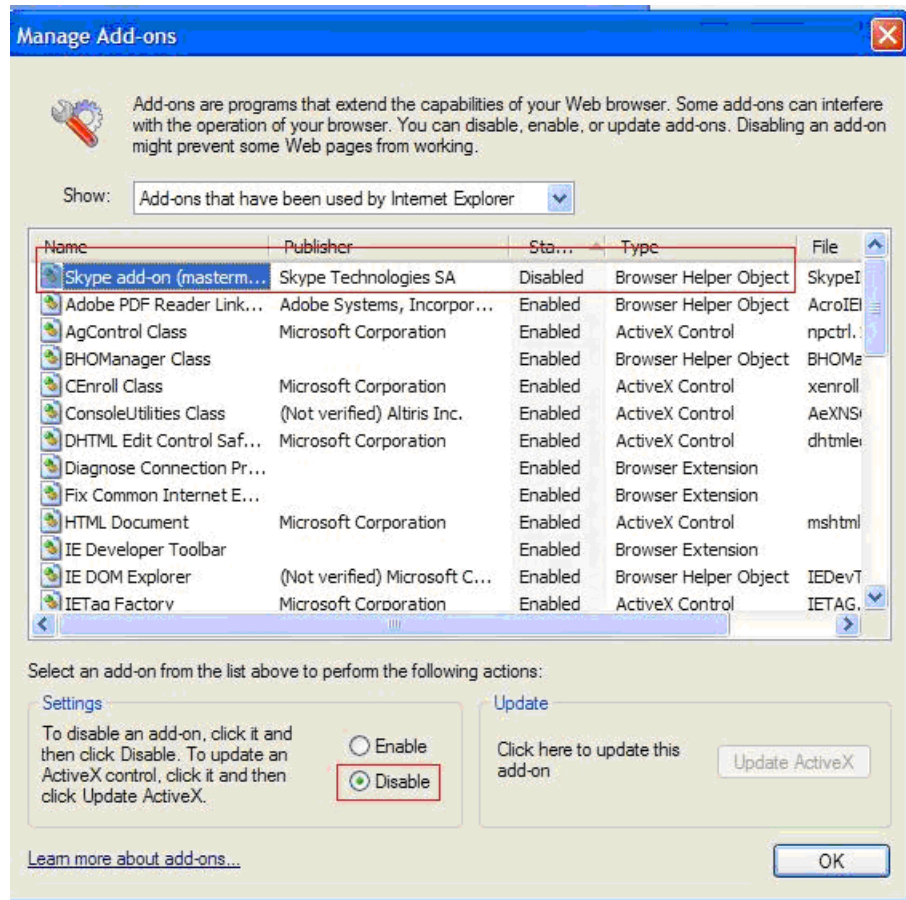
Performance Center Pages Are Blocked when Using Internet Explorer 6 on Machine with Skype

Problem description: Some of the Performance Center pages (Reports, Load Test configuration) are blocked. Get the following message:



Troubleshooting

Remove the Skype explorer add-on.



Performance Center Machine's CPU Usage Reaches 100%

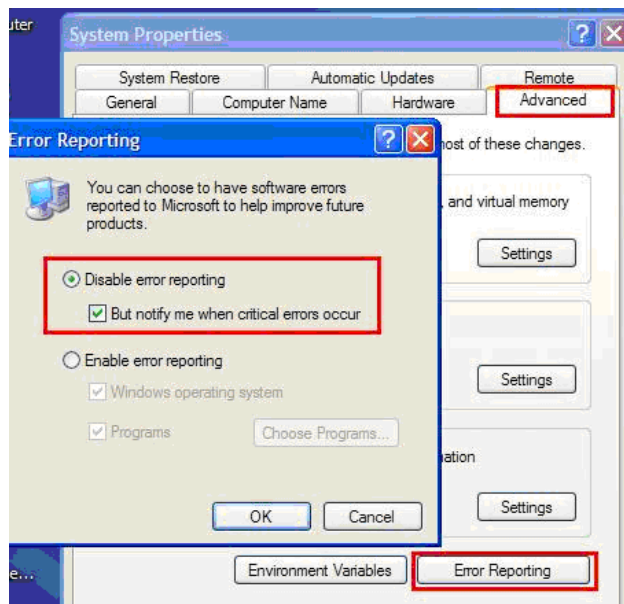
Problem description: On one of the Performance Center machines the CPU usage reaches 100% with extensive use of DW20.EXE - the **Microsoft Error Reporting** option. (For more details, see <http://blogs.orcsweb.com/rick/archive/2007/02/15/error-reporting-and-dw20-exe.aspx>.)

Troubleshooting

Disable the **Error Reporting** option on all Performance Center machines.

To disable Error Reporting:

- 1 Open System Properties (**Start > Control Panel > System**).
- 2 On the **Advanced** tab, click **Error Reporting**.
- 3 Select **Disable error reporting**.



Results Displayed Incorrectly in Standalone Analysis

Problem description: When opening analysis results in Standalone Analysis transaction IDs appear where the transaction names should appear.

Troubleshooting

This problem is related to the version of Analysis. Results created with Performance Center 9.5 have to be analyzed and viewed with Analysis 9.5. Make sure all Performance Center components are of the same version.

When Opening Host Security Manager Get Unhandled Exception

Problem description: On the Administration Site server, when you open Host Security Manager for the first time, a message displays the following exception: **Unhandled exception has occurred....**

Troubleshooting

Click **Continue** to close the message window.

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Troubleshooting Databases

This chapter provides information on troubleshooting problems that occur with database in the Performance Center system.

This chapter includes:

- ▶ Login to Oracle Database Server Hangs on page 364
- ▶ Login to Database Server Fails on page 366
- ▶ Database/User Schema Creation Fails on page 368
- ▶ Warning Message Received During MS-QL Database Migration on page 369
- ▶ Conflict Warnings Received During Database Migration on page 369

Login to Oracle Database Server Hangs

Error message: Trying to log on to database server.

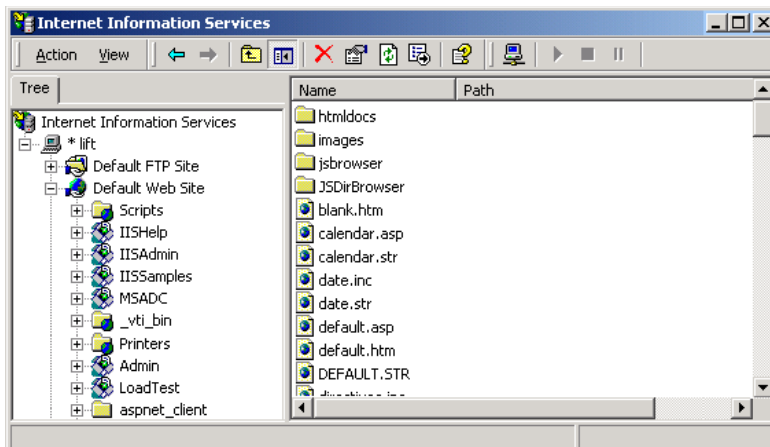
Troubleshooting

- **Option 1 (IIS 5 only): Set the Application Protection level to High (isolated)**

Make sure that the **Application Protection** level is set to **High (isolated)** in the Internet Services Manager in both the Administration Site and User Site.

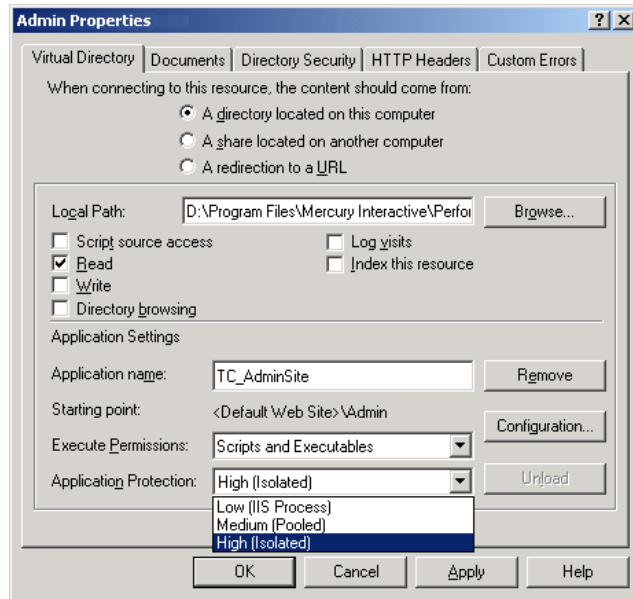
To set the application protection level:

- 1 Select **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 through 4 for the User Site. In step 2, right-click **LoadTest** instead of **Admin**.

Option 2: Set the Correct Permissions Level for the IWAM_<SERVER> user

Problems with logging on might be caused by a permissions level problem with the **IWAM_<SERVER>** user. By default, this account is set to the **Guest** permissions level. However, the **IWAM_<SERVER>** user must 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 select **Properties**.
- 2** Click the **Security** tab.
- 3** Click **Add** and add the **IWAM_<SERVER>** user.
- 4** Check **Read & Execute**.
- 5** Click **OK**.

Login to Database Server Fails

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 server host name, type, user name, and password are correct. Consult your database administrator if you are unsure.
- 2 Check whether you can connect to the database server from the Administration Site server using the command line SQL client:
 - **For MS SQL Server:**

```
% osql -U <username> -P <password> -S <serverID>
```

For 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 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 Server:**

```
% sqlplus <username>/<password>@<connect_string>
```

For example:

```
% sqlplus system/manager@LRTCORA
```

If the above command fails, check your TNS entry in the **<Oracle installation directory>\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 Test the ADODB connectivity to the database:
 - a Download the **TclIN_AdoDBTester.exe** utility from the HP Software Support site's Self-solve Knowledge Search (<http://support.openview.hp.com/selfsolve/documents>) (ID: **39475**).
 - b Run the utility to test the ADODB connectivity to the database.
 - Update the **username**, **password**, and **server** fields in the connection string:
 - For MS SQL Server, use the Provider=SQLOLEDB.1;... connection string.
 - For Oracle Server, use the Provider=MSAORA.1;... connection string.
 - Set a valid SQL statement (based on current database tables).
 - Execute the statement and check the response. If an error occurs, address the error message appropriately.
- 4 If you are working with Oracle Server, check that Oracle Client is installed properly:
 - a Check whether the **ORACLE_HOME** registry entry under [**HKEY_LOCAL_MACHINE\Software\Oracle**] is correct. It should be pointing to the Oracle Client installation.
 - b Remove **SQLPLUS.EXE** from the <**Performance Center installation directory**>\DB directory.
- 5 Verify that the version of MDAC is at least 2.8 SP1.

- 6 Verify that the database or user schema was actually created by checking whether the **db_results.txt** file exists in the **%temp%** directory of the Administration Site server. Note that this file is available only after system configuration. In addition, you can check whether the **MI_LRDB** database or user schema exists by logging in to the database/user schema.

Note: If you are able to log on to the User Site after system configuration, the database or user schema was most likely created properly.

Database/User Schema Creation Fails

Problem description: You cannot create a Performance Center database or user schema.

Troubleshooting

Try to create the database or user schema by running the SQL files located in the **DbSetup** directory of the Administration Site server.

- For MS SQL Server, run **TestCenter.sql** to create the database and **InitDefinitions.sql** to initialize the tables.
- For Oracle Server, run **TC_oracle.sql** to create the user schema and **InitDataOracle.sql** to initialize the tables.

Warning Message Received During MS-QL Database Migration

Problem description: The following warning message appears in the log file <DB_Migration_directory>\PC_V9_1.log when performing an MS-QL database migration:

```
Warning: The table 'Companies' has been created but its maximum row size (8227)
exceeds the maximum number of bytes per row (8060). INSERT or UPDATE of a row in
this table will fail if the resulting row length exceeds 8060 bytes.
```

Troubleshooting

This message is related to a size limit that is related to the Project Options. Since this size limit will not be utilized, you can disregard this message.

Conflict Warnings Received During Database Migration

Problem description: The following messages might appear in the log file <DB_Migration_directory>\PC_V9_0.log when performing a database migration:

```
DELETE statement conflicted with COLUMN REFERENCE constraint
'FK_ResultTransactions_RunPublishedResults'.
The conflict occurred in database 'MI_LRDB', table 'DashboardResultTransactions',
column 'RunResultId'.
```

```
DELETE statement conflicted with COLUMN REFERENCE constraint
'FK_GoalTransactions_TestGoals'.
The conflict occurred in database 'MI_LRDB', table 'DashboardGoalTransactions',
column 'TestGoalId'.
```

Troubleshooting

These messages appear when performing database migration of Performance Center 8.14 and earlier. These warnings relate to features that are no longer relevant in the current version of Performance Center. You can disregard these messages.

Part VIII

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 17, “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 includes:

- Required Policies for the Performance Center System User on page 374
- Performance Center User Configuration on page 375
- Performance Center User Permissions (Non-Administrative User Only) on page 381

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 375
- ▶ “Configuring IIS Settings” on page 376
- ▶ “Changing Application Pool Identity” on page 378
- ▶ “Configuring COM Object Identity” on page 380
- ▶ “Resetting Services” on page 380

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:

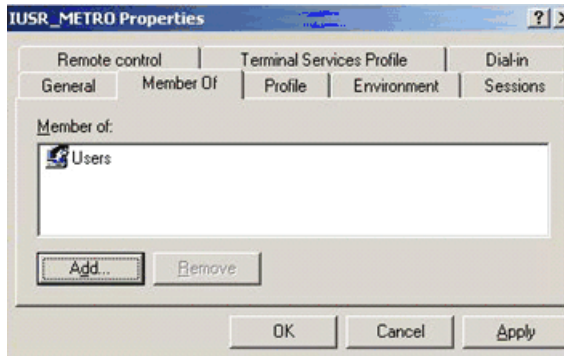
- 1** Open the Computer Management (Control Panel > Administrative Tools).
- 2** Add the user to the appropriate user group.

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**.

- ▶ If the Performance Center user is to be a 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**.

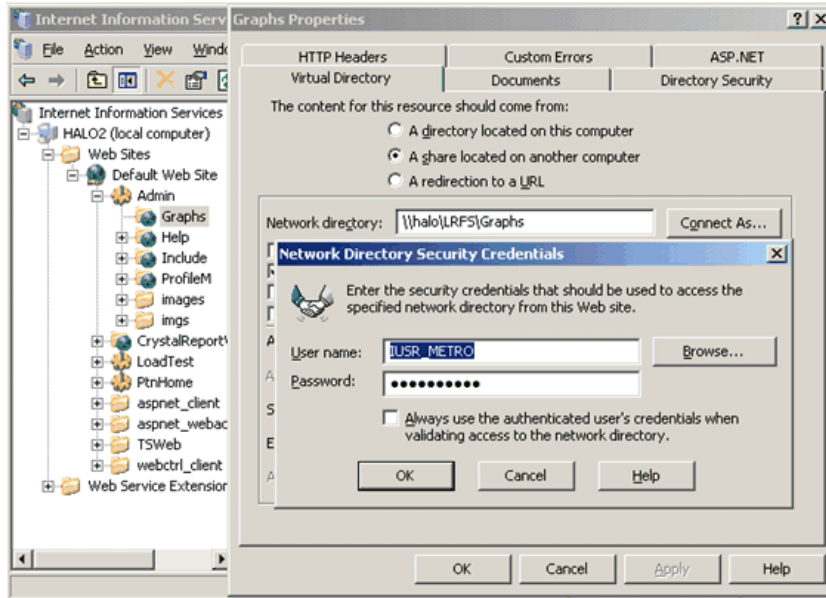
- d** Select **Anonymous access** and next to **Account used for anonymous access**, click **Edit**.
- e** Change the user to the Performance Center user.
- f** Click **OK**.
- g** Click **Apply**.
- h** In the dialog box that opens, select all the virtual directories to apply the Anonymous user to all 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.

- c Type 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

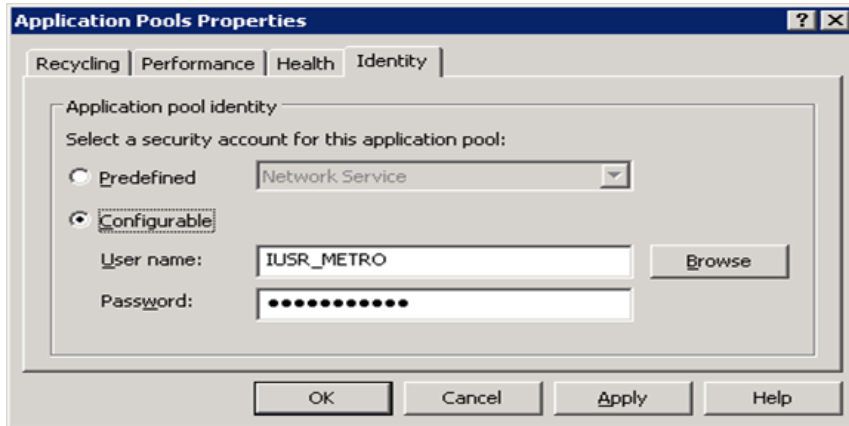
Performance Center Machine	Application Pool
Utility	PCWSAppPool
Hosts	PCWSAppPool

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 type 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 type 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 382
- “Configuring Permissions on the User Site (Web) Servers” on page 383
- “Configuring Permissions on the File Server” on page 386
- “Configuring Permissions on the Utility Server” on page 388
- “Configuring Permissions on the Performance Center Hosts” on page 391

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

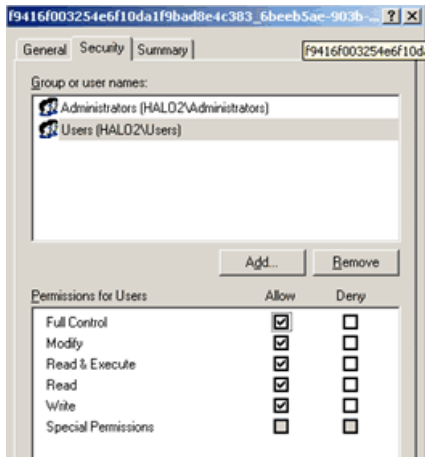
On the User Site (Web) servers, grant the following permissions to the non-administrative Performance Center user:

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

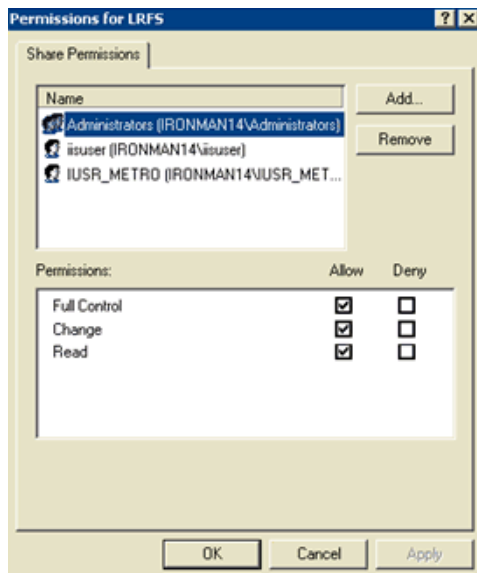
```
%windir%\Microsoft.NET\Framework\v2.0.50727
```

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

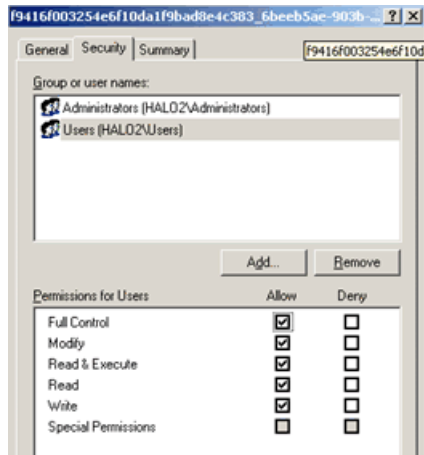
On the Utility server, grant the following permissions to the non-administrative Performance Center user:

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

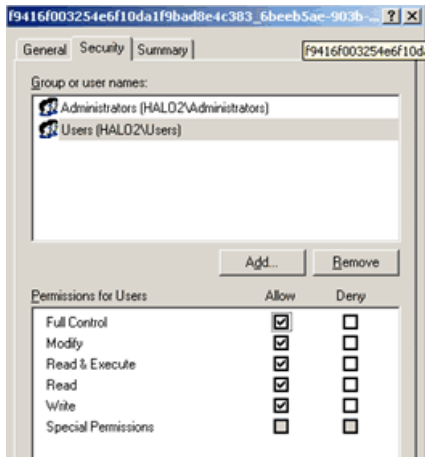
On the Performance Center hosts, grant the following permissions to the non-administrative Performance Center user:

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%\wlrn7.ini.**
 - **%windir%\wlrn5.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
```

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 Start Vuser 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.

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 ($1 \text{ hour} \times 24 = 1 \text{ day}$).

If you select the **Month** time range and a granularity of **every 1 week**, HP Performance Center displays the report using 4 samples ($1 \text{ week} \times 4 = 1 \text{ month}$).

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: HP WinRunner (for Microsoft Windows applications) and HP QuickTest Professional (for Web applications). You can run only a single GUI Vuser on a Windows-based load generator. Use terminal sessions to run multiple 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 Start Vuser 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 (Vuser) 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 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 Listener

A component that serves as router between the Controller and the Performance Center Agent. The MI Listener receives data from the Performance Center 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 machine

Used to monitor the servers that are located over a firewall. The Performance Center Agent runs on the Monitor Over Firewall machine and 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 will not 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 Monitor Over Firewall machines and enables communication between the Controller, load generators, Monitor Over Firewall machines 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 type 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.

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 or User 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, start Vuser, and stop Vuser times.

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

An 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 Vusers 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.

Start Vuser

Settings that define how you start running Vusers within a load test.

Stop Vuser

Settings that define how you stop Vusers within a load test.

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 select automatic or manual distribution of scripts to machines. If you select manual script distribution, you select 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 (Vuser) 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.

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