

HP Performance Manager

for the Windows[®], HP-UX, Solaris, and Linux operating systems

Software Version: 9.00

Administrator Guide

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1 Conventions Used in this Document

The following conventions are used in this document when referring to the location of files on the HP Performance Manager server system.



The forward slash “/” is used on UNIX systems and the backward slash “\” is used on Windows systems. The forward slash “/” is used in the examples and specifications throughout this document:

Convention	Description	On Windows Systems	On UNIX Systems
<install_dir>	The directory where Performance Manager is installed.	The default installation directory is C:\Program Files\HP\HP BTO Software. If you have the previous versions of HP Software products such as OpenView Performance Agent, OpenView Reporter, or OpenView Operations installed on your system, the default Performance Manager installation directory is C:\Program Files\HP OpenView.	On HP-UX, Solaris, and Linux systems, the installation directory is /opt/OV.
<data_dir>	The common data directory where data files and log files related to HP Software products are stored	On Windows 2003, the default data directory is C:\Documents and Settings\All Users\Application Data\HP\HP BTO Software. On Windows 2008, the default data directory is C:\ProgramData\HP\HP BTO Software\ If you have the previous versions of HP Software products such as OpenView Performance Agent, OpenView Reporter or OpenView Operations installed on your system, the default data directory is C:\Program Files\HP OpenView\data.	On HP-UX, Solaris, and Linux systems, the data directory is /var/opt/OV.

Convention	Description	On Windows Systems	On UNIX Systems
<PM_data_dir>	The directory where the Performance Manager data files are placed.	On Windows, the default Performance Manager data directory is <data_dir>\shared\server\ However the default data directory on windows cluster is different. For more information, see <i>Installing Performance Manager on a Cluster Environment in the HP Performance Manager Installation, Upgrade and Migration Guide</i> .	On HP-UX, Solaris, and Linux systems, the Performance Manager data directory is /var/opt/OV/shared/server.
<java_dir>	The directory where the Java 1.60 SDK is installed.	On Windows systems, the default Java directory is <install_dir>\nonOV\jre\b. If you have the previous versions of HP Software products such as OpenView Performance Agent, OpenView Reporter or OpenView Operations installed on your system, the default Performance Manager Java directory is <install_dir>\nonOV\jre\b.	On HP-UX, Solaris, and Linux systems, the Java directory is <install_dir>/nonOV/jre/b.
<bin_dir>	The directory where the binaries reside.	On a 32-bit Windows system, the bin directory is ,<Install_dir>\bin. On a 64-bit Windows system, the bin directory is <install_dir>\bin\win64.	On HP-UX, Solaris, and Linux systems, the installation directory is <install_dir>/bin.
<tomcat_dir>	The directory where the Tomcat application server is installed.	On Windows system, the default tomcat directory is <install_dir>\nonOV\tomcat\b. If you have the previous versions of HP Software products such as OpenView Performance Agent, OpenView Reporter or OpenView Operations installed on your system, the default Performance Manager tomcat directory is <install_dir>\nonOV\tomcat\b.	On HP-UX, Solaris, and Linux systems, the Tomcat directory is <install_dir>/nonOV/tomcat/b.

Convention	Description	On Windows Systems	On UNIX Systems
<systemname>	The name of the system on which the Performance Manager server is running. While accessing Performance Manager through the Web browser, you need to replace this variable with the actual system name or the IP address of the system so that the network name servers can resolve to the Performance Manager system.		

2 Version Comparison Chart

This section contains a feature comparison between the following versions of HP Performance Manager:

Comparison between HP Performance Manager 8.10, HP Performance Manager 8.20, and HP Performance Manager 9.00

The following table lists the differences in features between HP Performance Manager 8.10, HP Performance Manager 8.20, and HP Performance Manager 9.00.

Table 1 General

Feature	Availability in Performance Manager 8.10	Availability in Performance Manager 8.20	Availability in Performance Manager 9.00
Diagnostic View	No	No	Yes HP Performance Manager user interface provides two types of View: Standard View and Diagnostic View. Diagnostic View provides features to draw graphs and monitor and compare real-time and near real-time performance data. Standard View provides features to design and draw graphs for historical performance data.
Support for vMA (vSphere Management Assistant) version 4.0	No	No	Yes You can now draw graphs for vMA nodes. However, HP Performance Agent, version 5.00 and above must be installed on vMA. For more information, see Performance Manager for a vMA Node .
Support for RPC as a data communication protocol	Yes	No	No
Support for Man pages	Yes	Yes	No

Table 1 General

Feature	Availability in Performance Manager 8.10	Availability in Performance Manager 8.20	Availability in Performance Manager 9.00
Integration with HP interconnect	Yes	Yes	No
Integration with HP SiteScope 11.0	No	No	Yes
Linux support	No	No. HP Performance Manager 8.21 is supported on Linux.	Yes

The following table lists the differences in configuration parameters between HP Performance Manager 8.10, HP Performance Manager 8.20, and HP Performance Manager 9.00.

Table 2 Configuration Parameters

Features	Availability in Performance Manager 8.10	Availability in Performance Manager 8.20	Availability in Performance Manager 9.00
The parameter <code>RTM_UNSUBSCRIBE_INTERVAL</code> in <code>OVPMconfig.ini</code> file.	No	No	Yes This parameter allows you to configure the interval after which RTV (Real-time View) unsubscribes data gathering from RTM (Real-time Measurement). For more information, see Appendix A, OVPMConfig.ini Parameters .
Importing nodelist from SiteScope Server	No	No	Yes For more information, see Configuring for Importing Nodelist from SiteScope Server .
Configuring the loading of nodes while drawing graphs using URL parameters	No	Yes	Yes For more information, see Configure the Nodes Appearing on the Node-list Tree .

The following table lists the differences in the user interface features available with HP Performance Manager 8.10, HP Performance 8.20, and HP Performance Manager 9.00.

Table 3 Performance Manager User Interface

Feature	Availability in Performance Manager 8.10	Availability in Performance Manager 8.20	Availability in Performance Manager 9.00
Managing multi-level node groups from the HP Performance Manager Admin user interface	No	Yes	Yes
Uploading multi-level node groups in batch	No	Yes	Yes
Attaching node groups to customers	No	Yes	Yes
Attaching nodes to customers	Yes	No	No
Restructured Out-of-the-Box graph templates	No	No	Yes If you are drawing out-of-the-box graphs by passing URL parameters, see Chapter 9, Drawing Graphs by Passing Parameters in URL . If you are drawing out-of-the-box graphs by using the <code>ovpmbatch</code> command, see Chapter 10, Running Graphs in Batch .
Displaying Instance Identifier and Number of Instances in System Information	No	No	Yes
Displaying Nodes list on the Home page	Yes	Yes	Yes. However, the nodes icon is not displayed.
Displaying the metric label	No	No	Yes. The metric label is used by default. If the metric label is unavailable, metric name is used.

3 Overview of Administration Tasks

Performance Manager provides end-users with a web-based user interface that can be used to display performance data in a variety of formats such as graphs, tables, and spreadsheets. For the end-user to efficiently work with the Performance Manager interface, Performance Manager administrator must perform the following tasks:

- Set security policy
- Manage trial and permanent license keys
- Configure Performance Manager workspace
- Set up connections to the datasources
- Manage output files and disk space

Accessing Performance Manager

To access Performance Manager in the non-secure mode, use the following URL:

`http://<systemname>:8081/OVPM`

To access Performance Manager in secure mode, use the following URL:

`https://<systemname>:8444/OVPM`

In this instance, *<systemname>* refers to the name of the system on which Performance Manager is installed. If you have Performance Manager installed on a cluster environment, make sure you replace *<systemname>* with the cluster name. For more information on installing Performance Manager on a cluster setup, see the *HP Performance Manager Installation, Upgrade and Migration Guide*.

You can also access Performance Manager from the HP Operations Manager for Windows console and through the command line interface. For information on accessing Performance Manager from the HP Operations Manager console, see the documentation related to HP Operations Manager for Windows.

You can invoke Performance Manager and draw graphs from any application that can recognize a URL reference. For more information on drawing graphs by passing parameters in URL, see [Drawing Graphs by Passing Parameters in URL](#).



During installation, if the default http, https, Shutdown port and JK2-AJP 13 ports, that is, 8081, 8444, 8006 and 8010 respectively, are in use by any other application, the following warning message appears.

```
INFO:Shutdown port is free
INFO:HTTP Port is free
WARNING:HTTPS Port is in use. Change after installation
```

Although the installation of Performance Manager will be successful, you will not be able to access Performance Manager using the default port numbers. You must change the default http, https, shutdown and JK2-AJP 13 port settings to access Performance Manager. For more information, see the troubleshooting tip for [Unable to Access Performance Manager](#) on page 99.

Performance Manager Commands

You can use the following commands to administer Performance Manager workspace through command prompt.

```
<bin_dir>/ovpm <Options>
```

In this instance, *<options>* can be any of the following commands:

- **status** - To check the Performance Manager execution status.
- **start** - To start the Performance Manager application.



When you run **ovpm start** command, all the applications that use OvTomcatB are started.

- **stop** - To stop the Performance Manager application.



When you run **ovpm stop** command, all the applications that use OvTomcatB are stopped.

- **config** - To change the web server port settings. For more information, see [Changing Web Server Port Settings](#).
- **restart** - To stop and then start the Performance Manager application.
- **license** - To check or update the product license. When you run this command, the AutoPass User Interface appears. For more information, see [Installing the Performance Manager License Key](#).
- **trace** - To start or stop generating detailed trace files. When you run the **ovpm trace** command, the **TRACELEVEL** value is automatically set to 1 in the `OVPConfig.ini` file, to turn on tracing.

When you draw graphs by running **ovpmbatch** commands, it generates a `ovpmtrace.0.txt` or `ovpmtrace.0.txt.1` file. These files trace the operations executed through the **ovpmbatch** commands.

- **version** - To display the version of Performance Manager installed on your system.

- **uploadsystems** - To upload the node groups specified in the `pmsystems.txt` file. For more information on the `pmsystems.txt` file and uploading nodes in batch, see [Uploading Nodes and Node Groups in Batch](#).
 - ▶ It is recommended that you stop Performance Manager before running the `upload systems` command.
- **migrate** - This option allows you to migrate data from Performance Manager 8.10 to 9.00. To migrate data, perform the following tasks:
 - a From the system (HP-UX PA-RISC) where Performance Manager, version 8.10 is installed, browse to the location `<PM_data_dir>/conf` and copy the folder 'perf' to the same location on the system where Performance Manager, version 9.00 is installed.
 - b On the system where Performance Manager, version 9.00 is installed, run the following command:


```
ovpm migrate
```

All the data from Performance Manager 8.10 is migrated to the system where Performance Manager, version 9.00 is installed.

Logging on to Performance Manager

By default, Performance Manager does not require you to log on with any user name or password. If there is no password assigned to the blank customer, the default home page appears on starting Performance Manager. However, if the blank customer has a password assigned, you need to log on using the password set for the blank customer.

No users are configured in Performance Manager by default and all Performance Manager clients share the same area for their graphs and user preferences. For more information on configuring customers and users, see [Configuring Customers and Users](#).

If JavaScript is not supported and Adobe® Flash Player is not installed in your browser, you will see a blank Home page, after you log on to Performance Manager. For information on enabling JavaScript support and installing Adobe® Flash Player, see the troubleshooting tip for [Unable to View the Contents on Performance Manager Home Page](#).

- ▶ In the current version of Performance Manager, the administrator options to configure nodes, customers and users are available from the Performance Manager user interface. You need to click on the menu option "Admin" on the Performance Manager default Home page to access these options.

4 Setting up Performance Manager

This section describes the configuration tasks that you should perform after you have successfully installed Performance Manager.

Installing the Performance Manager License Key

To use Performance Manager, you require a license key. When you install Performance Manager and use it for the first time, a 60-day trial license (also known as Instant On license) is granted. Within this 60-day period, you must obtain a permanent license key or a trial evaluation extension to continue using the product.

- ▶ If you are using Performance Manager, version 8.20 with a 60-day trial license (also known as Instant-on license) and if you upgrade to Performance Manager, version 9.00 before the trial license expires, the version 9.00 will be installed with a new trial license for a period of 60 days. For example, if you are using Performance Manager, version 8.20 with a 60-day trial license and after 15 days you upgrade to version 9.00, Performance Manager, version 9.00 will be installed with a new 60-day trial license.

To obtain a permanent license, you can use one of the following options

Request a permanent license or an extension of the trial license from the website www.webware.hp.com. The license key is delivered to you by email or internet connection.

To verify and install the license key, follow these steps

- 1 Run the following command at the command prompt:

```
<bin_dir>\ovpm license
```

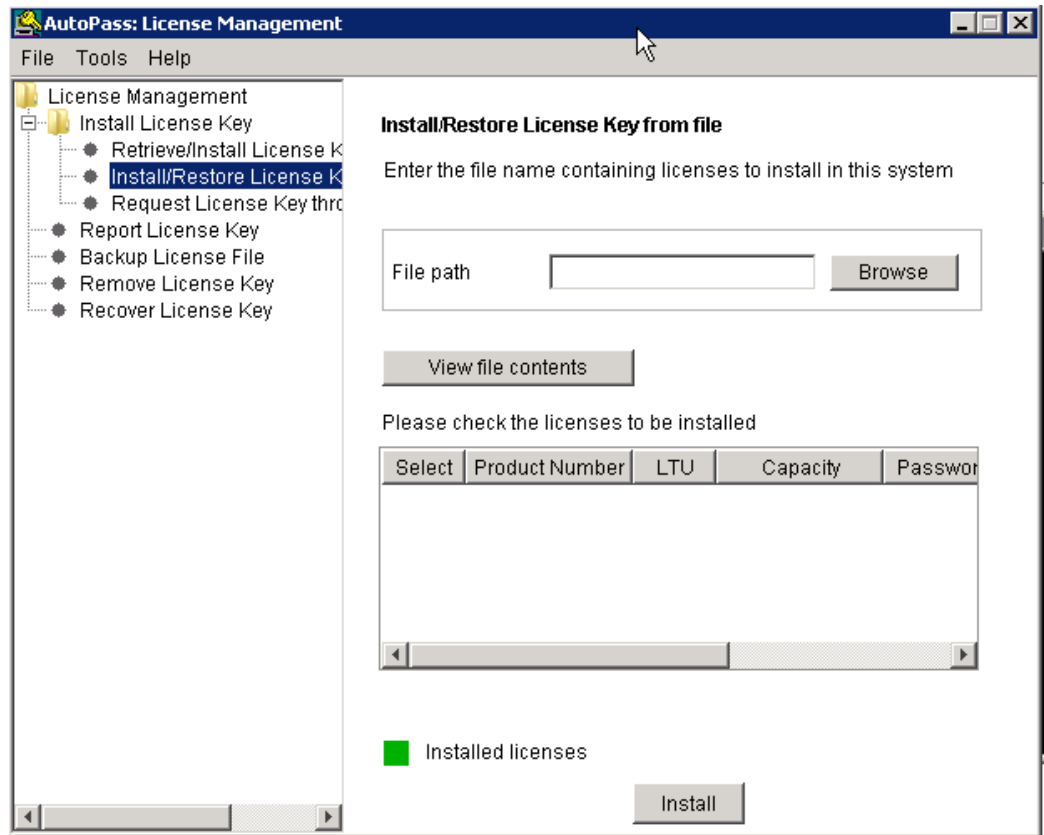
The status of your Performance Manager license is displayed and the “License Command>” command line prompt appears.

- ▶ On HP-UX and Solaris systems, export the **DISPLAY** variable to direct the AutoPass GUI to the proper display window, before running the **ovpm license** command.

If you are running Performance Manager with a trial license, the message “Instant On: Yes”, license expiration date and the number of days left for the expiration of license appear.

If you have installed the permanent product license, the message “HP Performance Manager has a permanent license” appears.

- 2 Run the command **gui** at the command prompt `License Command>`. The **AutoPass: License Management** user interface appears.



- 3 The **AutoPass: License Management** window displays the following options. Select the option which suits your requirement:
 - Install License Key
 - Retrieve/Install License Key - Use this option to retrieve license keys for your HP software product using an Internet connection.
 - Install/Restore License Key from file - Use this option to install a license key from a ASCII text file.
 - Request License Key through Email/Fax - Use this option to request for a license key using the HP Order Number.
- 4 Click any of the options and continue with the steps that follow. For more information, see the *HP Autopass Online Help*.

Alternatively, if you have the license key in a ASCII text file, you can run the following command line options to install the same:

- 1 Enter the following command:


```
<bin_dir>\ovpm license
```

The license command prompt appears
- 2 Run the following command:


```
<License Command> install
```
- 3 A message asking you to enter the input file name appears.
- 4 Enter the file name of the text file with the complete path.

You will receive a confirmation message once the license is installed.



Following are the other options available from the **Autopass: License Management** user interface. For more information, see the *HP Autopass Online Help*:

- Report License Key - Use this option to view the list of product licenses installed.
- Backup License Key - Use this option to backup license key in a file.
- Remove License Key - Use this option to remove installed license.
- Recover License Key - Use this option to add licenses which you removed using the 'Remove License Key' option.

Performance Manager in Localized Languages

Performance Manager is internationalized so that it can adapt some features such as date, time and number formats to match the language used on the client's locale. Generally, the user interface and documentation will remain in English, but you can modify the date, time, and the number format settings by changing the system locale.

If Performance Manager is localized to a specific language, you can use the language it is localized to as well as English. In localization, the user interface elements, web pages, log files, online help and user documentation are translated to a specific language. The Performance Manager 9.00 version is available in English, Japanese, and Simplified Chinese languages.

If the language settings on the Performance Manager server are different from those on the client, the user interface elements, web pages and help will be displayed based on the language settings of the client's desktop. Name of the favorites graph family will always appear based on the locale of Performance Manger server. If the Performance Manager is not localized to the locale of the client, by default all the items appear in English. Custom defined graphs appear in the language they were created.

For example, if the client locale is set to Japanese and Performance Manager server's locale is set to English, out-of-the-box graphs will appear in the Japanese localized settings. Whereas, the favorites graph names will appear in English.

You need to configure the language and locale settings of your system as required before starting Performance Manager. After changing these settings, start Performance Manager.



The node group name **All** present in the Select Nodes panel is not localized to Japanese and Simplified Chinese languages.

Time Zones

If the time zone settings on the Performance Manager server are different from those on the agent, the settings on the Performance Manager are used. If the Performance Manager server, agent and client are in three different time zones, the time zone settings on the Performance Manager server are used while drawing or previewing a graph.

Configuring Performance Manager for Security

You can configure Performance Manager for security in the following ways:

- Restrict Physical access to the Performance Manager server - You need physical access or logon to perform activities such as uploading systems through command line interface and installing Performance Manager license key. You can configure Performance Manager for additional system logon security. For example, reconfiguring Performance Manager on a UNIX server requires you to log on to the system with root or super user credentials.
- Restrict network access to the Performance Manager server - You can restrict network access to the Performance Manager server by using segregated networks or firewalls.
- Configuring customers and users - You can restrict access to data by configuring customers and users.
- Changing Web Server Port Settings - You can change the default port settings for security. For more information, see [Changing Web Server Port Settings](#) on page 26.
- Using secure communications - You can configure Performance Manager to use Secure Sockets (https) communication with the clients. For more information, see [Using Secure Sockets Layer \(SSL or HTTPS\)](#) below.

Using Secure Sockets Layer (SSL or HTTPS)

The **HTTP** and **HTTPS** protocols are by default enabled for Performance Manager. The default port numbers for **HTTP** and **HTTPS** are 8081 and 8444 respectively. You can choose to use either of the protocols. However, to ensure security for administration-related tasks, you must access Performance Manager in the secure communications mode. To access Performance Manager in secure mode, use the following URL:

```
https://<systemname>:8444/OVPM
```

To access Performance Manager in the non-secure mode, use the following URL:

```
http://<systemname>:8081/OVPM
```

You can also change the default port settings for both **HTTP** and **HTTPS** communications. For more information, see [Changing Web Server Port Settings](#) on page 26.

Disabling Secure Communications

To disable secure communications, follow these steps:

- 1 Stop Performance Manager if it is running.
- 2 Run the following command at the command prompt:

```
cd <bin_dir>  
ovconfchg -ns NONOV.TomcatB -set EnableHTTPS False
```
- 3 Restart Performance Manager.

Using SSL or HTTPS with the Tomcat Application Server

To use **SSL** or **HTTPS** protocols with the Tomcat application server, you need to obtain a server certificate for Tomcat, after installing Performance Manager. The certificate obtained after Performance Manager installation can be replaced in the following scenarios:

- When connecting to Performance Manager using **HTTPS** protocol, the certificate is compared against the name of the system to ensure that the names match. If the names are not similar, most browsers alert the users so that they can decide to either continue or cancel the connection. If the name used by **HTTPS** users is different from the name used by the Performance Manager installation, you need to obtain a different certificate.
- You may need to obtain a new certificate, when you want to fill the fields in the certificate that are left blank during the Performance Manager installation. The certificate contains many fields to provide information such as issuer of the certificate and also warrants that what it enables is safe. The Performance Manager installation certificate leaves most of these fields blank.
- When you want to change the default certificate password to avoid unauthorized changes, you need to replace the existing certificate.

To replace the tomcat SSL certificate, follow these steps:

- 1 Delete the existing certificate. To delete the existing certificate, you need to run the Java SDK program called `Keytool`. Run the following commands at the command prompt.

```
keytool -delete -alias ovtomcatb -keystore /var/opt/OV/certificates/  
tomcat/b/tomcat.keystore
```



The default password for deleting an existing certificate and creating a new certificate is *changeit*.

- 2 Restart the Performance Manager server.
- 3 Create a new certificate. To create a new certificate, run `Keytool` by entering the following commands at the command prompt:

```
keytool -genkey -alias ovtomcatb -keyalg RSA -keystore /var/opt/OV/  
certificates/tomcat/b/tomcat.keystore
```

- 4 Restart the Performance Manager server.

Changing Web Server Port Settings

The default **HTTP** port number to access Performance Manager interface is 8081 and the default port number for secure connection is 8444. All client systems are authorized to connect to Performance Manager server.

To change the default port number for the Performance Manager server:

- 1 Check for the availability of the port number you want to use, by running the following commands at the command prompt:

On Windows systems:

```
cd <bin_dir>
cscript OvTomcatBctl.vbs -checkport <portnumber>
```

On UNIX systems:

```
cd <bin_dir>
ovtomcatbctl -checkport <portnumber>
```

A message indicating if the port is available or in use appears. For example if you are checking for the availability of the port number 8081, the message, “Port Number 8081 is not in use” appears, if the port number is available. If the Port Number 8081 is not available, a message indicating that the port number is used by another program or service appears.

- 2 Stop Performance Manager by running the following command at the command prompt:

```
ovpm stop
```

- 3 To change http or https port numbers for Performance Manager server, run the following command at the command prompt:

```
cd <bin_dir>
ovconfchg -ns NONOV.TomcatB -Set HTTPPort <port number>
ovconfchg -ns NONOV.TomcatB -Set HTTPSPort <port number>
```

- 4 Start the Performance Manager server.

Configuring Session Timeout Interval

You can set the expiration time or timeout interval for a user session. If a user session is inactive for the interval you specified, the session expires and the system logs out the user. The default timeout interval for all user sessions is set to one hour.

To modify the default timeout interval:

- 1 Open the `OVPMconfig.ini` file available in `<PM_data_dir>/conf/perf` directory.
- 2 Specify an interval for the `SESSION_TIMEOUT` parameter in minutes. For example, set it for 30 minutes.
- 3 Save the file.

- 4 Restart Performance Manager.



If the user has the **Automatically Refresh** option enabled for an active graph, the session will not expire, although the user does not perform any activity for the specified time interval.

Configuring Secure Client Connect Timeout Interval

Performance Manager administrators can set the expiration time or timeout interval at which Performance Manager can connect to the server through HTTPS communication protocol. When Performance Manager users use secure communication HTTPS protocol to connect to the server, the secure channel is initially tried for the specified time-out interval. The default timeout interval is set to one second.

To modify the default timeout interval:

- 1 Open the OVPMconfig.ini file available in <PM_data_dir>/conf/perf directory.
- 2 Specify an interval for the **SECURE_CLIENT_CONNECT_TIMEOUT** parameter in seconds, depending on the speed of your network connection. For example, set it for 10 seconds.
- 3 Save the file.
- 4 Restart Performance Manager.

When Performance Manager users use regular communication protocol (HTTP) to connect to the server, the secure channel through HTTPS is initially tried for the specified time-out interval and then the regular communication protocol (HTTP) is used.

Configuring Auto Refresh Interval

Performance Manager administrators can configure the interval at which Performance Manager can refresh the drawn graphs automatically so that the graph is updated with the latest data. The default interval to automatically refresh a graph is 300 seconds. This can be configured in the OVPMconfig.ini file available in the <PM_data_dir>/conf/perf directory.

To specify a different value for auto refresh interval, follow these steps:

- 1 Open the OVPMconfig.ini file available in the <PM_data_dir>/conf/perf directory.
- 2 Specify a value for the **GRAPH_AUTOREFRESH_RATE** parameter. The value you enter here should be in seconds. For example, if you specify the interval as 30 seconds and if you have the Automatically Refresh check box selected on the Performance Manager user interface, Performance Manager automatically refreshes the data displayed on a drawn graph at every 30 seconds.
- 3 Save the file.
- 4 Restart Performance Manager.

On selecting the **Automatically Refresh** check box available on the Performance Manager user interface, the graph is redrawn to display the latest and updated performance data. To view this check box, navigate to the last set of records on a graph.

Configuring Java Virtual Machine Memory

To avoid out of memory exceptions caused due to insufficient memory in the Java Virtual Machine (JVM), you can configure Performance Manager to stop accepting requests by using the **JVM_MIN_MEMORY** parameter. On setting this parameter to a specific value, Performance Manager will not accept requests, if the available memory is less than the value you specified and the error message, “This request cannot be processed, because the Performance Manager server has run out of memory” appears. If the request is for XML graphs, Performance Manager displays an XML file with the “Out of Memory Error” message. As this parameter is not set by default, you need to specify it in the `OVPMconfig.ini` file.

To specify **JVM_MIN_MEMORY**, follow these steps:

- 1 Open the `OVPMconfig.ini` file available in the `<PM_data_dir>/conf/perf` directory.
- 2 Enter the **JVM_MIN_MEMORY** parameter and specify a value, for example 5. The value you enter here are in MBs(MegaBytes). For example, if you define the memory value as 5 MB and the Java heap size is less than 5 MB, Performance Manager will not accept requests, until the available memory for the Java heap size is greater than the value specified for the **JVM_MIN_MEMORY** parameter.
- 3 Save the file.
- 4 Restart the Performance Manager server.



The default value for maximum JVM heap size is 512 MB. If you anticipate a higher load, set the heap size to a higher value.

5 Integrating Performance Manager with Other Products

Performance Manager does not collect system performance data by itself, but displays data collected by other datasources in graphical or tabular formats. To enable Performance Manager to present data collected by various sources, you must configure Performance Manager to locate the datasources. For a list of all the products which integrate with HP Performance Manager, see *Release Notes*. HP Performance Manager is now integrated with the Microsoft Active Directory, which enables the user to authenticate against the Microsoft Active Directory using the Lightweight Directory Access Protocol (LDAP).

Performance Manager can capture and display data from the following HP Products.

HP Performance Agent

Performance Agent collects data about the performance of a system. It efficiently logs data about the health of a system and also provides the information required to monitor the activities of a system during a specific time interval, at various levels of granularity.

Performance Agent collects in-depth performance data for a system at a configurable time interval for further analysis. Performance Agent also analyzes the collected data and sends notifications to other tools such as HP Operations Manager for immediate attention.

HP Operations Agent, EPC

HP Operations Manager deploys the HP Operations agent to the systems it monitors. HP Operations agent includes Embedded Performance Component (EPC) that can log information about the general health and performance of a system. Products such as Performance Manager can retrieve and display data logged in EPC. The data logged here is also analyzed to identify bottlenecks or conditions requiring operator's attention and sent to the Operations Manager console.

HP Operations Agent, RTM

Real-Time Measurement (RTM) is a component of the HP Operations agent. RTM can log the real-time information about the general health and performance of a system. The Real-time Viewer (RTV) feature of HP Performance Manager 9.00 makes use of data logged in RTM and enables you to monitor real-time metric data gathered from different nodes. The RTM component enables you to establish a secure communication channel to the HP Performance Manager server. With RTM data, HP Performance Manager creates graphs, charts, and reports that help you analyze performance bottlenecks in your environment and enables you to drill down to the real-time system data for every monitored system. The Diagnostic View tab of Performance Manager presents a rich graphical interface to design and build graphs with real-time metrics collected from multiple nodes.

Diagnostic View Default Graph

In the Performance Manager user interface, after you connect to the RTM datasource, a default graph is launched with a set of six pre-defined metrics from the **GLOBAL** class which are defined in the graph template file `VPI_GraphsDefaultMetrics.txt` available in the

<Install_Dir>/newconfig/OVPM directory. The pre-defined metrics are **GBL_CPU_TOTAL_UTIL**, **GBL_MEM_UTIL**, **GBL_RUN_QUEUE**, **GBL_SWAP_SPACE_UTIL**, **GBL_DISK_UTIL_PEAK**, and **GBL_NET_PACKET_RATE**.

You can add and replace these metrics by modifying the metric entries in the `VPI_GraphsDefaultMetrics.txt`. Maximum of eight pre-defined metrics are recommended; however, you can have any number of metrics depending on your environment. The pre-defined metric should only belong to the **GLOBAL** class. Metrics of other metric classes will not be shown under the **DEFAULT GRAPH**.

If you want to modify the default metrics, copy the `VPI_GraphsDefaultMetrics.txt` file from <install-dir>/newconfig/OVPM to <PM_data_dir>/conf/perf directory. If you already have another file with the same file name, rename the file. Performance Manager first checks and reads the file in the <PM_data_dir>/conf/perf directory. If the file is not available in <PM_data_dir>/conf/perf, it checks and reads the file from <install-dir>/newconfig/OVPM directory.

Diagnostic View Metric Drill down

Diagnostic View enables you to drill down to multiple levels of a selected metric class to identify the bottlenecks. HP Performance Manager provides a set of pre-defined metrics for each available metric class for drill down of the RTM datasource. The pre-defined metrics are specified in the graph template file, `VPI_GraphsDefaultMetrics.txt` available in the <install-dir>/newconfig/OVPM directory.

For example, for GLOBAL Class, the pre-defined metrics are **GBL_STATTIME**, **GBL_INTERVAL**, **GBL_OSNAME**, **GBL_ACTIVE_PROC**, **GBL_CPU_SYS_MODE_UTIL**, **GBL_CPU_USER_MODE_UTIL**, **GBL_CPU_IDLE_UTIL**, **GBL_DISK_PHYS_IO_RATE**, and **GBL_DISK_UTIL_PEAK**.

You can add and replace these metrics by modifying the metric entries in the `VPI_GraphsDefaultMetrics.txt` file for drill down. To modify the default metrics, copy the `VPI_GraphsDefaultMetrics.txt` file from <install-dir>/newconfig/OVPM to <PM_data_dir>/conf/perf directory and make the changes. While adding or replacing metrics for a metric class in the template file, the metrics must belong to the same metric class. For example, for GLOBAL metric class drill down, metrics from APPLICATION metric class should not be added in the template file.

▶ You must specify the name of the metric class as graph name in the template file. If a metric class is not available in the template file, the default metrics are used for drill down for that metric class.

▶ You must comment out both the metric class and its corresponding metric name when you want to customize the drill down table. For example, if do not want the **GBL_CPU_TOTAL_UTIL** to appear in the drill down table, you have to comment out both the **GLOBAL** class and the **GBL_CPU_TOTAL_UTIL** metric entries in the `VPI_GraphsDefaultMetrics.txt` file.

HP Reporter

Reporter contains a database that consolidates data from various performance products including Performance Agent and Operations Agent. Reporter scans the network to discover systems that have agents configured on them and groups them according to the rules set by

the Reporter administrator. If the Performance Manager is integrated with Reporter, these systems and groups are imported to Performance Manager. For more information, see [Integrating with HP Reporter](#) on page 37.



Performance Manager can be integrated with only one Reporter system.

HP SiteScope

HP SiteScope is an agentless monitoring solution designed to ensure the availability and performance of the system it monitors. This Web-based infrastructure monitoring solution is lightweight, highly customizable, and does not require data collection agents installed on your systems. With SiteScope, you gain the real-time information you need to verify infrastructure operations, stay apprised of problems and solve bottlenecks before they become critical. If Performance Manager is configured with SiteScope, the monitored nodes are imported to Performance Manager. Agentless datasource collects performance data and Performance Manager retrieves this data to draw or design graphs. For more information, see [Integrating with SiteScope Server](#) on page 39.

Collecting Data from Performance Agent, EPC, Reporter, SiteScope and SPIs

Embedded Performance Component logs data on the system being monitored by Operations Manager. The various Smart Plug-Ins (SPIs) monitor applications such as Databases, and Mail Servers. The SPI instrumentation is deployed on all the systems to capture the application data. These SPIs use either EPC or Performance Agent to log and manage their data.

Reporter provides a data warehouse to centrally store the summary of data collected by EPC and Performance Agent. Reporter discovers the agents installed on various systems in the network, gathers and summarizes data on a nightly basis, and saves it in its central database. It then generates reports that group and rank the systems' data in a variety of ways. Reporter generates new reports each night that provide a management-level overview of the performance of the systems in the enterprise.

When displaying data from Reporter, Performance Manager fetches data from the Reporter central database. This data can be retrieved for a single system or for multiple systems at once. The granularity of the data is determined based on the summarization done by Reporter while gathering data. Because data is not obtained directly from the Reporter-discovered systems, Reporter datasource displays only the data that is gathered and stored in its database. This is typically data until the previous midnight. For this reason, the Reporter data is not considered real-time. However, displaying data from the Reporter database can ensure that the production systems are not being asked to retrieve performance data during their peak usage periods. For more information on Configuring Performance Manager for integration with Reporter, see [Integrating with HP Reporter](#) on page 37.

While drawing a graph against data collected by the datasource, for example Performance Agent, Performance Manager connects to the system on which Performance Agent is running and retrieves data directly from the Performance Agent log files. This data is near real-time and can be only a few minutes old. However, Performance Manager does not store the data retrieved from the datasources and discards it after the graph is closed. When you try drawing the same graph, Performance Manager again connects to the system and fetches data from the datasources.

Agentless datasource collects performance data from the SiteScope monitored nodes and or resources, for example, applications, hardware, and so on. Performance Manager retrieves data directly from HP Operations agent when you select a node monitored by the SiteScope Server to draw or design graphs.



For this integration to work, SiteScope Server and HP Operations agent should be installed on the same system and SiteScope Server should be configured to log data in HP Operations agent.

Communication Protocols

You can design or draw graphs using the data logged in EPC or Performance Agent or both when these collectors are active on the same system. Performance Manager uses HTTP(s) as the communication protocol to connect to PA, EPC, and Agentless.

While designing or drawing a graph, Performance Manager connects to the datasources PA, EPC, or Agentless through HTTP(s).

When the user clicks the System Information icon on the Performance Manager user interface and tries to fetch information about a particular system, Performance Manager tries to connect to the system running agent through HTTP protocol. If you have Reporter configured on your system, it also checks if the node is available in the Reporter database and displays a report on the nodes. Similarly, if you have SiteScope configured, Performance Manager retrieves information about the monitored nodes and displays a report on the nodes. The typical contents of this report are as follows:

- Datasources running on the node.
- Data communication protocols used by Performance Manager to connect to the systems.
- The communication protocol through which the datasource running on that system was found.
- The number of disks and CPUs available on the system.
- The version of the Operating System installed on the system.
- The list of key metrics and available metric classes.
- List of instances and number of instances available for each metric class.

Configuring Secure Communication with Operations Agent and Performance Agent

Using secure communications prevents unauthorized access to data that you transfer across the network and restricts access to the agents to specifically enabled installations of Performance Manager. However, secure communication is slower than regular communications due to the effort to encrypt and decrypt the data.

Secure Communications with Operations Agent

HP Operations agent version 8.00 and later provides you with the option to configure secure communications with Performance Manager. To configure secure communications with the Operations agent, follow these steps:

- 1 Follow the instructions for installation and configuration of secure data communication for Operations Manager.
- 2 On the system, where you want secure communications to be used, change the configuration to set **SSL_SECURITY** to **ALL**.

```
cd <bin_dir>
```

```
ovconfchg -namespace coda -set SSL_SECURITY ALL
```

To configure secure communication with Real-Time Measurement (RTM), run the following command:

```
ovconfchg -namespace rtmd -set SECURE_COMM SSL
```

Performance Manager will use regular communications (**HTTP**) to any agent that is not configured for secure communications, or does not support it.

Secure Communications with Performance Agent

If you have already configured **HTTPS** communication in the Operations Manager 8.x environment, make the following changes to configure secure communication between Performance Agent and Performance Manager.

On the Performance Agent system, set **SSL_SECURITY** to **REMOTE** for **coda**. Run the following commands:

```
ovconfchg -ns coda -set SSL_SECURITY REMOTE
```

Performance Manager will now automatically use secure communications (**HTTPS**) to any agent, which has secure communication configured.

Installing Certificates

For Performance Manager to communicate to nodes in the managed environment using the Secure Socket Layer (SSL) protocol, you need to install the root certificates issued by a trusted authority.

The steps to install these certificates vary with the environment in which Performance Manager is installed. The following sections describe the steps to configure secure communication with agents for each scenario.

Performance Manager in a Standalone Setup

Installing Certificates on a system that has only Performance Manager installed

To install certificates on a system that has only Performance Manager installed and not any of the agents (Operation agent or Performance Agent), follow these steps:

- 1 Set the certificate server on the Performance Manager system by running the following command at the command prompt:

```
ovconfchg -ns sec.cm.client -set CERTIFICATE_SERVER <server_name>
```

In this instance, **<server_name>** refers to the name of the management server that issues the certificate.

- 2 Send a certificate request to the management server by running the following command:

```
ovcert -certreq
```

- 3 Log on to the management server and run the following command to check the pending requests:

```
ovcm -listpending -l
```

The list of the pending requests will be displayed in the following format:

```
RequestID:      654ed592-e23c-7528-1d96-daf5d58f48e9
Context:
CN:             fb4e0a42-cc82-7528-1db0-b70ce0890a80
Nodename:       MySystem
IPAddress:      15.154.79.66
PeerAddress:    15.154.79.66
Platform:       Windows 5.2, CPU: IA32
InstallType:    Manual
TimeReceived:   4/6/2007 10:43:44 PM India Standard Time
```

- 4 Note the Request ID and run the following command to grant the certificate request:

```
ovcm -grant <RequestID>
```

In this instance, **<RequestID>** refers to the ID displayed in the list of pending requests after running the **ovcm -listpending -l** command; for example, **654ed592-e23c-7528-1d96-daf5d58f48e9**

The certificate will be deployed to the Performance Manager server.

- 5 Log on to the Performance Manager server and export the certificate to the “server” resource group. To export the certificate, follow these steps:

- a To export the certificate to a file, run the following command:

```
ovcert -exportcert -file <file> -pass <passphrase>
```

For example, **ovcert -exportcert -file C:\temp\cert -pass 123**

- b To export the trusted certificate to a file, run the following command:

```
ovcert -exporttrusted -file <file1>
```

For example, **ovcert -exporttrusted -file C:\temp\cert1**

- 6 Import the certificate to the “server” resource group by running the following command:

```
ovcert -importcert -file <file> -ovrg server -pass <passphrase>
```

For example, **ovcert -importcert -file c:\temp\cert -ovrg server -pass 123**



To import these certificates, use the same password, which you used while exporting these certificate.

- 7 Import the trusted certificates to the “server” resource group by running the following command:

```
ovcert -importtrusted -file <file1> -ovrg server
```

For example, `ovcert -importtrusted -file C:\temp\cert1 -ovrg server`

Installing certificates on a system that has Operations agent and Performance Manager installed

To install certificates on a system that has Operations agent (HTTPS agent with the certificate) installed before Performance Manager, follow these steps:

- 1 Log on to the Performance Manager server.
- 2 Export the certificate to the resource group - 'server':
 - a To export the certificate to a file, run the following command at the command prompt:

```
ovcert -exportcert -file <file> -pass <passphrase>
```

For example, `ovcert -exportcert -file C:\temp\cert -pass 123`

- b To export the trusted certificate to a file, run the following command at the command prompt:

```
ovcert -exporttrusted -file <file1>
```

For example, `ovcert -exporttrusted -file C:\temp\trusted`

- 3 Import the certificates to the resource group - server:

```
ovcert -importcert -file <file> -ovrg server -pass <passphrase>
```

For example, `ovcert -importcert -file c:\temp\cert -ovrg server -pass 123`

- 4 Import the trusted certificates to the “server” resource group:

```
ovcert -importtrusted -file <file1> -ovrg server
```

For example, `ovcert -importtrusted -file C:\temp\trusted -ovrg server`



To import these certificates, use the same password, which you used while exporting these certificates.

Installing certificates on a system, which is upgraded to Performance Manager 9.00 from OVPM 6.00

If you have upgraded from OVPM 6.00 to Performance Manager 9.00 and the certificates have not been transferred to the resource group server, follow the steps described in the [Installing certificates on a system that has Operations agent and Performance Manager installed](#) section.

Installing certificates on a system that has Operations Manager installed

If Performance Manager is installed on a system that has Operations Manager for Windows or Operations Manager for UNIX installed, Performance Manager will automatically be able to communicate with the agents managed by that management server through HTTPS.

Performance Manager on a Cluster Setup

Installing certificates on a cluster setup that does not have Operations Manager installed

If Performance Manager is installed on a cluster setup that does not have Operations Manager for Windows or Operations Manager for UNIX installed, follow these steps:

- 1 Log on to the Performance Manager system.

- 2 Run the following command at the command prompt to generate the core ID:
`ovcoreid -create -force -ovrg server`
- 3 Get the core ID for the “server” resource group:
`ovcoreid -show -ovrg server`
- 4 Log on to the Management server and run the following command to issue the certificate:

```
ovcm -issue -name <nodename> -file <file> -coreid <coreid> -pass
<passphrase>
```

In this instance, **<nodename>** refers to the name of system that has Performance Manager installed.

coreid refers to the output of 'ovcoreid -show -ovrg server' command in the PM system.

```
For example, ovcm -issue -name MySystem -file C:\temp\cert -coreid
fb4e0a42-cc82-7528-1db0-b70ce0890a80 -pass 123
```

- 5 Export the trusted certificate by running the following command:

```
ovcert -exporttrusted -file <file1>
```

For example, `ovcert -exporttrusted -file C:\temp\trusted`

- 6 Transfer **<file>** and **<file1>** from the Management Server to the system running Performance Manager.
- 7 In the Performance Manager system, run the following commands to import the certificates to the “server” resource group:

```
ovcert -importcert -file <file> -ovrg server -pass <passphrase>
```

```
For example, ovcert -importcert -file c:\temp\cert -ovrg server -pass
123
```

```
ovcert -importtrusted -file <file1> -ovrg server
```

For example, `ovcert -importtrusted -file C:\temp\trusted -ovrg server`



To import these certificates, use the same password, which you used while exporting these certificates.

Installing certificates on a cluster setup that has Operations Manager installed

If Performance Manager is installed on a cluster setup that has Operations Manager for Windows or Operations Manager for UNIX installed, Performance Manager will automatically be able to communicate with the agents managed by that management server through HTTPS.

Installing certificates on a cluster setup after upgrading from OVPM 6.00 to Performance Manager 8.x or Performance Manager 9.00

If you have upgraded from OVPM 6.00 to Performance Manager 8.x or Performance Manager 9.00 on a cluster setup that does not have Operations agent, Operations Manager for Windows or Operations Manager for UNIX installed, follow the steps described in [Installing certificates on a cluster setup that does not have Operations Manager installed](#) on page 35 to install certificates.

If you have upgraded from OVPM 6.00 to Performance Manager 8.x or Performance Manager 9.00 on a cluster setup that has Operations Manager for Windows or Operations Manager for UNIX installed, Performance Manager will automatically be able to communicate with the agents managed by that management server through the HTTPS protocol.

Integrating with HP Reporter

Reporter discovers systems on which Performance Agent and EPC are installed. It also groups these systems based on operating systems. However, the Reporter administrators can alter this and add groupings of their own. The systems and groups defined in Reporter are automatically available in Performance Manager if the integration is successful.

To integrate with Reporter, Performance Manager must be able to connect to the Reporter database, which is used by Reporter. To access its database from Performance Manager, the Reporter database must be either Oracle or SQL Server. You can also configure Performance Manager to draw or design graphs using the Reporter data source without importing the monitored nodes to Performance Manager.



For Performance Manager and Reporter integration to be successful, make sure that Reporter is installed in the Mixed Authentication mode. If reporter is installed in Windows Authentication mode you need to set the registry key to mixed mode. Also you need to create a user profile “openview” with password “openview”. For instructions to create the user, see Reporter documentation.

If Reporter is installed in the Windows Authentication mode with SQL 2005 as its database, set the registry key to mixed mode as described in the following steps:

- 1 Visit <http://www.microsoft.com>.
- 2 Search for *How to change the default login authentication mode to SQL while installing SQL Server 2000 Desktop Engine by using Windows Installer*.
- 3 Follow the steps to set the registry key to mixed-mode as described in the above-mentioned article.

The **PORT** entry in the `OVPConfig.ini` file refers to the default port number, which is used by Performance Manager while connecting to Reporter.

To change the entry to a dynamic port number, follow these steps:

- 1 Click **Start ->Programs->Microsoft SQLServer 2005->Configuration Tools->SQL Server Configuration Manager**. The **SQL Server Configuration Manager** screen appears.
- 2 On the left pane, expand SQL Server 2005 Network Configuration and click **Protocols for <Instance Name>**. For information on finding the instance name, see the *HP Reporter Installation and Special Configuration Guide*.
- 3 On the right pane, right-click on **TCP/IP** and select the **Enable** option from the context menu.
- 4 Restart *<Instance Name>*.
- 5 On the right pane of the SQL Server Configuration Manager screen, right-click on **TCP/IP** and select **Properties** from the context menu. The **TCP/IP Properties** screen appears.
- 6 Click the **IP Addresses** tab. The TCP Dynamic Port number will be displayed under IPALL. Specify this port number in the `OVPConfig.ini` file for **PORT** under **REPORTER** section.
- 7 Save the file.
- 8 Restart Performance Manager.

When Performance Manager is installed on the same Windows system as Reporter, it is automatically configured for integration. If Reporter is installed after Performance Manager or is installed on a different system, you need to modify the `OVPconfig.ini` to locate the SQL Server 2005 Reporter and Oracle Reporter database.

To modify the `OVPConfig.ini` to locate a SQL Reporter database, follow these steps:

- 1 Open the `OVPConfig.ini` file available in the `<PM_data_dir>/conf/perf` directory.
- 2 Add the information under the **[REPORTER]** section by removing the comment marks “;”, from the example lines and replacing the remaining information with the values that match your installation.

For example,

If Reporter product is installed:

```
[REPORTER]
SYSTEM = sqlserver.mydomain.com
;DSN = reporter
TYPE = sqlserver
USER = openview
PASSWORD = openview
PORT = 1433
MINCONN = 5
MAXCONN = 10
CONNEXPIRE = 60
SLEEPTIME = 2000
MAXRETRY = 30
```



The DSN is commented out as the SQL Reporter database is located on a different system and the connection is established through the port and not through DSN.

To modify the `OVPConfig.ini` to locate an Oracle Reporter database, follow these steps:

- 1 Open the `OVPConfig.ini` file available in the `<PM_data_dir>/conf/perf` directory.
- 2 Add the information under the **[REPORTER]** section by removing the comment marks “;”, from the example lines and replacing the remaining information with the values that match your installation.

For example,

If Reporter product is installed:

```
[REPORTER]
SYSTEM = oracle_server.mydomain.com
DSN = SID
TYPE = oracle
USER = openview
PASSWORD = openview
PORT = 1521
MINCONN = 5
MAXCONN = 10
CONNEXPIRE = 60
```

SLEEPTIME = 2000

MAXRETRY = 30

In this instance:

SYSTEM	Refers to the name of the system that contains the database.
DSN	Refers to the name of the datasource, that is, Reporter.
TYPE	Refers to the type of database, for example, SQL server or Oracle.
USER	Refers to the user name that should be used to access the database.
PASSWORD	Refers to the Password of the User.
PORT	Refers to the Port number where the database server listens. On systems that host an Oracle database, this is generally 1521. If Reporter is on SQL Server database, you need to find the TCP Dynamic Port number and change the value for PORT . For information on configuring port settings for SQL 2000 and SQL 2005: <ol style="list-style-type: none">1 Visit http://support.microsoft.com2 Search for information on how to connect to a named instance of SQL server 2005 or 2000, and how to configure an instance of SQL server to use either a static or dynamic port.3 Follow the instructions provided in the search results.
MINCONN	Refers to the minimum number of database connections to maintain.
MAXCONN	Refers to the maximum number of database connections to maintain.
CONNEXPIRE	Refers to the number of seconds before a connection expires or the maximum number of seconds a connection can be checked out before it is automatically closed and recycled. A value of 0 means a connection can be checked out indefinitely. The default is 60 seconds.
SLEEPTIME	Refers to the number of milliseconds to sleep between retries when a thread is unable to get a free connection. The default value is 2000 milliseconds.
MAXRETRY	Refers to the maximum number of times a thread should try to get a free database connection before it stops. The default value for MAXRETRY is 30.

3 Restart Performance Manager.

Integrating with SiteScope Server

SiteScope Server monitors the nodes configured by the SiteScope administrator. To integrate Performance Manager with SiteScope Server, the Performance Manager administrator must configure the Performance Manager server. The nodes monitored by SiteScope Server are automatically available in Performance Manager if the integration is successful. To configure SiteScope Server, the administrator should specify the **SERVER** parameter and the node group path into which the nodes are to be imported should be specified in the **NODEGROUP** parameter of the `OVPConfig.ini` file.

To configure SiteScope Server, follow these steps:

- 1 Open the `OVPmconfig.ini` file available in the `<PM_data_dir>/conf/perf` directory.
- 2 Add the information under the `[SITESCOPE]` section of the `OVPmconfig.ini` file by removing the comment marks “;”, from the example lines and add the following parameters for each server and nodegroup you configure:

SERVER = <host name or ip address of the SiteScope Server>

NODEGROUP = <nodegroup name>

▶ You can specify the path of the nodegroup, for example, `/Datacenter/DBServer/`.

You can configure one or more SiteScope Servers and nodegroups, under the `[SITESCOPE]` section.

For example:

To import nodes from one SiteScope Server:

```
[SITESCOPE]
SERVER = mysys
NODEGROUP = /DataCenter/DBServers
```

To import nodes from more than one SiteScope Servers to different nodegroups:

```
[SITESCOPE]
SERVER = mysys
NODEGROUP = /DataCenter/DBServers

SERVER = mysys1
NODEGROUP = /DataCenter1/DBServers

SERVER = mysys2
NODEGROUP = /DataCenter2/DBServers
```

To import nodes from one SiteScope Server to different nodegroups:

```
[SITESCOPE]
SERVER = mysys
NODEGROUP = /DataCenter/DBServers

SERVER = mysys
NODEGROUP = /DataCenter1/DBServers
```

To import nodes from more than one SiteScope Servers to one nodegroup:

```
[SITESCOPE]
SERVER = mysys
NODEGROUP = /DataCenter/DBServers
```



```
SERVER = mysys1
NODEGROUP = /DataCenter/DBServers
```

In this instance::

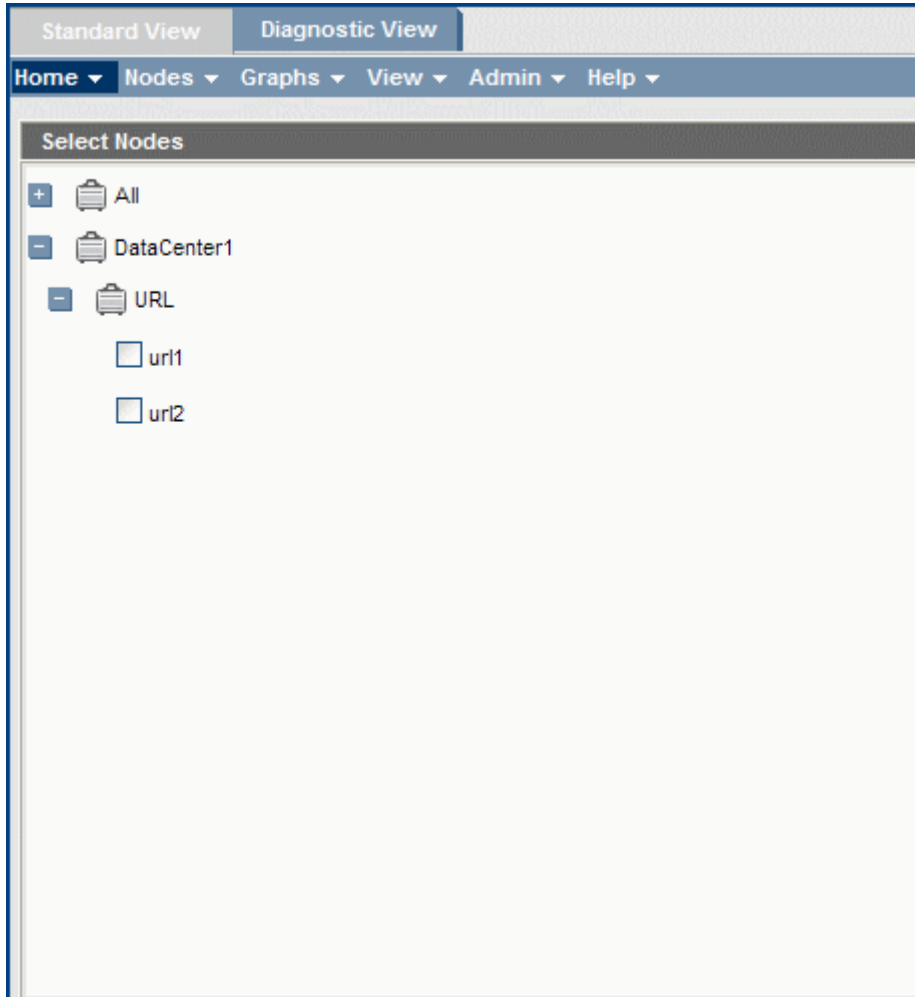
SERVER	Refers to the name of the SiteScope Server
NODEGROUP	Refers to the path of the nodegroup into which the monitored nodes are imported.

3 Restart Performance Manager.

You can import both host based and non-host based nodes from the SiteScope Server. Host based nodes are directly listed under the node group specified in the `OVPConfig.ini` file. Examples of host based nodes are those that are monitored by monitors like CPU monitor, File monitor, Memory monitor, and so on. These monitors have `HOSTNAME` as a key metric in SiteScope Server.

SiteScope Server also has non-host based nodes like Web Service monitor, URL monitor, LDAP monitor, JMX monitor, and so on. The nodes monitored by these monitors are also imported by Performance Manager and they get grouped under the corresponding `CLASSNAMES`. For example, if you have configured Performance Manager to import nodes from SiteScope Server `abc.xyz.com` into node group `DataCenter1` and if this SiteScope Server has a URL monitor `ur11` and `ur12`, then the imported nodegroup will be displayed as follows:

Figure 1 Nodegroup list imported from SiteScope



The nodegroup names for non-host based monitors are not configurable, instead the names are automatically set based on the classname in which they are getting logged. These classes do not have HOSTNAME as a key metric.

If the path of the nodegroup is not specified in the `OVPMconfig.ini` file, the monitored nodes will not be imported from the SiteScope Server and will not be listed in the Performance Manager user interface. However, the user will be able to connect to the Agentless datasource available on the system if the node is added manually in Performance Manager. For example, if a node belongs to the Performance Manager nodelist with Agentless datasource available, Performance Manager will be able to connect to the Agentless datasource even if the nodegroup entry is ignored in the `OVPMconfig.ini` file. The entry in the `OVPMconfig.ini` file would appear as follows:

```
[SITESCOPE]
SERVER = mysys
```

If the path of the nodegroup specified exists, the SiteScope monitored nodes are imported in the existing path else the path will be created.

Performance Manager can reload the nodes from Agentless datasource by using the **Reload Agentless** option available under the **Nodes** menu of Performance Manager user interface.

Proxied Log Files

When the agent log file is transferred to another system and then mounted under that system's agent, it is referred as “proxied” by the second system. A proxied log file is automatically detected and configured by HP Reporter, while discovering the system running the hosts the log file.

To add a proxied log file manually, in the Performance Manager, add the system as **[system-name]DATASOURCE_NAME**.

In this instance, **DATASOURCE_NAME** refers to the name of the datasource as specified in `ovcodutil -obj output` or the entry in `datasources` file available in the `<PM_data_dir>` directory on UNIX. On Windows, the name of the datasource is specified in the `perflbd.mwc` file available in the `<PM_data_dir>` directory.

In this instance:

- **system-name** refers to the name of the system that hosts the log file.
- **datasource** is the name of the datasource specified in the `datasources` file available on UNIX or the `perflbd.mwc` file available on Windows.

For example, if the host name of the system is `system.xyz.com` and the datasource in the `perflbd.rc` is `abc`, the syntax for adding this proxied log file is as follows:

```
[system.xyz.com] abc
```

After adding a proxied log file successfully, check if the log file is available by clicking the "System Information" icon and viewing information about the host system.

Integrating with Microsoft Active Directory Server



If you have Performance Manager installed on the same system as HP Operations Manager (HPOM) and you configure Performance Manager to use Microsoft Active Directory for authentication, launching the graphs from the HPOM console may break.

Performance Manager supports Microsoft Active Directory authentication. To configure Performance Manager to use the Active Directory server, follow these steps:

- 1 Open the `OVPMconfig.ini` file available in the `<PM_data_dir>/conf/perf` directory.
- 2 Add the information under the `[ACTIVE_DIRECTORY]` section of the `OVPMconfig.ini` file by removing the comment marks “;”, from the example lines and replacing information with the values that match your installation.

For example,

```
PMADMIN=<A user account present in Active Directory and will be used as PM Administrator, example PM_Admin. This user will have the Administrator privileges for Performance Manager>.
```

```
LDAPHOST=<FQDN of Active Directory Server, example Sample.abc.com>
```

```
SEARCHBASE=<The server root under which Performance Manager will search for users>. For example, if the domain name is abc.def.com then SEARCHBASE will be DC=<abc>,DC=<def>,DC=<com>
```

```
USERSEARCHQUERY=(&(objectclass=user)(SAMAccountName=$USERID$))
```

```
DOMAIN=<abc.def.com>
```

3 Restart the Performance Manager.

▶ The user configured as `PMADMIN` should have a read access to the `SEARCHBASE`.

If the Performance Manager is installed on the same system as HP Operations Manager (HPOM) and is also configured to use Microsoft Active Directory for authentication, you cannot launch the graphs from the HPOM console. However, you can import the nodelist from HPOM to Performance Manager.

Configuring LDAP Connection with Microsoft Active Directory over SSL

You can configure LDAP connection with Microsoft Active Directory server over SSL if you want a secure connection between the Performance Manager server and the Microsoft Active Directory server.

To configure LDAP connection with Microsoft Active Directory server over SSL (LDAPS), follow these steps:

- 1 Open the `OVPMconfig.ini` file available in the `<PM_data_dir>/conf/perf` directory.
- 2 Add the information under the `[ACTIVE_DIRECTORY]` section of the `OVPMconfig.ini` file by removing the comment marks “;”, and replacing information with the values that match your installation.

```
SSL_KEYSTORE=<PM_data_dir>\conf\perf\jssecacerts.This is the location  
of keystore that stores the Microsoft Active Directory server  
certificate.
```

This enables the communication between Microsoft Active Directory and Performance Manager to be through LDAPS, else the communication would be through LDAP.

▶ HP recommends to configure the Performance Manager server to connect with the Active Directory server through LDAPS.

Obtaining the Server Certificate

You must add the Microsoft Active Directory server SSL certificate to the list of accepted certificates used by Performance Manager Server. To do this, export the certificate by running the following command on the Microsoft Active Directory Server:

```
certutil -ca.cert <sample.crt>
```

where `sample.crt` is name of the SSL certificate that you want to export to the Performance Manager server.

Importing the Server Certificate

You must import the Microsoft Active Directory server certificate into the keystore, for SSL enabled communication between the Performance Manager and the Microsoft Active Directory.

The keystore file for example, `jssecacerts` is located in the `<PM_data_dir>/conf/perf` directory.

▶ The `keytool` command creates the keystore file if it is not present in the directory.

Follow these steps to import the Server Certificate:

- 1 Go to <PM_data_dir>/conf/perf directory.
- 2 Copy the Microsoft Active Directory server's SSL certificate exported earlier, and place in it in the directory.
- 3 Run the following command:

```
<install_dir>\nonOV\jre\b\bin keytool -import -keystore jssecacerts  
-file <Microsoft ActiveDirectory server's SSL Certificate name>. The  
keytool prompts you for a password. The default password is changeit.
```
- 4 Enter yes to confirm the key import when prompted with 'Trust this Certificate?[no]: yes'

Accessing Performance Manager UI

To launch the Microsoft Active Directory enabled Performance Manager, you can use the following URL:

http://<system>:<port>/OVPM or https://<system>:<port>/OVPM

If you launch the Microsoft Active Directory enabled Performance Manager using the URL:

http://<system>:<port>/OVPM,

it will re-direct you to the log-in page using the URL:

https://<system>:<port>/OVPM.

Enter the user name and password on the log-in page. For example, PM_Admin.

The request to validate the user name and password is sent to the Microsoft Active Directory server. If the validation is successful, HP Performance Manager Home Page is displayed and the URL returns to **http://<system>:<port>/OVPM**. The protocol is redirected from **HTTP** to **HTTPS** to send the credentials to Performance Manager server over SSL. However, if you initiate your Performance Manager using the URL: **https://<system>:<port>/OVPM** the Performance Manager continues to run in the secured mode.

The user account with which you have logged on has the administrator privileges for Performance Manager. You as an administrator must add other customers and users using the **Admin -> Manage Users** menu from the Performance Manager home page.



Only the Performance Manager administrator has privileges to add and remove customers and users for Performance Manager. Active Directory users cannot be added as customers in Performance Manager, you need to add them as users in the Performance Manager.

6 Managing Nodes and Node Groups

The **Admin** menu in the Performance Manager user interface provides you with options to add node group and nodes, attach node groups to or detach node groups from a customer, and delete nodes or node groups. You can have node groups at multi-levels. For information on configuring nodes, see the *Performance Manager Online Help* and *HP Performance Manager Tutorials*. The links to the Help pages and Tutorials are available on the Help menu of the Performance Manager user interface.

- ▶ When Performance Manager user interface displays a list of groups and sub-groups, the nodes directly attached to the top level group will always appear at the top of the tree, followed by the sub-groups attached to the group.
- ▶ Performance Manager displays the list of nodes and node groups belonging to HP Operations Manager, HP Reporter, and HP SiteScope Server only in the Home page and Design page of the Performance Manager user interface.

Nodes from HP Operations Manager, HP Reporter, and HP SiteScope Server are not visible in the **Manage Nodes** options of the **Admin** menu. Only the respective node groups are visible. However, nodes and node groups belonging to Performance Manager are displayed. For information on nodes and nodegroups, see the *Performance Manager Online Help* and *HP Performance Manager Tutorials*. The links to the Help pages and Tutorials are available on the Help menu of the Performance Manager user interface.

Configuring for Importing Nodelist from HP Operations Manager

To import node groups from Operations Manager for Windows 8.10 and later to Performance Manager, both Operations Manager for Windows and Performance Manager should be installed on the same system. If you have Operations Manager for Windows installed on your system, the node group importing is configured automatically during Performance Manager installation. In other words, the **IMPORT_OVOW_NODELIST** parameter in the `OVPmconfig.ini` file will automatically be set to **TRUE**. If Operations Manager for Windows is not installed on the same system, **IMPORT_OVOW_NODELIST** by default will be set to **FALSE**.

To import nodelist from Operations Manager for Windows, follow these steps:

- 1 Open the `OVPmconfig.ini` file. This configuration file is available in the `<PM_data_dir>/conf/perf` directory.
- 2 Under the [OVOW] section, make sure **IMPORT_OVOW_NODELIST** is set to **TRUE**.
- 3 Save the file.

4 Restart Performance Manager.



The `IMPORT_OVOW_NODELIST` parameter, when set to `False` disables importing of nodelist from Operations Manager. If you do not have Operations Manager for Windows installed on the same system, make sure `IMPORT_OVOW_NODELIST` is set to `FALSE`.

When you have Operations Manager for Windows and Performance Manager installed on the same machine, you can enable importing of nodelist from Operations Manager and stop Performance Manager from using its own nodelist, by modifying the `IMPORT_OVPM_NODELIST` parameter in the `OVPMconfig.ini` file. For example, if you set `IMPORT_OVOW_NODELIST` to `TRUE` and `IMPORT_OVPM_NODELIST` to `FALSE`, importing of nodelist from Operations Manager for Windows will be enabled and Performance Manager cannot use its nodelist. In such a case, the **Manage Nodes** option on the **Admin** menu of the Performance Manager interface will not be available.

When you install Performance Manager on a system that already has Operations Manager for Windows installed, the `IMPORT_OVPM_NODELIST` parameter in the `OVPMconfig.ini` file will automatically be set to `False`.

Performance Manager users can reload the node groups from Operations Manager and Reporter at runtime by using the **Reload HPOM** and **Reload Reporter** options, respectively. These options are available on the **Nodes** menu of Performance Manager user interface.

Configuring for Importing Nodelist from SiteScope Server

To import monitored nodes from SiteScope Server you have to configure the server and the node group parameters in the `OVPMconfig.ini` file. For more information, see [Integrating with SiteScope Server](#) on page 39.

Uploading Nodes and Node Groups in Batch

You can upload nodes and create multi-level node groups in a batch. To upload nodes in batch to Performance Manager, you need to specify the nodes and node groups in the `pmsystems.txt` file. Before editing the `pmsystems.txt` file, consider the following information:

- Blank lines and lines beginning with the number sign (#) in the file are considered comments.
- **GROUP**: specifies a group name. Nodes added under **GROUP** are grouped under the name you specify. The **GROUP** entry should always end with **END_GROUP** parameter. A succeeding **GROUP**: line starts a new group.
- For multi-level node groups, you have to specify the path in the following format. To indicate multi-levels you must use the symbol “/”:

```
Node_group/node_sub-group...
```

Where “Node_group” will be the top level group and node_sub-group will be a second level group under it.

- Performance Manager considers the lines that are not commented or that do not have the number sign(#) as system names. A system name should be valid for network addressing. Make sure you have entered a valid system name. It is recommended to use names of the nodes, as IP addresses can confuse users, when they want to select a node to draw or design a graph.
- To indicate a log file that is being proxied by another node on which Performance Agent is running, make sure the name of the original system precedes the name of the hosting system. The syntax **[hostname]actualsystem** indicates that actual system log files are mounted under Performance Agent on the hostname system. For more information on proxied log files, see [Proxied Log Files](#).
- You can add a system to more than one group by listing the system after each of the desired group specifications.

To upload nodes in batch, follow these steps:

- 1 Copy the sample `pmsystems.txt` file available in the `<install_dir>/newconfig/OVPM`. to the `<PM_data_dir>/conf/perf` directory.
- 2 Open the `pmsystems.txt` file placed in the `<PM_data_dir>/conf/perf` and edit the file to add nodes groups and names as shown in the following example:

Example 1:

```
GROUP: MyGroup1
    node1.xyz.com
    node2.xyz.com
```

In this example, a node group “My group1” will be created with the nodes listed in the file.

Example 2:

```
END_GROUP
GROUP: MyGroup1/Sub-Group1
    node4.xyz.com
    node5.xyz.com
END_GROUP
```

In this example, two levels of node groups will be created, a node group called “sub-group1” under the node group “MyGroup1”. All the nodes listed in the file will be attached to the sub-group “Sub-Group1” which belongs to Mygroup1.

Example 3:

```
GROUP: MyGroup1/Sub-Group1/Sub-Group2
    node1.xyz.com
    node7.xyz.com
END_GROUP
```

In this example, three levels of node groups will be created, a node group called “sub-group2” under the node group “Sub-Group1” under the top level group “Mygroup1”. All the nodes listed in the file will be attached to the sub-group “Sub-Group2”.



While adding a group or node group, make sure you place nodes within the **GROUP:** and **END_GROUP** tags.

- 3 Save the file and place it in the `<PM_data_dir>/conf/perf` directory.

- 4 Stop Performance Manager if it is running.
- 5 To upload the systems specified in the `pmsystems.txt` file:
 - a Run the `ovpm uploadsystems` command.
 - b Start Performance Manager.



When the upload is successful, the `pmsystems.txt` file is renamed to `pmsystems_bkp.txt`. In case of exceptions while uploading, the old `OVPMSystems.xml` will be replaced. If the `OVPMSystems.xml` file is corrupted during any other operation, Performance Manager will automatically replace it with the default `OVPMSystems.xml` file.

- 6 Start Performance Manager server by running the `ovpm start` command.

Adding Nodes Temporarily

You can add a node from the **Node Selection** screen on the **Home page** and **Design Wizard** temporarily using the **Add Node** option. The nodes added on these screens will not appear when you refresh the web page. The temporarily added nodes do not belong to any node group.

It is now possible to enable or disable the **Add Node** option by configuring the **DISABLE_TEMP_NODE_ADDITION** parameter in the `OVPMconfig.ini` file. For more information, see [Appendix A, OVPMConfig.ini Parameters](#).

However, the users with administrator privileges can add a node to a node group on the Performance Manager server permanently by using the **Manage Nodes** option available on the Admin menu. For more information refer to the *HP Performance Manager Tutorials* or *Online Help*.

7 Managing Flat Files

Performance Manager supports the usage of flat files as datasources. A flat file is essentially an ASCII text file with one record per line. Every field in the line is separated by a tab, or a comma. A header line at the top of the file defines the contents of the file including the date, time and metric names.

The flat file format supports multiple metrics in one file. Only one class will be seen in Performance Manager for every file datasource. The class name for flat file is "FILEDATA". Multiple Instances can be supported by simply including a field that can be used to differentiate each instance.

File Names and Locations

Flat file names supported by Performance Manager must not include any embedded spaces and terminate with the file extension .bus. Example: MyOwnData.bus.

Flat files must be saved on the Performance Manager server. Flat file can be uploaded by the Performance Manager administrator and cannot be uploaded or managed from the user interface. While designing or drawing graphs using flat file as datasource, by default, Performance Manager will look for flat files in the following directories based on the user login:

<code><PM_data_dir>/conf/perf</code>	Flat file available in this location will be available to customer with blank user credentials and all users attached to this customer
<code><PM_data_dir>/conf/perf/ VPI_CUST_<customername></code>	Flat files available in this location will be available to the specific customer and all users attached to that customer

For example: If “user1”, “user2” and “user3” are attached to “customer1”, then all the flat files available in the location `<PM_data_dir>/conf/perf/VPI_CUST_customer1` and can be accessed by “customer1” and all users attached to “customer1”.

Sample Flat Files

When you install HP Performance Manager, by default the following sample flat files will be available in the location `<Install_dir>\newconfig\OVPM`

- HPCASE.bus.bkp
- CaseBus1.bus.bkp

To use these sample files, you must remove the ‘.bkp’ from the file names and copy the same to the appropriate location based on your credentials.

Flat File Format

The format of a flat file supported by Performance Manager must contain the following:

- **Header Line** - The first line in the file is a header line. This line identifies the fields in the data lines
- **Data lines** - The data consists of one or more numerical and textual fields. Each line in the file represents one data sample, except for the first line which is a header line.

Any blank spaces at the beginning or end of a field are ignored. Blank lines and lines starting with a pound sign # are ignored.

Header Line

The first line in the file is a header line. The header line identifies the fields in the file. Each field in the header line contains the date and time specifiers and a metric name. These fields are separated by a delimiter character (tab or comma).

A metric name enclosed in double quotes indicates that this field contains textual data. A metric name which is not enclosed in quotes indicates the field is numeric. Metric names should not contain any delimiter characters (space, tab or comma).

The first field in a flat file must be the date and time field. The date and time specifier in the header line consists of the characters "Y", "M", "D". The order of the date field indicates the format. Example: (YMD = Year, Month, Day) or (MDY = Month, Day, Year).

The time specifier consists of the string "TIME" and optionally an AM/PM indicator. If time is in 24 hour format then "TIME" is all you need. If the time is in 12 hour format then enter the indicator that will be found in the time strings to indicate "PM" (For example: TIMEPM). Note that TIME is not a separate column but is considered a part of the DATE/TIME column.

Data lines

- Each field is separated from the other fields by a delimiter character (tab or comma).
- Textual fields that contain delimiters must be enclosed in double quotes.
- If there are no special characters in the field then the double quotes are optional.
- Numerical data can be an integer or a floating point. Performance Manager will convert the data to floating point for analysis.
- The first field in each line must be the date and optionally the time of the sample. Dates can be specified in any order of Year, Month and Day separated by non-numeric, non-delimiter characters (as specified in the header line).
- Time format is Hour then Minute, separated by a non-numeric, non-delimiter character. If time is in a 12 hour format, then you need to specify AM or PM as appropriate.
- If the number of data lines exceed 10,000, you might experience slow response while drawing a graph.

8 Configuring Customers and Users

The **Admin** menu available on the Performance Manager interface provides you with options to configure customers and users. You can create customers and users to:

- Restrict unauthorized access to performance data.
- Save graphs created by the users in the folders specific to their logons. You can protect the data of each customer by password and thus, prevent unauthorized access.
- Define privileges to the user profiles and authorize them to perform only those tasks to which they have access. For example, you can authorize some users to draw graphs and save those on the server and restrict other users from creating or editing graphs.
- Attach node groups to customers. When you attach a node group to a customer all the node and node groups which belong to the node group will automatically be attached to the customer.

Configuring Customers

You can assign each customer a logon password to prevent one customer from viewing another customer's data. However, using the blank customer ID and password, you can access all the data. You can assign password to a blank customer to prevent unauthorized access.

Using the **Admin** menu options available on the Performance Manager user interface, you can add or delete a customer, attach users and nodes to a customer, view and edit customer profiles. For more information on configuring customers, see the *HP Performance Manager Online Help* and the *HP Performance Manager Tutorials*.



A blank customer cannot be deleted. When you delete any other customer, all users attached to the customer are deleted and any node groups attached to the customer will no longer be attached.

Configuring Users

If you attach users to a customer, the users will not have access to the graph definitions created by the customer. Any graph template created by a user or customer is unique to the user or customer and cannot be viewed by a different user or customer.

You can also protect user logons with passwords and define privileges for each user.

The profiles that authorize a user to perform the required tasks in Performance Manager are as follows:

Normal	The users with this profile can draw any out-of-the-box graphs. They can also edit, and save the new and modified graph definitions.
--------	--

Read Only	The users with this profile can draw any out-of-the-box graphs, edit, create new graph definitions. However, they will not be authorized to save any new or modified graph definitions on the Performance Manager server.
Display Only	The users with this profile can draw any out-of-the-box graphs, but will not be authorized to create their own graph definitions or to modify any existing graph definition.

Using the **Admin** menu options, you can add a user to a customer, view and edit a user profile and delete a user. If the Performance Manager is configured with the Microsoft Active Directory server, you need to assign individual users to a customer in Performance Manager. The users must be assigned permissions to enable them to log on to Performance Manager using their credentials.

For more information on configuring users, see the *HP Performance Manager Online Help* and the *HP Performance Manager Tutorials*.

Configure Associations between customers and node groups

Performance Manager supports multi-level node group. Customers can be associated with node groups. All user attached to a particular customer will inherit the node group associations.

For more information on this, see [Managing Nodes and Node Groups](#).

Once you upgrade to Performance Manager 8.20, the associations between nodes and customers will not be carried forward. This is because in version 8.20, you can associate node groups with customers and have multi-level node groups. The Performance Manager administrator has to manually associate node groups and customers. For administering node groups and users from the Admin user interface, see *HP Performance Manager Tutorials* or the *online help*.

Managing Customers and Users using the Command Line Interface

You can add or delete users and customers using the command line interface options.

To add a customer, run the following command:

```
ovpm addcustomer name=<name> [password=<password>]
```

In this instance, 'name' is the name of the customer which you want to add. The password is optional. If you do not specify a password, the password will be blank.

Example: `ovpm addcustomer name=cust1 password=temppwd`

In this example, a customer 'cust1' is added to Performance Manager with password as 'temppwd'.

To add a user, run the following command:

```
ovpm adduser name=<name> [password=<password>]
[customer=<customer_name>] [usertype=<usertype>]
```

In this instance, 'name' is the name of the user which you want to add and 'customer' is the name of the customer to which the user is added. If you do not specify the customer name, the user will be added to blank customer. If you do not specify the user type, by default the user type will be 'normal'. The password is optional. If you do not specify a password the password is left blank.

Example: `ovpm adduser name=user1 password=temppwd customer=cust1 usertype=<type>`

In this example, a user 'user1' is added to customer 'cust1'. The user types supported are 'Normal', 'read-only' and 'display-only'. If you do not specify a user type, by default the user type is set as 'normal'.

To delete a customer, run the following command:

`ovpm deletecustomer name=<name>`

In this instance, 'name' is the name of the customer which you want to delete. When you delete a customer, all the users belonging to that customer will also be deleted.

Example: `ovpm deletecustomer name=cust1`

In this example, the customer 'cust1' is deleted from Performance Manager.

To delete a user, run the following command:

`ovpm deleteuser name=user customer=cust`

In this instance, name is the name of the user which you want to delete, and 'cust' is the name of the customer to which the user belongs to.

Example: `ovpm deleteuser name=oper1 customer=cust1`

In this example, a user 'oper1' belonging to customer 'cust1' is deleted from Performance Manager.



When you delete a user or customer, the folders containing the information specific to the user or customer (VPI_USER_* and VPI_CUST_*) are backed up in the location: `<PM_data_dir>/conf/perf/CUST_USER_BKPDIR`.

Use cases for customer and user configurations

Performance Manager allows flexibility in configuring customers and users as required. Following section details a few use cases. For instructions to configure users and customers, see *HP Performance Manager Tutorials* and the *Online Help*:

Table 4

Scenarios	Description
Wide open	If you have only a few users using Performance Manager, or if the end-users do not have the need to manage unique graph definitions, you can use the default settings for Performance Manager. In this setting, there are no unique customer defined graphs, all users or customers get to see all the data that is available and no logons are required. To enable this configuration, set the blank customer password to blank using the Performance Manager Administrator interface.

Table 4

Customers only	<p>If you want to segregate data into different groupings (customers) you can use customers only. Users belonging to one customer cannot see graphs designed by a different customer.</p> <p>To enable this configuration, define the customers and the data they can access using Performance Manager Administrator interface. Assign unique customer passwords. Customers must use their unique logon credentials to login to PM. Make sure that you set a password for the blank customer in the Performance Manager Administrator interface. The password for the blank user should not be blank. This is to ensure that any customer will not have access to all data using blank password.</p>
Users only	<p>If your data does not require classification into different groupings, but you still prefer different users to have private areas to save their own graphs, then define users only. Use the Performance Manager Administrator interface and enter the names of all your users under the blank customer. The users must use their unique logon credentials. They can view all the data in Performance Manager and have separate areas to save their own graphs.</p>

Table 4

Customers and users	<p>You can have both customers and users configured. Define users and customers in the Performance Manager Admin Interface and assign unique passwords. You can have a set of admin users defined under the blank customer name who can access all the data and users grouped under a specific customer who can only see the customer's data.</p> <p>Use unique names for all users and customers. The users and customers must use their unique logon credentials. For users with private graph storage areas or special restrictions or use the customer name and customer password for a graph storage area shared by other users belonging to this customer.</p>
---------------------	--

9 Drawing Graphs by Passing Parameters in URL

You can invoke Performance Manager and draw graphs from any application that can recognize a URL reference.

- !! Upgrading from Performance Manager version 8.10 or 8.20 to 9.00 results in the modification of out-of-the-box graph templates. The family name of the graph template has been changed from *Performance History* to *Infrastructure Performance*.

If you have been drawing Performance Manager graphs by passing parameters in the URL, enter the **GRAPHTEMPLATE** parameter in the URL as **InfraSPI** instead of **GraphsAgents**. For example, `http://<SERVERNAME>:<PORTNUMBER>/OVPM?SYSTEMNAME=SYSTEM.ABC.COM&GRAPHTEMPLATE=GraphsAgents&GRAPH="Global History"` has been changed to `http://<SERVERNAME>:<PORTNUMBER>/OVPM?SYSTEMNAME=SYSTEM.ABC.COM&GRAPHTEMPLATE=InfraSPI&GRAPH="Global History"`

If you want to use the earlier layout of the graph templates, see [Chapter 12, Managing Graph Templates](#).

To invoke Performance Manager from any application and draw graphs, follow these steps:

- 1 Use the following URL:

```
http://<SYSTEMNAME>:<PORT NUMBER>/OVPM?
```



The URL formats from Performance Manager version 4.x will no longer be supported. You need to update the URL format supported in the current version. For example, URLs pointing to `http://<server_name>/HPOV_IOPS/cgi-bin/Analyzer.exe?<url_parameters>` should be modified to point to `http://<server_name>:<port_number>/OVPM/Analyzer?<url_parameters>`.

If Performance Manager is configured with Microsoft Active Directory, you must type the user name and password parameter in the URL. For example, `http://`

```
<SERVERNAME>:<PORTNUMBER>/OVPM/Analyzer?getService&Action=getgraphlist&customer=<user_name>&password<user_password>
```

In this instance:

- **<systemname>** is the name of the system on which the Performance Manager server is running. While accessing Performance Manager through the Web browser, you need to replace this variable with the actual name of the system or server, or the IP address of the system so that the network name servers can resolve to the Performance Manager system. For example, `system.abc.com`.
- You can draw real-time graphs for multiple systems. There is no limit to the number of systems that you can add in the URL.

- 8081 is the default HTTP port number. If you have changed the port settings, you can specify the port that is assigned to Performance Manager. If you want to know the port number to which Performance Manager is configured, run the following command at the command prompt:

```
<bin_dir>\ovconfget
```

See the `HTTPPORT` entry in `NONOV.TOMCATB` section.

- **OVP**M is used to locate the server processing code. The question mark after OVP



If the blank customer is assigned a password, Performance Manager prompts you to log on by displaying the Login page when you pass parameters. To access graphs:

- Enter the password for blank customer and click **Login** on the Login screen or enter the following parameters in the URL.

```
CUSTOMER=&PASSWORD=<password>
```

In this instance, `<password>` is the Password assigned to the blank customer.

- If you have a logon, specify your user name and password for the **CUSTOMER** and **PASSWORD** parameters in the URL to access graphs.
- Enter the **SYSTEMNAME** parameter and specify a value for it, for example, **SYSTEMNAME=SYSTEM.ABC.COM**
 - Enter the **GRAPHTEMPLATE** parameter and specify a value for it, for example, **GRAPHTEMPLATE=InfraSPI**
 - Enter the **GRAPH** parameter and specify the graph you want to draw, for example, **GRAPH="Global History"**. The Global History graph for the `system.abc.com` appears.
 - Enter the **ACTION** parameter and specify that you want to draw a real-time graph and display the graph window, for example, **ACTION=DRAWRTMGRAPH&SHOWONLYGRAPH**
 - Enter the **PIXELSWIDE** and **PIXELSHIGH** parameter and specify a value for it, for example, **PIXELSWIDE=width_in_pixels** and **PIXELSHIGH=height_in_pixels**. It specifies the width and height of the browser window.



It is optional to specify the width and height of a graph. If you do not specify the width and height, graphs will be automatically sized according to the browser window size. You can use a scrollbar to view the graphs if they do not fit in the browser window.

You need to use a combination of delimiters as listed below for the URL string:

Delimiters between name-value pairs	Delimiters between name and value
&	=
:	-



- You need to use a combination of delimiters as listed below for the URL string:
 - If you use “&” as a delimiter between pairs, then use “=” as the delimiter which connects the name and the value

Example:

- `http://<SERVERNAME>:<PORTNUMBER>/OVPM?SYSTEMNAME=SYSTEM.ABC.COM&GRAPHTEMPLATE=InfraSPI&GRAPH="Global History"`

- If you use “-” as a delimiter between pairs, then use “:” as the delimiter which connects the name and the value

Example:

`http://<SERVERNAME>:<PORTNUMBER>/OVPM?SYSTEMNAME=SYSTEM.ABC.COM:GRAPHTEMPLATE-InfraSPI:GRAPH-"Global History"`

- If the name of the graph has a blank space, you must replace it with a connector to draw the graph; for example; `GRAPH=Global+History`.

- 7 Enter the **BANNER** parameter and specify **True** or **False** to show or hide the Performance Manager banner in the browser. For example, `BANNER=False`.



The **BANNER** parameter is also used in the Diagnostic View of Performance Manager to draw URL based real-time graphs.

For information on the keywords or parameters that can be passed in the URL to generate graphs, see [Keywords](#).

Drawing Real-time graphs by passing URL parameters

You can invoke Performance Manager and draw real-time graphs from any application that can recognize a URL reference. Only the default real-time graph is drawn for the systems mentioned in the URL.



Only the Diagnostic View of Performance Manager will be displayed when you launch a real-time graph through a URL. The Standard View tab will not be available on the browser.

Example 1

To draw a real-time graph of a single system, use the format as shown in the URL below:

`http://<SERVERNAME>:<PORTNUMBER>/OVPM?SYSTEMNAME=<SYSNAME>&ACTION=DRAWRTMGRAPH`

In this instance, the URL displays the default real-time graph with the pre-defined system metrics of the `<SYSNAME>` mentioned in the URL. The URL also displays the Performance Manager banner in the browser.

Example 2

To draw a real-time graph of a single system and to display only the graph window, use the format as shown in the URL below:

`http://<SERVERNAME>:<PORTNUMBER>/OVPM?SYSTEMNAME=<SYSNAME>&ACTION=DRAWRTMGRAPH&SHOWONLYGRAPH`

In this instance, the URL displays only the default real-time graph window with the pre-defined system metrics of the `<SYSNAME>` mentioned in the URL. The URL however does not display the Performance Manager banner and Selection Panel in the browser.

Example 3

To draw a real-time graph of a single system and to specify the width and height of the graph window in pixels use the format as shown in the URL below:

```
http://<SERVERNAME>:<PORTNUMBER>/OVPM?SYSTEMNAME=<SYSNAME>&ACTION=
DRAWRTMGRAPH&SHOWONLYGRAPH&PIXELSWIDE=<WIDTH_IN_PIXELS>&PIXELSHIGH=<HEIG
HT_IN_PIXELS>
```

In this instance, the URL displays only the default real-time graph window with pre-defined system metrics of the <SYSNAME> mentioned in the URL. The graph opens in a separate window with the width and the height as specified. The URL does not display the Performance Manager banner and Selection Panel in the browser.

Example 4

To draw real-time graphs of multiple systems , use the format as shown in the URL below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM/?SYSTEMNAME=<SYSNAME1>
&SYSTEMNAME=<SYSNAME2>&ACTION=DRAWRTMGRAPH
```

In this instance, the URL displays two default real-time graphs belonging to <SYSNAME1> and <SYSNAME2> mentioned in the URL. The URL also displays the Performance Manager banner in the browser.

Example 5

To draw real-time graphs of multiple systems, and to display only the graph window, use the format as shown in the URL below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM/?SYSTEMNAME=<SYSNAME1>
&SYSTEMNAME=<SYSNAME2>&ACTION=DRAWRTMGRAPH&SHOWONLYGRAPH
```

In this instance, the URL displays only the default real-time graph window belonging to <SYSNAME1> and <SYSNAME2> mentioned in the URL. The URL does not display the Performance Manager banner and Selection Panel in the browser.

Example 6

To draw real-time graphs of multiple systems and to specify the width and height of the graph window in pixels, use the format as shown in the URL below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM/?SYSTEMNAME=<SYSNAME1>
&SYSTEMNAME=<SYSNAME2>&ACTION=DRAWRTMGRAPH&SHOWONLYGRAPH&PIXELSWIDE=<WID
TH_IN_PIXELS>&PIXELSHIGH=<HEIGHT_IN_PIXELS>
```

In this instance, the URL displays only the default real-time graph window belonging to <SYSNAME1> and <SYSNAME2> mentioned in the URL with the width and height as specified. The URL does not display the Performance Manager banner and Selection Panel in the browser.

Generate XML outputs by passing URL parameters

You can generate XML outputs by passing some basic parameters in the URL path. The URL retrieves the information using the schema in the XMLGraph.xsd file available in the <install_dir>/newconfig/OVPM/Schemas directory.

The following examples explain various scenarios to generate XML outputs.

Example 1

To retrieve data by passing a system name, a metric class, and a metric in the URL, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?SYSTEMNAME=<SYSNAME>&
CLASS=GLOBAL&METRIC=GBL_CPU_TOTAL_UTIL&LABEL=Total_Util&GRAPHTYPE=XML
```

The URL retrieves an XML data output of the metric **GBL_CPU_TOTAL_UTIL** belonging to the metric class **GLOBAL** with the label name **Total_Util**.



To view the name of the metric, for example, **Total_Util**, you can use the **LABEL** parameter in the URL. However, this is not mandatory. If the **LABEL** parameter is not used in the URL, the metric name, for example, **GBL_CPU_TOTAL_UTIL**, will be displayed as the label in the XML output.

Example 2

To retrieve data by passing a system name, a metric class, and two metrics in the URL, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?SYSTEMNAME=<SYSNAME>&CLASS=GLOBAL
&METRIC=GBL_CPU_TOTAL_UTIL&LABEL=Total_Util&METRIC=GBL_CPU_TOTAL_TIME&GR
APHTYPE=XML
```

The URL retrieves an XML data output of the metrics **GBL_CPU_TOTAL_UTIL** and **GBL_CPU_TOTAL_TIME** belonging to the metric class **GLOBAL**.

Example 3

To retrieve data by passing a system name, two metric classes, and one metric from each metric class in the URL, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?SYSTEMNAME=<SYSNAME>&CLASS=GLOBAL
&METRIC=GBL_CPU_TOTAL_UTIL&LABEL=Total_Util&CLASS=FILESYSTEM&METRIC=FS_S
PACE_UTIL&LABEL=Space_Util&GRAPHTYPE=XML
```

The URL retrieves an XML data output for both metrics **GBL_CPU_TOTAL_UTIL** belonging to the metric class **GLOBAL** and **FS_SPACE_UTIL** belonging to the metric class **FILESYSTEM** on a single system.

Example 4

To retrieve data by passing a system name, two metric classes, and two metrics from one metric class and one metric from another metric class in the URL, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?SYSTEMNAME=<SYSNAME>&CLASS=GLOBAL
&METRIC=GBL_CPU_TOTAL_UTIL&LABEL=Total_Util&CLASS=FILESYSTEM&METRIC=FS_S
PACE_UTIL&LABEL=Space_Util&CLASS=GLOBAL&METRIC=GBL_CPU_TOTAL_TIME&GRAPHT
YPE=XML
```

The URL retrieves an XML data output of the metrics **GBL_CPU_TOTAL_UTIL**, **GBL_CPU_TOTAL_TIME** and **FS_SPACE_UTIL** belonging to the metric classes **GLOBAL** and **FILESYSTEM** respectively. Also note that the outputs appear in the order the parameters are listed in the URL.

Example 5



The **METRIC** parameter should be preceded (not immediately) by the respective **CLASS** parameter.

To retrieve data by passing two system names, one metric class, and one metric in the URL, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?SYSTEMNAME=<SYSNAME1>
&SYSTEMNAME=<SYSNAME2>&CLASS=GLOBAL&METRIC=GBL_CPU_TOTAL_UTIL&LABEL=Cpu_
Utilization&GRAPHTYPE=XML
```

The URL retrieves an XML data output of metric **GBL_CPU_TOTAL_UTIL** from System 1 and System 2. You will notice that the system names are prepended to the metric names when there are multiple systems in the request. For example, in this case, the metrics appear as "**<SYSNAME1>-Cpu_Utilization**" and "**<SYSNAME2>-Cpu_Utilization**".

Example 6

To retrieve data by passing two system names, two metric classes, and one metric from each metric class in the URL, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?SYSTEMNAME=<SYSNAME1>
&SYSTEMNAME=<SYSNAME2>&CLASS=GLOBAL&METRIC=GBL_CPU_TOTAL_UTIL&LABEL=Total
_Util&CLASS=FILESYSTEM&METRIC=FS_SPACE_UTIL&LABEL=Space_Util&GRAPHTYPE=
XML
```

The URL retrieves an XML data output of metrics **GBL_CPU_TOTAL_UTIL** and **FS_SPACE_UTIL** from the two different systems.

Example 7

To retrieve data by passing a system name, a metric class, a metric, and a start and stop time for the period between which the metric should collect data, in the URL, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?SYSTEMNAME=<SYSNAME>&CLASS=GLOBAL
&METRIC=GBL_CPU_TOTAL_UTIL&LABEL=Total_Util&GRAPHTYPE=XML&STARTTIME=2009
,6,10,10,30,00&STOPTIME=2009,6,10,14,30,00
```

The URL retrieves an XML data output of metric **GBL_CPU_TOTAL_UTIL** belonging to the metric class **GLOBAL**. The data point for the metric is displayed for a period of two hours on June 10, 2009 from 10:30 to 14:30. For more information on the parameters used in URLs to generate graphs, see [Keywords](#) on page 72.

Example 8

To retrieve data by passing a system name, a metric class, a metric, a start and stop time for the period between which the metric should collect data, and pointsevery (in hours) to display one data point for every specified duration, in the URL, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?SYSTEMNAME=<SYSNAME>&CLASS=GLOBAL
&METRIC=GBL_CPU_TOTAL_UTIL&LABEL=Total_Util&GRAPHTYPE=XML&STARTTIME=2009
,6,10,10,30,00&STOPTIME=2009,6,11,10,30,00&POINTSEVERY=3 hours
```

The URL retrieves an XML data output of metric **GBL_CPU_TOTAL_UTIL** belonging to the metric class **GLOBAL**. The data point for the metric is displayed every three hours from 10:30 on June 10, 2009 to 10:30 on June 11, 2009.

Example 9

To retrieve data by passing a system name, a metric class, a metric, a start and stop time for the period between which the metric should collect data, and pointsevery (in minutes) to display one data point for every specified duration in the URL, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?SYSTEMNAME=<SYSNAME>&CLASS=GLOBAL
&METRIC=GBL_CPU_TOTAL_UTIL&LABEL=Total_Util&GRAPHTYPE=XML&STARTTIME=2009
,6,10,10,30,00&STOPTIME=2009,6,11,10,30,00&POINTSEVERY=30 min
```

The URL retrieves an XML data output of metric `GBL_CPU_TOTAL_UTIL` belonging to the metric class `GLOBAL`. The data for the metric is displayed every 30 minutes from 10:30 on June 10, 2009 to 10:30 on June 11, 2009.

Example 10

To retrieve the list of nodes configured in Performance Manager, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?getService&Action=GetNodeList
```

The URL retrieves an XML output of the list of nodes available under the respective node groups using the schema in the `OVPMSystems.xsd` file available in the `<install_dir>/newconfig/OVPM/Schemas` directory.



The output displays the list of nodes managed by Performance Manager. Nodes imported from Operations Manager for Windows, Reporter, and SiteScope are not displayed.

Kindly ignore if datasources are mentioned in the output.

Example 11

To retrieve the list of pre-defined graphs available in Performance Manager, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?getService&Action=GetGraphList
```

The URL retrieves an XML output of the list of graphs available in Performance Manager using the schema in the `Graphlist.xsd` file available in the `<install_dir>/newconfig/OVPM/Schemas` directory.

Example 12

To retrieve the list of graph families available in Performance Manager, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?getService&Action=GetFamilyList
```

Example 13

To retrieve the list of metric classes, metrics, and the data types available in an agent system, use the format as shown in the example below:

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM?-info&DATASOURCE=<DATASOURCENAME>
&SYSTEMNAME =<SYSNAME>
```

The URL retrieves an XML output of the list of nodes available under the respective node groups using the schema in the `InfoMetaData.xsd` file available in the `<install_dir>/newconfig/OVPM/Schemas` directory.

Configure the Nodes Appearing on the Node-list Tree

You can configure the nodes appearing in the node-list tree using the parameter `LOADALLNODES` in the `OVPMconfig.ini` file. When you add this parameter in the URL and set the value as `true` or `yes`, while drawing a graph, Performance Manager will load only the node (`SYSTEMNAME` parameter) which is specified as a part of the URL. Hence the time taken to draw a graph will be faster as compared to a scenario when all the nodes are loaded.

After you draw the graph, if you navigate to the home page from the **Drawn Graphs** page, the node tree displays only the node specified in the URL at the root level. All nodes or node groups will not be displayed.

Example:

```
http://<SERVERNAME>:8081/OVPM?SYSTEMNAME=SYSTEM.ABC.COM
&GRAPHTEMPLATE=InfraSPI&GRAPH="Global History"&LOADALLNODES=yes
```

This parameter is also available in the `OVPMconfig.ini` file. Set the value as `True` or `Yes` to load all groups and nodes; or `False` or `No` to load only those node(s) specified in URL. Any value specified in the URL will override the value specified in the `OVPMconfig.ini` file. For a description of the parameter, see [OVPMConfig.ini Parameters](#).

Performance Manager for a vMA Node

Performance Manager is enhanced to draw graph for vMA node. However, HP Performance Agent, version 5.00 must be installed on the server monitored by the vMA. All the resource pools and virtual machines associated with a vMA are listed as instances in Performance Manager. In the Diagnostic View, for a vMA node where Performance Agent is running on the system the host and the guest names are listed as a single instance: `<hostname>/<guestname>`. However, for a vMA node where RTM is collecting the data, the host names and the guest names are listed as separate instances in Performance Manager.

If you are launching a graph by passing URL parameters, for a vMA node then you will need to specify the complete path in the 'INSTANCE' parameter as follows:

```
INSTANCE=<servername>/<resourcepoolname>/<guest>
```



From the Performance Manager interface, the resource pools appear as instances in the Instance Selection box while drawing a graph.

You need to use "/" as a delimiter between the parameters server name, host name, resource pool, and guest name in the URL string.

For example, if you are launching a `VIRTUALIZATIONGRAPH` using a graph template "VIRTUALIZATIONGRAPH" containing logical system class of metrics for an instance `Guest1`, which is configured with `Resourcepool1` and installed on `Host1`, then the format of the path will be as below:

```
http://<SERVERNAME>:8081/OVPM?SYSTEMNAME=ConfiguredVMANODE&
GRAPHTEMPLATE=VIRTUALIZATIONGRAPH&GRAPH=VIRTUALIZATIONGRAPH&INSTANCE=Host1/Resourcepool1/Guest1
```

Launch Saved State of the User Interface by passing URL parameters

You can launch a saved state of the User Interface by passing the name of the state as URL parameters.

Only the Diagnostic View is displayed when you launch a saved state of the User Interface through a URL. It displays all the customizations made to the elements on the User Interface, before saving the state of the User Interface.

To launch a saved state of the User Interface, use the format as shown in the URL below :

```
http://<SERVERNAME>:<PORT NUMBER>/OVPM/  
?&ACTION=Loadstate&StateName=<STATENAME>
```

In this instance, the URL displays the all the graphs and other attributes of the User Interface saved using the name **<STATENAME>** . The URL displays the Performance Manager banner and the Selection panel in the browser. You can launch any of the saved User Interfaces through this URL reference by entering the name of the saved state of the User Interface.

10 Running Graphs in Batch

You can access Performance Manager and generate graphs by running the `ovpmbatch` script. To run the script, you need to enter the `GRAPHTEMPLATE`, `SYSTEMNAME` and `GRAPH` parameters. You can also specify additional parameters such as `GRAPHTYPE`.



Upgrading Performance Manager from version 8.10 or 8.20 to 9.00 results in the modification of out-of-the-box graph templates. The family name of the graph template in this version has been changed from *Performance History* to *Infrastructure Performance*.

If you have been drawing graphs by running `ovpmbatch` commands, enter the `GRAPHTEMPLATE` value as `VPI_InfraSPI.txt` instead of `VPI_GraphsAgents.txt`. For example, `ovpmbatch GRAPHTEMPLATE=VPI_GraphsAgents.txt GRAPH="Global History" SYSTEMNAME=system.abc.com` has been changed to `GRAPHTEMPLATE=VPI_GraphsInfraSPI.txt GRAPH="Global History" SYSTEMNAME=system.abc.com`

If Performance Manager is configured with Microsoft Active Directory, you must type the username and password parameters. For example, `GRAPHTEMPLATE=VPI_GraphsInfraSPI.txt GRAPH="Global History" SYSTEMNAME=system.abc.com POINTSEVERY="auto" CUSTOMER=<username> password=<password>`

If you want to use the earlier layout of the graph templates, see [Chapter 12, Managing Graph Templates](#).

For example, if you run the following commands at the command prompt, the graph you specified will be generated:

```
ovpmbatch GRAPHTEMPLATE=VPI_GraphsInfraSPI.txt GRAPH="Global History"
SYSTEMNAME=system.abc.com
```

In this instance:

- `GRAPHTEMPLATE=VPI_GraphsInfraSPI.txt` refers to the graph template file. You can also specify `InfraSPI` as the value for `GRAPHTEMPLATE`.
- `GRAPH="Global History"` refers to the name of the graph.
- `SYSTEMNAME=system.abc.com` refers to the system from where the data is collected and displayed on the graph.
- The values for `GRAPHTEMPLATE` and `GRAPH` are case-sensitive.
- If the name of the graph has a blank space, make sure you enclose the name with double quotes. For example, `graph="Global History"`.

For information on keywords and parameters used in the batch operation, see [Keywords](#) on page 72.

While running graphs in batch, you can generate data for a graph or table in the text file format. For example, if you draw a graph using the Global History graph template and specify the `GRAPHTYPE` as CSV or TSV, the graph type saved in the template will be overwritten and

the data will be displayed in the specified text file format. After the batch operation, Performance Manager prints the output to standard out. You can redirect standard out to a disk file.

For example, if you specify `ovpmbatch GRAPHTEMPLATE=VPI_GraphsInfraSPI.txt GRAPH="Global History" SYSTEMNAME=system.abc.com GRAPHTYPE=XML >globahistory.xml`, a global history graph is generated in the xml format and standard out is redirected to the disk file you specified.

You can also direct the output to a directory of your choice by specifying the following parameter:

outputdir=<directory>

The directory will be created if it does not exist. If you specify the output directory, the output will be saved as `stdout.txt` in the specified directory. The HTML file will be saved as `graph.htm` and the first graph image will be saved as `graph.png`. The additional graph images will be named `graph1.png`, `graph2.png` and so on.



The output generated in the tabular format is written to the `graph.htm` file in HTML text.

If you do not redirect the standard out to a disk file and if you do not specify the output directory, the URL to view the graph appears after the successful completion of batch operation. The output of the `ovpmbatch` operation is saved on the Performance Manager web server in the `<INSTALL DIR>\www\webapps\OVPM\datafiles\batch\<session_id>` directory.

In this instance, `<session_id>` refers to the alphanumeric value based on the session ID automatically generated by Performance Manager.

Customizing Report Template

You can customize the design of the report templates using `ovpmbatch`. To customize the report template, perform the following tasks:

- 1 Create a report template file in html format or customize the `OVPMReportTemplate.htm` file.
- 2 Use the following key word:

REPORTTEMPLATE=<filename>

In this instance, `<filename>` refers to the location of the report template file with the complete path. If you do not specify the location for the report template file, by default Performance Manager looks for the template file in the `<PM_data_dir>/conf/perf` directory.

Example: `ovpmbatch GRAPHTEMPLATE=VPI_GraphsInfraSPI.txt GRAPH="Global History" SYSTEMNAME=system.abc.com REPORTTEMPLATE="c:\userdefined.htm"`. In this example, `userdefined.htm` is the report template file available in C drive.

Managing Output Files

When the users generate HTML graphs by running `ovpmbatch`, the HTML and PNG files are written to the default output directory based on the parameters used to generate the graph.

For example, if you have drawn a global history graph from the `mysys.hp.com` by typing `<bin_dir>/ovpmbatch GRAPHTEMPLATE=InfraSPI GRAPH="Global History" SYSTEMNAME=mysys.hp.com` command at the command prompt, the Location `http://<systemname>:<portnumber>/OVPM/datafiles/batch/<graph>.htm` URL appears.

In this instance, `<graph>` represents any random number generated by Performance Manager.

To view the output as a web page, enter `http://<systemname>:<port number>/OVPM/datafiles/batch/<graph>.htm` in the browser.

When `ovpmbatch` creates a regular graph, it creates an HTML file and necessary png image files. The output of the `ovpmbatch` table graphs is saved in HTML format, as `<graph>.htm` file.

To locate the output files on your local system disk, navigate to the `<install_dir>/www/webapps/ovpm/datafiles/batch` directory.

Improving Ovpmbatch Performance

By default, when users generate graphs using the `ovpmbatch` command, each command initializes a new Java Virtual Machine (JVM) for generating the requested graph. This may impact the performance, since the metadata cannot be cached. To enable the `ovpmbatch` command to make use of the cached data, you can specify the following parameter:

SENDURLREQUEST=true

Example: `ovpmbatch GRAPHTEMPLATE=Agents GRAPH="Global History" SYSTEMNAME=system.xyz.com SENDURLREQUEST=true`. This command generates a graph using the Tomcat server, instead of launching a new JVM.



Performance Manager server should be running for this parameter to work.

Customizing batch

Keywords

The following table lists the parameters and keywords that are used in graph templates, in URLs and batch operation to generate graphs:

Table 1 General Parameters

Keyword	Value	Description
PARAMETER<n>: -p<n> In this instance, <n> is a number from 1 to 9.	Parameter Value	<p>Defines the default parameter value. Using parameters allows easy generalization of templates so that a different graph template is not required for each parameter value.</p> <p>While processing the template file, substitutions can be made using up to nine parameters named PARAMETER1 to PARAMETER9. This substitution is performed on each template line before that line is processed. You can use parameters to substitute any part of the template file syntax (including filter values, metric and class names.)</p> <p>The template file should set a default value for a parameter using the PARAMETER statement. The syntax for this statement is PARAMETER followed by exactly one digit from 1 to 9, followed by a colon, for example, PARAMETER1 :, PARAMETER2 :, ... PARAMETER9 :. When you provide a default parameter, it will be substituted into succeeding template lines wherever the syntax @PARAMETERn is found. For example, the following statements are equivalent:</p> <p>FILTER: SYSTEMNAME="MYSYSTEM" and PARAMETER1 : MYSYSTEM FILTER: SYSTEMNAME=@PARAMETER1</p> <p>You can override a parameter by supplying a different value in the URL or command line interface.</p>
CUSTOMER:	Customer Name	The customer name restricts access to the data that belongs to a particular customer. A different password may be required to access each customer's data. In case of blank customers, you need not specify customer name or password unless the blank customer logon is assigned a password.
PASSWORD:	Password	If customer restricted views are enabled for a datasource, a password may be required in order to access that customer's data. This can be a different password for each customer, or a blank customer password. In case of Blank customers, you need not specify Password, unless the blank customer is assigned a password.
GRAPHTEMPLATE:	Template file name, for example, Agents	Identifies the name of the file containing the graph specifications.
GRAPH:	Graph Name	Identifies the name of the graph within the graph template file.
GRAPHTITLE:	Title String	Specifies the title string for the graph.*

Table 1 General Parameters

Keyword	Value	Description
GRAPHSUBTITLE :	Second Title String	Specifies the second title string for the graph.*
	*Keywords can be added to the Title or SubTitle fields to substitute the actual values for: <ul style="list-style-type: none"> • @@[SYSTEM] - The name of the system being graphed. • @@DATERANGE - Total time shown in the graph (the default value is 7 Days). • @@POINTSEVERY - The amount of time summarized into each data point • @@STARTTIME - The beginning time in the graph, for example, 05/14/07, 06.00 PM • @@STOPTIME - The last time in the graph, for example, 05/21/07, 06.00 PM) 	
YAXISTITLE :	Title String	Specifies the label for the left Y-Axis.
YAXISTITLERIGHT :	Title String	Specifies the label for the right Y-Axis.
GRAPHTYPE :	line	For line or multi-type graphs.
	area	For a filled area graph.
	bar	For a bar graph.
	hbar	For a horizontal bar graph.
	mixed	Metrics can be a combination of line and area.
	pie	For a pie chart.
	table	For a table with time intervals in columns and metrics in rows.
	htable	For a table with time intervals in rows and metrics in columns.
	gauge	For an automotive type gauge, one per metric.
	csv	For a text file with Comma Separated Values.
	tsv	For a text file with Tab Separated Values.
	excel	For data in the Microsoft Excel Spreadsheet (requires you to install Microsoft Excel on the client system).
xml	For data in the xml format. Performance Manager prints the XML output generated after batch operation to standard out.	
GRAPHBACKGROUND :	<color>	Color of graph background.
GRAPHMETRICSPERGRAPH :	<number>	The maximum number of metrics on a single graph. The default is 8.
GRAPHMULTIPLEGRAPHS :	Yes or No	The default value is No. When set to Yes, it creates additional graphs if the total number of metrics to be graphed exceeds the value. Text editors do not display the default values. To change the default settings, you need to specifically include the keywords.

Table 1 General Parameters

Keyword	Value	Description
DATERANGE :	<daterange>	Range of date/times to include in the graph. If you do not specify any values for DATERANGE : ENDDATE : STARTDATE : STARTTIME : or STOPTIME : , the default date range values that is a duration of 7 Days , ending Now will be used. If you specify “all” for date range, all the data collected in the datasource will be used in graphing.
BEGINDATE : ENDDATE :	<datetime>	The earliest and latest date and time to be included in the graph. This parameter works in conjunction with the DATERANGE : parameter to set the time covered in the graph. The format of the ENDDATE : field depends on the settings on the Performance Manager Server system. ENDDATE sets the end of the time interval chosen with DATERANGE . The default end date, Now sets the current date and time as the end of the interval. If you specify “Last”, the date and time when data was last collected in the log file will be used. You can also specify date and time for ENDTIME . The date and time format, which matches that of the Performance Manager server, will be used. For example, if the settings of a particular region use the MM/DD/YYYY date format, you need to use the same format in your specifications. If the value you specify has spaces in between, make sure you place the value within quotes.
STARTTIME : STOPTIME :	<datetime>	STARTTIME is the earliest date/time to be included in the graph and STOPTIME is the latest date/time to be included in the graph. If you set the beginning and ending date and time by explicitly using the STARTTIME : and STOPTIME : parameters, any values entered for DATERANGE : , BEGINDATE : and ENDDATE : will be ignored. STARTTIME : and STOPTIME : use a locale neutral format for specifying dates and times (YYYY,MM,DD HH:MM:SS). The values must be specified in the following order: Year, Month, Day, Hour, Minute, Second. For example, the syntax for specifying 17th August 2008, 23.30:50 is 2008, 8, 17, 23, 30, 50.
STACKED :		Specifies that the area and bar graphs should “stack” the value of one metric on top of the previous metrics.
NUMBEROFPOINTS :	<number>	Refers to the number of data points to be displayed on a graph (default is 100 points). This value is used to summarize the data for each data point and to fit the graph in a single window, when POINTSEVERY value is set to auto. For other POINTSEVERY values, Performance Manager determines the number of (data points/time intervals) for each graph and provides options to view the next or previous set of data points or intervals. For line, area, and table graphs, the default value for <number> is 100. You need not specify a number for Pie and Gauge graph types. Note: It is recommended that you do not to set the <number> value to more than 1000.

Table 1 General Parameters

Keyword	Value	Description
POINTSEVERY:	<pointsevery: <i>value</i> >	<p>Determines the granularity (number of data points) on the graph. This value is used in conjunction with the NUMBEROFPOINTS value to determine the level of summarization to use. The values supported are:</p> <ul style="list-style-type: none"> • auto - Selects the value to display data points within the configured limit. If the combination of Date Range and Points Every settings results in too many points, the Points Every value is automatically adjusted to display all of the requested data. • raw - Displays all the data collected by the datasource for the specified duration. • 5 min - Displays one data point for every five minutes of the specified duration. • 15 min - Displays one data point for every fifteen minutes of the specified duration. • 30 min - Displays one data point for every thirty minutes of the specified duration. • hour - Displays one data point for every one hour of the specified duration. • 3 hours - Displays one data point for every three hours of the specified duration. • 6 hours - Displays one data point for every six hours of the specified duration. • 12 hours - Displays one data point for every twelve hours of the specified duration. • day - Displays one data point for every day of the specified duration.
FORCEPOINTSEVERY:	<pointsevery>	Specifies the pointsevery value that should be forced. When this value is specified, it will override any pointsevery value selected by the user while drawing a graph.
SORTBY :	value or reverse	Sorts metrics according to their average value; that is from the highest value to the lowest value (value) or from the lowest to highest value (reverse). The default value for normal and complex graphs is to sort metrics by the sequence according to the specifications. The default value for comparison graphs such as instance comparison and system comparison is to sort metrics according to their average value.
SORTBYVALUE :		Sorts metrics according to their average value. This is the default value for comparison graphs.

Table 1 General Parameters

Keyword	Value	Description
SUMFROMRAW :		On specifying this parameter, the unsummarized data from the Performance Agent datasource is fetched from the system and then summarized by Performance Manager. This feature should only be used in cases where summarization of the data from the datasource is not desirable. Using this feature can cause large volumes of data to be transferred from the system and can slow down the performance. This parameter can be specified only while fetching data from Performance datasource. Note: This keyword has no parameters, but must be used as SUMFROMRAW=value to maintain ovpmbatch required parameter pattern of key=value .
MINY :	<real number>	The minimum value on the left (default) Y-Axis. For the Gauge graph type, the parameter selects the minimum value on the gauge scale.
MAXY :	<real number>	The maximum value on the left (default) Y-Axis. For the Gauge graph type, the parameter selects the maximum value on the gauge scale.
MINYR :	<real number>	The minimum value on the right (optional) Y-Axis.
MAXYR :	<real number>	The maximum value on the right (optional) Y-Axis.
DISPLAYHTMLGRAPH	None	Using this parameter will result in a HTML graph with header and trailer similar to the print view of a drawn graph from the Performance Manager user interface. Note: If you are using URL based invocation for accessing Performance Manager and if you want to launch more than one graph in multiple frames within a single HTML page, you need to use the parameter DISPLAYHTMLGRAPH.
REFRESHRATE	<time>	Using this parameter you can configure the time interval at which you want the meta data from the datasource to be refreshed. The default interval at which Performance Manager refreshes the graph automatically is five minutes. You can configure the time interval to refresh based on the requirement. On each refresh the new data is added and the graph is redrawn.
ACTION=DRAWRTMGRAPH		Using this parameter, you can draw a real-time graph.
SHOWONLYGRAPH		Using this parameter, you can launch a graph window without displaying the Performance Manager banner in the browser.
SYSTEMNAME	System Name	It is the name of the server on which the Performance Manager server is running. You need to type the actual name of the system or the server, or the IP address of the system on which the Performance Manager is running.
PIXELSWIDE	<real number>	You can specify a value to set the width of the graph window.
PIXELSHIGH	<real number>	You can specify a value to set the height of the graph window

The specifications listed in the following table apply only to the forecast graphs.

Table 2 Forecast Graph Specifications

Keyword	Value	Description
FORECASTTYPE	smooth	<p>Draws a graph with the actual metric and a smoothed metric line. Smoothing is performed by doing a seven point running average (3 before, the point itself and 3 after) on each data point and repeating a maximum of 10 times. The smoothed graph does not extend beyond the existing data to predict or forecast future data values; it only shows the trend in the existing data.</p> <p>Note: If you are trying to draw a smoothing trend, you need not specify the Forecast Ending date.</p>
	linear	<p>Performs a least squares linear regression calculation to fit a straight line to the original data. This forecast line is then extended past the end of the data, until it reaches the Forecast Ending date.</p>
	exp	<p>Draws a graph in which the trend begins by approximating a straight line, but increases or decreases dramatically into a steep curve characteristic of exponential expansion, where points reflect the value “n”, typically the value of e or 2.718 raised to a power (n0, n1, ... nn).</p> <p>While the Linear method fits most data, there are some metrics that are known to behave in a non-linear manner. For example, as system load increased, response times typically degrade in an exponential fashion. For this type of metric, the exponential curve method might be more appropriate.</p>
	s	<p>Draws a graph in which the trending method constrains a forecast line to lie between the S-Curve Min and S-Curve Max values and fits into an S shaped curve.</p> <p>The S-Curve method is often useful in forecasting bounded metrics such as CPU Utilization. CPU Utilization cannot be less than zero or more than 100. The linear and exponential forecasts are not constrained and therefore will predict values that are unbounded.</p>
FORECASTDATEDAY : FORECASTDATEMONTH : FORECASTDATEYEAR :	<1-31> <1-12> <1970-2037>	<p>Specifies the end of the forecast period. This date should always be set after the graph End Date. Make sure that your forecast duration is either equal or less than the Duration specified for actual data.</p> <p>Note: The forecast ending date is not used for the Smoothing trending method.</p>
SHOWVALIDATE :		<p>Displays the data following the End Date and prior to the Forecast Ending Date, if found, as validation data. Performance Manager will not use this data for forecasting, but you can use this data to verify if the forecasts match the actual data.</p>

Table 2 Forecast Graph Specifications

Keyword	Value	Description
INTERVALTYPE:	None	The default value for INTERVALTYPE . Does not draw upper and lower confidence limit curves for a forecast.
	confidence	Draws the upper and lower confidence lines to display the range in which the average of the predicted values (the trend line) will fall for the given percentage of the time.
	prediction	Draws the upper and lower confidence lines to display the range in which the predicted values (all points) will fall within the given percentage of the time. The range between the prediction limits will always be larger than the confidence limits, as they apply to all points and not just their average values.
CONFIDENCE :	<number>	The percentage used in displaying the confidence or prediction interval. The value could be 70, 75, 80 or 90.
SEASONHOD :		Automatically determines if the Hour-of-the-Day seasonality will improve the forecast and includes it, if it does.
SEASONDOW :		Automatically determines if the Day-of-the-Week seasonality will improve the forecast and includes it, if it does.
SEASONWOM :		Automatically determines if the Week-of-the-Month seasonality will improve the forecast and includes it, if it does.
SEASONMOY :		Automatically determines if the Month-of-the-Year seasonality will improve the forecast and includes it, if it does.

You can specify the following specifications before specifying any metric, in which case these values become the default specifications. You can override these specifications on a metric-by-metric basis, if necessary.

Table 3 Default Metric Specification

Keyword	Value	Description
DSN:	<name>	String used to identify a Named data source.

Table 3 Default Metric Specification

Keyword	Value	Description
DATASOURCE :	PA	HP Performance Agent formerly known as MeasureWare Agent (MWA) is the datasource. In this case, the name of a system running the agent must be provided in the SYSTEMNAME specification.
	EPC	In this case, the name of a system running the Operations agent must be provided in the SYSTEMNAME specification.
	AGENTLESS	In this case, the name of a Agentless Server must be provided in the SYSTEMNAME specification.
	RTM	Real-time Measurement (RTM) datasource used in the Real-time View of Performance Manager is not supported for ovpmbatch batch operation.
	Not applicable	If no datasource is provided, but one or more system names are provided, the datasource will be chosen based on the agents on each system. If multiple agents are available on a system, one used will be chosen in the following order [PA , EPC , AGENTLESS].
SYSTEMNAME :	<system name>	Specifies the name of the system that is running the Performance Agent, EPC, or Agentless. (This specification is required when DATASOURCE is specified as PA , EPC , or Agentless). If multiple system names are entered (before any metrics are defined), the graph will be repeated for each system.
DSEXTENDED :	<datasource:systemname>	Specifies the DATASOURCE and SYSTEMNAME together. The value supplied for this parameter consists of the DATASOURCE value, a colon and the SYSTEMNAME value. If no SYSTEMNAME value is required, the DATASOURCE value alone will suffice. An example of a valid extended datasource is DSEXTENDED: PA:mysys.net.com .
CLASS :	<class name>	Specifies the name of the class of a metric that is provided by the named datasource. If the datasource does not expose this data class, this metric will be ignored. Note: You need not repeat the specification for each metric, if the metric is in the same class.
YAXISTITLE :	<units string>	For the Gauge graph type, the parameter selects the Units label shown at the bottom of the gauge.
INSTANCE	<value>	For metric classes with multi-instances, specifying a value for this parameter will draw a graph based on this value.

You can use the following specifications with reference to a particular metric. If the next metric does not specify them, the default values will be used.

Table 4 Metric Specifications

Keyword	Value	Description
METRIC:	<metricname>	<p>Specifies the name of a metric that is provided by the datasource. If this metric is not exposed inside the CLASS, the metric will be ignored.</p> <p>Calculated Metrics</p> <p>Calculated metrics are formed by performing calculations on other metrics. A calculated metric name consists of other metric names, constants, plus the operators +, -, *, /, and ().</p> <p>Note: Metrics used for calculations must belong to the same CLASS.</p> <p>The calculation on metrics is performed by mathematical precedence rules. If the calculation contains a combination of multiplication/division and addition/subtraction, parentheses must be used. For example:</p> <ul style="list-style-type: none"> • $5+(2*20) = 45$ • $5+2*20 = 140$ <p>If you are using parentheses, make sure they are well formed and balanced and do not include spaces in your calculated metric.</p> <p>An example of a calculated metric:</p> <pre> CLASS: APPLICATION METRIC: (APP_CPU_TOTAL_TIME*100.0)/INTERVAL </pre>

Table 4 Metric Specifications

Keyword	Value	Description
LABEL:	<label string>	<p>Specifies the label to use to identifying a metric on the graph. The label can contain literal values and references to special substitution variables. For example,</p> <p><code>@@[SYSTEM]:@@[CLASS]:@@[METRIC]</code> might produce a label such as, <code>mysys.net.com:GLOBAL:GBL_CPU_TOTAL_UTIL</code> while the default <code>@@[LABEL]</code> might produce the label <code>CPU%</code>.</p> <p>If no label is specified, the metric will be labeled according to the default label specification. By default this is the same as <code>@@[LABEL]</code>, but can be changed by editing configuration files on the Performance Manager server system.</p> <p>The variable will be replaced by:</p> <ul style="list-style-type: none"> • <code>@@[LABEL]</code> - The metric label specified by the datasource. (Such as <code>CPU%</code>) If the datasource does not provide a label, the metric name will be used. • <code>@@[METRIC]</code> - The metric name such as <code>GBL_CPU_TOTAL_UTIL</code>. • <code>@@[CLASS]</code> - The metric class such as <code>GLOBAL</code>. • <code>@@[SYSTEM]</code> - The system name supplying the metric such as <code>mysys.net.com</code> • <code>@@[DATASOURCE]</code> - The datasource for this metric such as <code>PA, EPC, RepSys, or Agentless</code>. • <code>@@metric</code> - The value of the metric from the same datasource and class. <p>For example, <code>@@BYDSK_DEVNAME</code> will label the metric with the value of the <code>BYDSK_DEVNAME</code> metric. If the <code>BYDSK_DEVNAME</code> metric value is 0, <code>Disk @@BYDSK_DEVNAME</code> would produce a label of <code>Disk 0</code>.</p>
METRICFILTER	<FILTER>	Specifies a data filter that is applied to the data. Data records that do not meet the filter specifications will not be used in the final calculation.
COLOR:	<color>	The color to use for a metric.
LINEWIDTH:	<number>	The number of pixels wide to draw the line for this metric. This specification is valid only when the GRAPHTYPE is line and the LINESTYLE is solid. The default value is 2.
LINESTYLE:	solid	Solid line only used when GRAPHTYPE is line.
	dashed	A dashed line used when GRAPHTYPE is line.
	dotted	A dotted line used when GRAPHTYPE is line.
	dash-dotted	A dash-dotted line used when GRAPHTYPE is line.
	dash-dot-dotted	A dash-dot-dotted line used when GRAPHTYPE is line.

Table 4 Metric Specifications

Keyword	Value	Description
Marker	none	No markers are drawn on the line.
	auto	Automatically selects line markers for graphs. It is applicable only if GRAPHTYPE is line.
	square	Draws an open square at every valid point. It is applicable only if GRAPHTYPE is line.
	circle	Draws a circle at every valid point. It is applicable only if GRAPHTYPE is line.
	triangle	Draws a triangle at every valid point. It is applicable only if GRAPHTYPE is line.
	dot	Draws a sphere at every valid point. It is applicable only if GRAPHTYPE is line.
	cube	Draws a cube at every valid point. It is applicable only if GRAPHTYPE is line.
	diamond	Draws a diamond at every valid point. It is applicable only if GRAPHTYPE is line.
	star	Draws a star at every valid point. It is applicable only if GRAPHTYPE is line.
	cross	Draws a cross marker at every valid point. It is applicable only if GRAPHTYPE is line.
	vertical	Draws a vertical marker at every valid point. It is applicable only if GRAPHTYPE is line.
	horizontal	Draws a horizontal marker at every valid point. It is applicable only if GRAPHTYPE is line.
SUMTYPE	auto	When this parameter is specified, Performance Manager uses the summation type provided by the datasource (Performance Agent and EPC). If the datasources do not provide the summation type, Performance Manager uses the “Average” sum type to summarize data.
	average	Combines the numeric values by adding and then dividing by the number of values (mean). Non-numeric data will use the last value.
	sum	Combines numeric values by adding values.
	minimum	Combines numeric values by taking the smallest value.
	maximum	Combines numeric values by taking the largest value.
	last	Combines numeric or non-numeric values by taking the last value received.
count	Counts the number of records from the datasource that were combined into each data point.	

The following specifications apply only to tables. These specifications indicate special post-processing that is done to the data in the table.

Table 5 Table Specifications

Keyword	Value	Description
TABLEFILTER:	TABLEFILTER:	Filters data in the table based on the content of its cells. The TABLEFILTER: also allows filter conditions to be separated by the double vertical bar “ ” to indicate either the preceding condition OR the next one can be true. This is in addition to the double ampersand “&&” indicating both the preceding condition AND the next one must be true. The TABLEFILTER: specification applies to the entire table and should precede any METRIC: specifications.
TABLEHIGHLIGHT:	TABLEHIGHLIGHT:	This specification can be used to change the color of an item in a table. It should follow the METRIC: specification to which it applies. Syntax: Condition Value Color [&&...] Example: >80 Red Multiple specifications may be specified separated by “&&”. The last specification sets the color to be used. Example: >5 Yellow && >10 Magenta && >80 Red normal0 normal for <=5 Yellow for >5 and <=10 Magenta for >10 and <= 80 Red for > 80 Example: >80 Red && >10 Magenta && >5 Yellow normal for <=5 Yellow for >5

The following specifications carry special meanings as described in the following table:

Table 6 Special Purpose Specifications

Keyword	Value	Description
FAMILY:	<Family Name>	Used in a graph template file to supply a more descriptive name for the graphs it contains. Make sure that you choose a family name that uniquely identifies this set of graphs. Only one FAMILY: parameter should be used in each graph template file.
CATEGORY:	<Category Name>	Used in a graph template file to indicate a general category for graphs. Each graph will be associated with the category until a different CATEGORY: parameter is encountered.
DESCRIPTION:	<string>	Used in a graph template file to supply a descriptive string for a graph. A different DESCRIPTION can be provided for each graph.

Table 6 Special Purpose Specifications

Keyword	Value	Description
GRAPHHEADER:		This parameter may only be used in a graph template file. It begins a section of one or more text lines that will be placed above the HTML graph. You can end this with the END_GRAPHHEADER: parameter. The graph header can be viewed only when a drawn graph is opened in the Print View or in HTML graphs generated after batch operation.
GRAPHTRAILER:		This parameter may only be used in a graph template file. It begins a section of one or more text lines that will be placed below the HTML graph. You can end this with the END_GRAPHTRAILER: parameter. The graph trailer can be viewed only when a drawn graph is opened in the Print View or in HTML graphs generated after batch operation.

11 Performance Manager Daily Maintenance

Performance Manager performs a maintenance task on a daily basis to reclaim disk space for files and directories that are no longer needed and to close any datasources that are not accessed in the last 24 hours.

The output files that are generated after `ovpmbatch` batch operation are saved in `<INSTALL DIR>\www\webapps\OVPM\datafiles\batch` directory. These files are automatically cleaned up, if they are older than 24 hours. You can preserve the batch output files by saving those to an alternate location on your local system or by configuring Performance Manager to retain these files.

To retain batch output files, follow these steps:

- 1 Open the `OVPmconfig.ini` file available in the `<data_dir>/shared/server/conf/perf` directory.
- 2 Set the `RETAIN_BATCH_FILES` parameter to `TRUE`.



By default, the `RETAIN_BATCH_FILES` parameter in the `OVPmconfig.ini` file is set to `FALSE`, for an automatic clean up. However, if you have set this parameter to `TRUE`, you have to manually clean up the files in the output directory on a regular basis.

- 3 Save the file.
- 4 Restart Performance Manager.

The maintenance is scheduled to run on a nightly basis at 03:00 AM local time. You can configure the maintenance schedule by following these steps.

- 1 Open the `OVPmconfig.ini` file available in the `<PM_data_dir>/conf/perf` directory.
- 2 Specify the hour and minutes at which you want to schedule the maintenance task, for the `DAILY_MAINTENANCE_TIME` parameter. The default value for this parameter is 03:00. The time you specify here should be in the 24-hour format. For example, 23:30.
- 3 Save the file.
- 4 Restart Performance Manager.

The disk space cleanup is also done for customers and users that are no longer configured. For each customer and user, there are directories that contain the customer or user graphs. The files specific to the customer logons will be located in the following directories:

- For each customer, there is a configuration directory `<PM_data_dir>/conf/perf/VPI_CUST_<customername>`
- For the blank customer, the user directories are in `<PM_data_dir>/conf/perf/VPI_USER_<username>`
- For users for a specific customer, the user directories are in `<PM_data_dir>/conf/perf/VPI_CUST_<customername>/VPI_USER_<username>`.

The directories along with the files that are saved in those are automatically removed, if the customer or user is no longer configured. To preserve these files after deleting a customer or user, you can save it to an alternate location on your local system.

12 Managing Graph Templates

You can edit graph templates manually to use some of the advanced features of Performance Manager. Most of the graph attributes can be specified through the Performance Manager user interface. There are a few specifications that cannot be configured through the Performance Manager interface and hence require manual editing of the graph template files. You can create graph templates by using the standard Performance Manager user interface, and manually edit the templates only for a few specifications that are not supported from the user interface.

When using the Performance Manager user interface, graphs are saved into an area that allows the user to modify or even delete them. If it is desirable to make a user-generated graph available to all users, but in a read-only mode as in the case of Performance Manager out-of-the-box graphs, you can move a user-defined graph into the permanent graph area.



The user-defined graphs copied under the permanent graph area can be overwritten while upgrading to a newer version of Performance Manager or while applying a patch.

A collection of parameters make up the graph definition templates and are used in the URLs and batch operation to generate graphs. For information on these parameters, see [Keywords](#).



Upgrading from Performance Manager version 8.10 or 8.20 to 9.00, results in the modification of the out-of-the-box graph structure. The Family name of the out-of-the-box performance graph templates has been changed from *Performance History* to *Infrastructure Performance*. The graph templates are restructured into new categories. New graph templates and categories are added. For more information on the latest layout of the out-of-the-box graph templates, see *HP Performance Manager Tutorials*.



If you want to use the earlier layout of out-of-the-box graph templates in the Performance Manager user interface, perform the following tasks:

- 1 Rename the graph templates file `VPI_GraphsAgents.txt.bkp` to `VPI_GraphsAgents.txt` in the `<Install_dir>/newconfig/OVPM` directory.
- 2 Refresh Performance Manager home page.

Performance Manager home page will now display both earlier out-of-the-box graph structure under the family name *Performance History* and the latest graph structure under *Infrastructure Performance*.

Editing Graph Template Files

Using the Design Wizard feature of Performance Manager, you can create new graphs and modify existing graphs, and save those as new graphs.

Performance Manager allows you to create graphs by using a text editor such as vi or notepad to configure features that are not supported by the user interface such as calculated metrics. You can configure some features by manually editing the graph definition. Although you can also create graphs manually, it is recommended that you create the basic graph definition in the user interface and modify the graph manually to add the complex features.

The graph templates are named as `VPI_Graphs*.txt` and are located in different directories on the Performance Manager server system:

Graph Type	Location
Pre-defined graphs	<install_dir>/newconfig/OVPM
User graphs for the blank logon	<PM_data_dir>/conf/perf
Users graphs for the blank customer, non-blank user	<PM_data_dir>/conf/perf/ VPI_USER_<username>
Customer graphs	<PM_data_dir>/conf/perf/ VPI_CUST_<customername>
User graphs for users belonging to a customer	<PM_data_dir>/conf/perf/ VPI_CUST_<customername>/ VPI_USER_<username>

From the user interface you can view the files saved in any of these directories. Any file that you save from the user interface is saved to the `<PM_data_dir>/conf/perf` directory. All files in the data directory are named as `VPI_GraphsUser<graph_family_name>*.txt`. The graph template file name will not appear in the user interface. The graphs in the user interface are classified according to family.

Consider the following points before manually editing a graph template:

- 1 All graph names must begin with `VPI_Graphs` and have the `.txt` extension. Files, which do not follow the naming convention will not be recognized as graph template files. The files must reside in either the `<install_dir>/newconfig/OVPM` or the `<PM_data_dir>/conf/perf` directory.
- 2 If the template filename of a user defined graph template file in the data directory does not contain the user name (`VPI_Graphs*.txt`, instead of `VPI_GraphsUser*.txt`), make sure that the graph template files in the `<install_dir>/newconfig/OVPM` and the `<PM_data_dir>/conf/perf` directories do not have the same file name.
- 3 Make sure that two graph template files do not contain the same family name (same string in the **FAMILY:** parameter). This can be misleading while using the graphs from the user interface.



Do not modify or delete the `VPI_Graphs` template files available in the `<install_dir>/newconfig/OVPM` directory. If you want to modify the default graph templates, make a copy of this by using a different file name. The default template files will be overwritten when you upgrade to a newer version of Performance Manager

- The graph template files are in plain text format. The number of lines should be less than 2000 and terminated by a newline character. No other formatting information should be saved in the file. The contents of a template file are described in the following table:

Content	Description
Comments	Blank lines or lines starting with the number sign (#) are treated as comments, and therefore ignored.
Single Line Keywords	Most lines contain a keyword (all upper case, ending with a colon:), one or more blanks and a value.
Multi Line Keywords	<p>Some keywords allow values covering multiple lines. One keyword starts the entry (such as GRAPHHEADER:) and all successive lines until the terminating keyword (such as END_GRAPHHEADER:) are considered part of the value. The keywords must be on their own line, for example:</p> <pre> GRAPHHEADER: This is my graph header END_GRAPHHEADER: </pre> <p>The following is incorrect:</p> <pre> GRAPHHEADER: My header END_GRAPHHEADER: </pre>

The keywords that define a single graph or a table is included between the keywords `GRAPH:` and `END_GRAPH:`. Some keywords are allowed before the beginning of the first graph or table definition. These keywords apply to the graph template file as a whole (Example: `FAMILY:`). You can use the out-of-the-box graph templates as an example to see the keywords usage in creating a graph.



Since Performance Agent (PA) has been upgraded to version 5.00 the measurement unit of `APP_MEM_RES` and `APP_MEM_VIRT` metrics belonging to the `APPLICATION` metric class has changed from Kilobytes (KBs) to Megabytes (MBs). Performance Manager 9.00 supports the new measurement unit for the out-of-the-box graph templates.

If you have designed or modified any user-defined graphs in Performance Manager version 6.x and 8.x, you need to manually update measurement unit for metrics `APP_MEM_RES` and `APP_MEM_VIRT` in the graph template file `VPI_GraphsInfraSPI.txt` available in the `<install_dir>/newconfig/OVPM` directory.

Customizing the Design of the Graph Template

When you view a drawn graph in the Print view or after batch operation, the graph opens in the html format. You can customize the design of this report template in the html format to include information such as company logo. To modify the design of report template:

- Open the `OVPMSReportTemplate.htm` available in the `<PM_data_dir>/conf/perf` directory with a text editor.
- Modify the template as required.

- 3 Save the file.



The changes made to the `OVPMPReportTemplate.htm` will be visible only in the Print View. If you are using `ovpmbatch` script to generate graphs, the changes made to the `OVPMPReportTemplate.htm` will be visible in the batch output files.

Making User-Designed Graphs Permanent

Graphs created using the Performance Manager user interface are saved in the `<PM_data_dir>/conf/perf` directory. Using Performance Manager user interface, any graph definitions in the `<PM_data_dir>/conf/perf` directory can be modified or deleted by any user, if the logon and password is available. A Performance Manager user cannot read, modify or save graphs that belong to a different user. The out-of-the-box graphs cannot be modified through the Performance Manager user interface. These are available in the `<install_dir>/newconfig/OVPM` directory that can be read, but not modified by Performance Manager interface users. You can make a user-designed graph non-modifiable by moving the graph from the `<PM_data_dir>/conf/perf` to the `<install_dir>/newconfig/OVPM` directory.

You can perform these changes only if you logon to the system on which Performance Manager is installed. You can only modify the graph templates in a text editor such as vi editor or notepad. You cannot make these changes from the user interface.

Once you move a graph template file, the changes will be applicable to all the graphs which belong to this family (identified by the string, **FAMILY**).

If you modify any of the out-of-the-box graphs, you must make another copy of the graph template with a different file name. Also the file name should follow the naming convention specified for user defined graphs, `VPI_GraphUser<graph_family_name>.txt`. The new graph name will not be displayed in the user interface, if the naming convention is not followed.

The graph template files in the `<install_dir>/newconfig/OVPM` directory should not be used for graph templates in the data directory. All graph template files will have a file name `VPI_GraphUser<name>.txt`, make sure you do not create any graph templates in the `<install_dir>/newconfig/OVPM` directory which contain the user name.



- Do not transfer any user defined graph template file from the data directory to the `<install_dir>/newconfig` directory without removing the name of the user from the filename.
- Do not use the same **FAMILY**: name in two different graph template files. This can be misleading when you view the graphs from the user interface.

To transfer a graph template to a Permanent location:

- 1 After you create a graph and save it, open the graph template file using a text editor such as vi or notepad. By default, the graph template file is saved in the `<PM_data_dir>/conf/perf` directory (based on the user logon.)
- 2 Copy all text including the **GRAPH:** and the **END_GRAPH:** lines.
- 3 Create a new file or add this text to an existing file in the predefined graphs area (`<install_dir>/newconfig/OVPM`). This file should be called `VPI_Graph<name>.txt`.
- 4 Save the file into the `<install_dir>/newconfig/OVPM` directory, not the `<PM_data_dir>/conf/perf` directory, where the user template file is located.

The changes are automatically reflected in the user interface. If you are already using the user interface, use **Reload Graphlist** option from the **Graphs** menu to see the latest changes.



The user defined graphs available in the permanent location `<Install_dir>/newconfig/OVPM` will be overwritten after upgrading to a new version or after applying a patch.

13 Troubleshooting Tips

Troubleshooting Data Display Errors

The tips for scenarios that require troubleshooting are as follows:

Unable to View the Contents on Performance Manager Home Page

After logging on to Performance Manager, the Home page does not display anything except the header.

Cause

You will not be able to view the contents of Home page, if JavaScript is not supported and Adobe® Flash Player is not installed in your browser.

Resolution

To view the Performance Manager home page, install Adobe® Flash Player and enable JavaScript support for the Internet Explorer (IE) or Mozilla Firefox browser by adding Performance Manager to your list of Trusted Sites.

To add Performance Manager Web server URL to a trusted site:

- In the IE browser:
 - a On the **Tools** menu of Internet Explorer, click **Internet Options**. The Internet Options pop-up appears.
 - b Click the **Security** tab.
 - c Select the **Trusted Sites** icon.
 - d Click **Sites**. The Trusted Sites pop-up appears.
 - e Enter the Performance Manager web server URL and click **Add**. The URL you entered appears in the list of trusted sites.
 - f Click Close.
 - g Click **OK**.
 - h Restart the browser.
- In the Mozilla Firefox browser:
 - a On the **Edit** menu click **Preferences**. The **Options** pop up appears.
 - b Click the **Privacy** tab.
 - c Click the **Exceptions** button.
 - d Enter the Performance Manager Webserver URL in the box under Address of web site.

- e Click **Allow**.
- f Click **Close**.
- g Click **OK**.
- h Restart the browser.

If Adobe® Flash Player is not installed in your browser, Performance Manager Home page does not appear. The browser displays a message *Install Adobe Flash Player* to view the Performance Manager Home Page. Click the message to download Adobe® Flash Player 10. Also, if Javascript is not enabled in your browser, Performance Manager Home page does not appear in the IE Browser even after adding it as a trusted site. The browser displays a message *Javascript is not enabled in your browser*. Enable Javascript to view this page.

To enable Javascript support for the Internet Explorer browser perform the following steps:

- 1 On the **Tools** menu of Internet Explorer, click **Internet Options**. The **Internet Options** pop up appears.
- 2 Click the **Security** tab. Check if the security level in your browser settings is set to high.
- 3 Make sure the Trusted Sites icon is selected and click **Custom Level**. The **Security Settings** pop up appears.
- 4 Scroll down to **Scripting** section and select the **Enabled** option under **Active Scripting**.
- 5 Click **OK**.
- 6 Click **Apply**.

For Mozilla Firefox browser:

- 1 On the **Tools** menu, click **Options**.
- 2 Click **Content** (in Firefox version 1.5 and 2.0).
- 3 Select the **Enable JavaScript** check box.
- 4 Click **OK**.

Unable to View Data in Microsoft Excel and TSV Formats

Cause

You must check if option to download files in the Microsoft Excel and TSV format is enabled in the browser security settings.

Resolution

To check the browser settings, perform the following tasks:

- 1 On the **Tools** menu of Internet Explorer, click **Internet Options**. The Internet Options pop up appears.
- 2 Click the **Security** tab. Check if the security level in your browser settings is set to high. Make sure the Internet icon is selected and click Custom Level. The Security Settings pop up appears.

- ▶ If you are using Performance Manager as Local Intranet application, select the Local Intranet icon.
 - 3 Scroll down to the Downloads section and select the **Enable** option under File Download.
 - 4 Click **OK** and close the Internet Options pop up.
 - 5 Open Control Panel and double-click **Folder** Options.
 - 6 Click the File Types tab to display the registered file types.
 - 7 For XLS, Select **XLS** from the from the Registered file types list. For TSV, select the **TSV** file format from the list and click the **Advanced** button. The Edit File Type pop up appears.
 - 8 Clear the Confirm Open After Download check box.
 - 9 Click **OK**.

- ▶ If TSV is not added to the list of registered file types, you need to add it first and then edit the file type settings.

No Data is Displayed if the Points Every Value is Set to more than 1 hour

When the Points Every value is set to more than 1 hour, Performance Manager does not display data.

Cause

Performance Manager does not display data when Points Every is set to more than 1 hour, if the agent and the Performance Manager servers are in a similar time zone, but the time settings on the systems are not synchronized.

Resolution

Check the time settings of the agent. If the agent time settings are different from those on the Performance Manager server, contact your Performance Manager administrator to synchronize the time settings.

Unable to View the Graph in Print View or ovpmbatch Output

Performance Manager does not display the graph, when a graph is opened in the Print view.

Cause

You will not be able to view the graph in the Print view or the output generated after ovpmbatch operation, if the `OVPMPReportTemplate.htm` is not available in the `<PM_data_dir>`.

Resolution

Check if the `OVPMPReportTemplate.htm` file is available in the `<PM_data_dir>`. If the file is not available or usable, copy the `OVPMPReportTemplate.htm` file from the `<Install_Dir>newconfig/OVPM` directory to `<PM_data_dir>`.

Old Graphs Appear Although a New Session Is Started

After starting a new user session by relogging on to Performance Manager, the graphs drawn in the previous user session appear.

Cause

When you draw a graph, the browser caches the graph images and does not update when you make minor changes and redraw the graph.

Resolution

- Clear the browser cache.
- View the images in a new browser, if required.

Unable to Identify the Missing Data

Although there is no data logged for a specific interval in the agent, Performance Manager draws a line for that interval when a graph is drawn.

Cause

Unlike the previous versions, in Performance Manager 9.00, you cannot configure the representation of missing data on the graphs. When a graph is drawn, Performance Manager displays a line connecting the previous and the next data points.

Workaround

Use markers to represent the data points that are available. If data is missing for a specific time interval, Performance Manager draws only a line and no marker will be used. This helps you identify the missing data points in a specific interval.

You can also hover your mouse on the graph to check the availability of data points for a specific interval. If the data points are available for that time interval, Performance Manager displays values for those points.

Unable to View the Timestamps on the Bar Graph

When there are too many bars in the graph it is difficult to view the timestamps clearly on the data.

Cause

When the number of points value is set very high and there are too many bars on the graph, and hence it is difficult to view the timestamps clearly. Also the graph appears too cluttered.

Workaround

Use the parameter **MAXPOINTS_FOR_CATEGORYBAR** to configure the number of points upto which a you want the bar graph to appear as a 'category bar'. If the value for 'number of points' exceeds the value specified for this parameter, the bars in the graph appear as 'non-category' bars where the timestamps are divided across the X-axis thus allowing you to view bar graphs more clearly. For more information, see [Appendix A, OVPMConfig.ini Parameters](#).

Note: In a "category bar" graph, the timestamp of data is displayed against each bar. If there are too many points (bars) in a graph, the timestamps against each bar makes it difficult to view clearly. Hence you can choose 'non-category bar' graph where the timestamps are spread uniformly across the X-axis. However the width of a bar in a 'non-category bar' graph is very small.

Unable to Draw Out-of-the-Box Graphs by Passing Parameters in the URL after Upgrade

The out-of-the-box graph templates have been modified after you have upgraded from Performance Manager 8.10 or 8.20 to 9.00.

Cause

Unable to draw URL based out-of-the-box graphs, if the **GRAPHTEMPLATE** parameter in the URL is not updated.

Resolution

Enter the **GRAPHTEMPLATE** parameter in the URL as **InfraSPI** instead of **GraphsAgents**. For more information, see [Chapter 9, Drawing Graphs by Passing Parameters in URL](#)

Note: If you want to use the out-of-the-box graph templates available in the earlier versions of Performance Manager, see [Chapter 12, Managing Graph Templates](#).

Unable to Draw Out-of-the-Box Graphs by Running the ovpmbatch Command after Upgrade

The out-of-the-box graph templates have been modified after you have upgraded from Performance Manager 8.10 or 8.20 to 9.00.

Cause

Unable to draw out-of-the-box graphs by running the **ovpmbatch** command, if the value of **GRAPHTEMPLATE** is not updated.

Resolution

Enter the value of **GRAPHTEMPLATE** as **VPI_InfraSPI.txt** instead of **VPI_GraphsAgents.txt**. For more information, see [Chapter 10, Running Graphs in Batch](#).

Note: If you want to use the out-of-the-box graph templates available in the earlier versions of Performance Manager, see [Chapter 12, Managing Graph Templates](#).

Unable to View the Change in the Metric Value when the Graph is Drawn Using Unsummarized Data that is Set to Auto-Refresh Mode.

The graphs drawn using the unsummarized data set to auto-refresh mode does not display the data change in the period between the intervals.

Cause

You will not be able to see any change in the metric value, only the timestamp will be updated in the table when the data is unsummarized and set to auto-refresh mode. The Performance Manager posts data only after an interval even if the auto-refresh option is selected.

Workaround

You can view all the available unsummarized data, without selecting the auto-refresh option. This displays all the data available, but will not display the refreshed data.

Troubleshooting Performance Manager Server Issues

Performance Manager Does Not Start Automatically

Performance Manager does not start automatically after restarting the system.

Cause

Performance Manager does not start automatically after restarting the system, if the HP OpenView Ctrl Service is set to “Manual” start in Services console.

Resolution

The HP OpenView Ctrl Service is not set to “Automatic” by default. Set the HP OpenView Ctrl Service to “Automatic” start in Services console and restart the system.

- ▶ If you set the HP OpenView Ctrl Service to “Automatic” start, all products using this service start automatically when you restart your system. To view the components that use this service, run the following command:

```
ovc -status
```

The list and the status of all components that are controlled by this service are displayed.

Unable to Access Performance Manager

The network does not allow access to Performance Manager through the default network port settings.

Cause

- If your system has ovtomcatb configured to run with the non-root user or non-local system account privileges and you have Performance Manager 9.00 installed on such a system, you may not be able access Performance Manager.
- You cannot access Performance Manager using the default http (8081) or https (8444) ports if these ports are in use by other applications.

Workaround

- Check if ovtomcatb is configured to run with the non-root user or non-local system account privileges. If so, modify the settings to run ovtomcatb with the administrator or root user privileges.

- Try accessing Performance Manager by using the **http://<systemname>:<portnumber>/OVPM** URL. If the Performance Manager Home page does not appear, check if the default ports are in use.

▶ You can also check for the availability of the port number you want to use by running the following commands at the command prompt:

On Windows systems:

```
cd <bin_dir>
cscript OvTomcatBctl.vbs -checkport <portnumber>
```

On UNIX systems:

```
cd <bin_dir>
OvTomcatBctl -checkport <portnumber>
```

A message indicating if the port is available or in use appears.

- To change the port settings, follow these steps:
 - Run the following command at the command prompt to change the port numbers for **HTTP**, **HTTPS** and **ShutdownPorts**:


```
<bin_dir>ovconfchg -ns NONOV.TomcatB -set HTTPPort <port number>
<bin_dir>ovconfchg -ns NONOV.TomcatB -set HTTPSPort <port number>
<bin_dir>ovconfchg -ns NONOV.TomcatB -set ShutdownPort <port number>
```
 - Restart Performance Manager.

Unable to connect to the Performance Manager server through HTTPS protocol

When Performance Manager is unable to connect to the server through secure communication HTTPS protocol.

Cause

The session expires when Performance Manager is not able to connect through the secure client in the default timeout interval of one second.

Resolution

Use the parameter **SECURE_CLIENT_CONNECT_TIMEOUT** to adjust the timeout interval to connect to the Performance Manager server depending on your Internet connectivity or infrastructure setup. For more information, see [Configuring Secure Client Connect Timeout Interval](#).

Out of Memory Error While Drawing a Graph

While drawing a graph, Performance Manager displays the Out of Memory error message.

Cause

The Out of Memory error message appears, when the Java Virtual Machine (JVM) memory on the Performance Manager server is insufficient. JVM on the Performance Manager server runs out of memory, if there are too many requests to process simultaneously or if a huge amount of data is being retrieved while drawing or previewing graphs.

Workaround

- 1 Check the typical load on Performance Manager server and modify the JVM settings accordingly to handle such loads. For more information, see [Configuring Java Virtual Machine Memory](#).
- 2 Select a shorter duration and then try drawing a graph.

Unable to See the Favorites Graph Family

Although the graphs are added as favorites, the Favorites graph family does appear in the Graphlist pane.

Cause

You will not be able to see the Favorites graph family if the `VPI_GraphsUserFavorites.txt` is not available in the respective customer or user directory.

Resolution

Check if the `VPI_GraphsUserFavorites.txt` file, which is created when a user or customer is created, exists in the respective customer or user directory. If it is not available, copy the `VPI_GraphsUserFavorites.txt.bkp` file from the `<install_dir>/newconfig/OVPM` directory and save it as `VPI_GraphsUserFavorites.txt` in the respective customer or user directory.

Unable to See the User-defined Graphs

After upgrading to Performance Manager 9.00, the user-defined graph templates saved on the OpenView Performance Manager server are not available.

Cause

You will not be able to see the user-defined graphs saved on the OpenView Performance Manager server if these graph templates are not copied to the new data directory while upgrading to Performance Manager 9.00.

Resolution

Check if the graph templates are copied from the old data directory to the new data directory. If the templates are not available in the new data directory, contact the Performance Manager Support team.

Unable to See the Performance Manager Nodelist

The Performance Manager nodelist does not appear in the nodelist pane. However, the nodes imported from Operations Manager for Windows appear in the nodelist.

Cause

If Performance Manager is installed on a system that has Operations Manager for Windows installed, the `IMPORT_OVPM_NODELIST` parameter in the `OVPMconfig.ini` file is set to “False” by default and `IMPORT_OVOW_NODELIST` is set to “True”. For more information, see [Configuring for Importing Nodelist from HP Operations Manager](#).

Resolution

To use the Performance Manager nodelist, set the `IMPORT_OVPM_NODELIST` parameter to “True”.

Unable to See the Agentless Nodelist

Performance Manager is not able to import the Agentless nodelist. However, Agentless Server is configured with Performance Manager.

Cause

You will not be able to see the Agentless nodelist if the `NODEGROUP` parameter in the `OVPMconfig.ini` file is not defined. For more information, see [Configuring for Importing Nodelist from SiteScope Server](#).

Resolution

To view the Agentless nodelist, set the `NODEGROUP` parameter. For example, `/MyGroup1/Sub-Group1/Sub-Group2`.

‘HP Performance Manager license has expired. Contact the support team for assistance’ Error

Although Performance Manager installation is successful, the “HP Performance Manager license has expired. Contact the support team for assistance.” error message appears while accessing Performance Manager.

Cause

The error message appears if the Performance Manager license you are using is expired.

Resolution

Check if the license is expired. If so, install the Performance Manager License key. For more information, see [Installing the Performance Manager License Key](#).

HTTP Status 404 - /OVPM Error

The following error message appears while trying to access Performance Manager through the browser.

```
HTTP Status 404 - /OVPM Error
```

```
-----  
---
```

```
type Status report
```

```
message /OVPM/  
description The requested resource (/OVPM/) is not available.
```


Apache Tomcat/5.5.20

Cause

The error message appears if the <INSTALLDIR>/www/webapps/OVPM directory is empty.

Resolution

- Check if a hotfix file is extracted to the wrong directory.
- Extract the Perf.war file again from the <Install_Dir>/newconfig/OVPM to <Install_dir>/www/webapps/OVPM.

Unable to See Nodes Uploaded in the Batch Mode

The nodes uploaded in the batch do not appear in the nodelist.

Cause

If there is an exception while uploading nodes in batch, the nodes uploaded in the batch mode do not appear in the nodelist.

Resolution

Performance Manager automatically backs up the data in existing OVPMSystems.xml as OVPMSystems_bkp.xml before starting the upload. In case of an exception, the corrupted file will be replaced with the file that is backed up. If the uploading process fails again, you can rename the OVPMSystems_bkp.xml as OVPMSystems.xml. The nodelist, which is uploaded already will be restored.

Unable to Send More than Two Simultaneous Requests for Drawing Graphs in Internet Explorer

While drawing a graph, the user cannot send more than two simultaneous requests.

Cause

You will not be able to send more than two simultaneous 'Draw Graph' requests in Internet Explorer. This is because an HTTP client is not allowed to keep more than two simultaneous connections open in a web server as per the HTTP specifications. The third request will be sent to the server after sending the first two requests.

For more information, visit the following website

<http://www.w3.org/Protocols/rfc2616/rfc2616-sec8.html#sec8.1.4>

Integration with Reporter 3.80 is Not Successful

Although the Performance Manager is configured for integration with Reporter 3.80, the user is unable to use Reporter as the datasource or import nodelist from Reporter.

Cause

If Reporter is installed in the Windows authentication mode, you will not be able to integrate with Reporter successfully.

Workaround

- Set the registry key to mixed mode. For more information, see [Integrating with HP Reporter](#)
- Check if the port number specified for integration with Reporter in the OVPMconfig.ini file is correct. For more information, see [Integrating with HP Reporter](#).

OutOfMemoryException

After installing Performance Manager 9.00 on a HP-UX system, the error “OutOfMemoryException” appears while trying to access Performance Manager Web interface. The same error appears in the Trace log file.

Cause

The “OutOfMemoryException” error occurs if Java Out-of-Box (JOOB), which is required for any java application to work effectively in HP-UX, is not installed on the Performance Manager system.

Resolution

Check if Java Out-of-Box is installed on the system. If JOOB is not installed on the Performance Manager system, install it and try accessing Performance Manager.

The Manage Nodes Option is Not Available

Although the user has logged on to Performance Manager as blank customer, the “Manage Nodes” menu option is not available.

Cause

The “Manage Nodes” menu option is not available if Performance Manager is configured not to use its own nodelist.

Resolution

To enable Performance Manager to use its own nodelist, set the **IMPORT_OVPM_NODELIST** parameter in the OVPMconfig.ini file to “True”. For more information, see [Configuring for Importing Nodelist from HP Operations Manager](#).

Unable to Check if a Hotfix for Performance Manager is Deployed Successfully

After deploying a hotfix for Performance Manager, the user is unable to check if the hotfix is deployed successfully

Resolution

- Run the following command at the command prompt.

```
ovpm version
```

This command displays the version of `Perf.war` file deployed on the Performance Manager system.

- On the **Help** menu of the Performance Manager user interface, click **About Performance Manager**.

While drawing a graph, the message “Error occurred while accessing target node(s) or datasource(s)” appears

While drawing a graph, you get a message, ‘Error occurred while accessing target node(s) or datasource(s)’.

Cause

This message indicates that Performance Manager was not able to connect to the node or to the agent running on that system

Resolution

- Check if the selected node is up and running
- Check if the agent is installed and running on the selected node. You can see the system information of the node to verify the same.
- Check the data communication protocol used, RPC as a data communication protocol is not supported from Performance Manager, version 9.00.

Unable to Access the RTM Node from Performance Manager

Performance Manager is unable to get data from RTM node.

Cause

RTM node does not recognize or receive the Fully Qualified Domain Name (FQDN) or the IP address of Performance Manager. Performance Manager is not able to get data from the RTM node it is trying to connect to.

Resolution

For Performance Manager to access the RTM node, the RTM node must recognize either the FQDN or the IP address of Performance Manager server. The RTM node can communicate with Performance Manager server using its FQDN or the IP address. For the Performance Manager to be able to access the RTM node, it should be able to reach the IP address or the FQDN specified in the node list of Performance Manager.

Unable to Draw Graphs for RTM Data Source

Performance Manager is unable to draw graphs for RTM data source

Cause

- Performance Manager is unable to communicate with the agent.
- Agent server is busy.

Resolution

- Run the following command at the command prompt to check the communication between the Performance Manager server and agent.

```
cd <bin_dir>
```

```
bbcutil.exe -ping <agent machine name>
```

```
cd <bin_dir>
```

```
bbcutil.exe -ping <PM Server machine name>
```

If the Performance Manager is unable to receive or send communication, an error message appears. Check if any firewall like Windows Firewall or McAfee Host Intrusion Prevention software is blocking port 383.

- Check if there is any exception in the PMLog file. If it shows a timeout error, increase the default timeout interval for the `SECURE_CLIENT_CONNECT_TIMEOUT` parameter in the `OVPConfig.ini` file, available in `<PM_data_dir>/conf/perf` directory.

Troubleshooting Integration Related Issues

Integration with HP Operations Manager (HPOM)

Problem

While designing a graph from the Operations Manager console, if a user session is inactive for more than an hour, the session expires and the system logs out the user. As soon as the user resumes activity, the logon window appears.

Cause

While sending the initial request to access Performance Manager, HPOM is configured to accept the blank customer's password, so the HPOM user does not require the password. By default, if a user session is inactive for more than an hour, the session expires and the system logs out the user. But once the session times out, the user has to login.

Resolution

You can set the expiration time or time out interval for a user session using the parameter `SESSION_TIMEOUT` in file `OVRPMconfig.ini`.

For example: You can set this to 24 hours or 48 hours. For more information about this parameter, see [Configuring Session Timeout Interval](#).

After Installing Performance Manager, other applications or products hosted on Tomcat5.0 (OvTomcatA) cannot be accessed

When you run the command `ovc -start`, both OvTomcatA and OvTomcatB start simultaneously. The log files for both OvTomcatA and OvTomcatB are also generated. But the applications hosted on OvTomcatA cannot be accessed, even if both OvTomcatA and OvTomcatB are running.

Cause

You can use the command `ovc -status` to check the status of tomcat. Even if the status indicates that OvTomcatA is running, the http port is disabled after OvTomcatB is installed. This is because when you run the command `ovc -start`, the http port for OvTomcatA is not enabled.

Workaround:

You need to manually enable http port for OvTomcatA, and then restart OvTomcatA to access the applications hosted on OvTomcatA. To run both OvTomcatA and OvTomcatB simultaneously, run the following syntax at the command prompt:

```
ovc -start
ovtomcatctl -enablehttp
ovc -restart ovtomcatA
```

By default, OvTomcatA listens on port 8080 and OvTomcatB listens on port 8081. To verify if OvTomcatA is installed on the system, run the following command:

HP-UX	- swlist -l fileset grep -i HPOvTomcatA
Solaris	- pkginfo grep -i HPOvTomcatA
Windows	To verify on windows, perform the following tasks: <ul style="list-style-type: none">• Click Start -> Run.• Enter services.msc. Verify if “HP OpenView Tomcat(A) Servlet Container Service” appears on the Services console.

Troubleshoot Upgrade Related Issues

Associations between nodes and customer not available after upgrading to Performance Manager 9.00

Associations between nodes and customers created using Performance Manager, version 8.10 will not be available after upgrading to version 9.00.

Cause

Once you upgrade to Performance Manager 9.00, the associations between nodes and customers will not be carried forward. This is because in version 8.20, you can associate node groups with customers and have multi-level node groups. In version 8.10 you can associate only a node with a customer.

Workaround

The Performance Manager administrator has to manually associate node groups and customers. For administering node groups and customers from the Admin user interface, see *HP Performance Manager Tutorials* or the *online help*.

A OVPMConfig.ini Parameters

The following table lists the parameters, which must be specified in the `OVPMConfig.ini` file to configure Performance Manager:

Parameter	Description
<code>IMPORT_OVOW_NODELIST</code>	You can set this parameter to TRUE/YES or FALSE/NO . When you set this parameter to TRUE/YES , Performance Manager imports the nodelist from Operations Manager for Windows. For more information, see Configuring for Importing Nodelist from HP Operations Manager .
<code>IMPORT_OVPM_NODELIST</code>	You can set this parameter to TRUE/YES or FALSE/NO . When you set this parameter to TRUE/YES , Performance Manager uses its own nodelist. For more information, see Configuring for Importing Nodelist from HP Operations Manager .
<code>TRACELEVEL</code>	You can use this parameter to turn on or turn off tracing. When you set this parameter to “1”, tracing is turned on and the trace log files are generated. Setting this to “0” turn off tracing. It is recommended to turn on or turn off tracing by using the <code>ovpm trace</code> command.
<code>GRAPH_AUTOREFRESH_RATE</code>	You can use this parameter to specify the interval at which Performance Manager refreshes the graphs automatically. The value you specify for this parameter is in seconds; for example, if you specify the value as 120, the graph will be refreshed at every two minutes. For more information, see Configuring Auto Refresh Interval .
<code>SESSION_TIMEOUT</code>	You can use this parameter to set the expiration time or timeout interval for a user session. The value you specify for this parameter is in minutes. For more information, see Configuring Session Timeout Interval .
<code>JVM_MIN_MEMORY</code>	You can use this parameter to avoid out of memory exceptions caused due to insufficient memory in the Java Virtual Machine (JVM) and configure Performance Manager to stop accepting requests. For more information, see Configuring Java Virtual Machine Memory .
<code>RETAIN_BATCH_FILES</code>	You can set this parameter to TRUE/YES or FALSE/NO . When you set this parameter to TRUE/YES , all files generated after the <code>ovpmbatch</code> batch operation are retained. For more information, see Performance Manager Daily Maintenance .

Parameter	Description
DAILY_MAINTENANCE_TIME	You can use this parameter to schedule the maintenance task at a time. The value you specify here is in HH:MM format. For more information, see Performance Manager Daily Maintenance .
[REPORTER] SYSTEM DSN TYPE USER PASSWORD PORT MINCONN MAXCONN CONNEXPIRE SLEEPTIME MAXRETRY	You can use this section of the OVPMConfig.ini file to enable integration of Reporter with Performance Manager. For more information, see Integrating with HP Reporter .
SORTBY_MAX_GRAPH_COUNT	You can set this parameter to limit the number of graphs drawn for an instance comparison graph when Metric Data Display Order on the Performance Manager user interface is specified as "average value" or "reverse average value". Setting this parameter to a specific number, for example 25, draws only 25 graphs. The default value for this parameter is 20.
TABLE_ROWCOUNT	<p>You can configure the default value for the number of rows in a table graph using the parameter TABLE_ROWCOUNT under the Web Server Configuration section. This parameter is available in the file OVPMconfig.ini. The default value is 100.</p> <p>If you have specified a value for "Limit Number of Points" while designing a graph using the design wizard from the user interface or by editing the graph template, this value overrides the value specified for TABLE_ROWCOUNT in the OVPMconfig.ini file available in the <PM_data_dir>/conf/perf directory. However the value specified for TABLE_ROWCOUNT is applicable to all table graphs in the Standard View, but the value you specify for "Limit Number of Points" while drawing a graph is applicable only to a particular graph template.</p> <p>Example: To set the table row count to 500, add the following entry in OVPMconfig.ini under the [WEB_SERVER] section: TABLE_ROWCOUNT = 500.</p> <p>Specifying very high values for the TABLE_ROWCOUNT parameter can impact the performance.</p>

Parameter	Description
DIAGVIEW_TABLE_ROWCOUNT	You can use this parameter to configure the number of rows in a drill-down table in the Diagnostic View. The default value is 10000.
DISABLE_TEMP_NODE_ADDITION	<p>You can enable or disable the Add Node option which allows you to add a node from the Node Selection screen on the Home page and Design Wizard by configuring this parameter.</p> <p>You can disable the Add Node option by setting the parameter <code>DISABLE_TEMP_NODE_ADDITION</code> to TRUE/YES. You need to restart Performance Manager for the configuration changes to take effect.</p> <p>This setting will remove the temporary Add Node option for all the users (read only, display only and blank/Admin). However, the blank user can add nodes permanently through the Manage Nodes screen.</p> <p>This option can be reset by either setting it to FALSE/NO or by removing the parameter <code>DISABLE_TEMP_NODE_ADDITION</code> from the <code>OVPConfig.ini</code> file.</p>
LOADALLNODES	You can configure the nodes appearing in the node-list tree while drawing a graph using URL parameters. You can configure this parameter either by specifying this parameter in the URL or by modifying the value in the <code>OVPConfig.ini</code> file as required. By default this parameter is set to <code>false</code> or <code>no</code> and Performance Manager loads only the node(s) specified in the URL, hence reducing the response time. You can enable this option by setting it to TRUE/YES . For more information, see Configure the Nodes Appearing on the Node-list Tree .
PROMPT_INSTANCE_SELECTION_DEFAULT	<p>When you design or draw a graph from the Performance Manager user interface for metrics with multiple instances, you can use this parameter to configure Performance Manager to prompt you to select instances. Set this parameter to TRUE/YES if you want Performance Manager to prompt you to select instances. If you set this parameter to FALSE/NO, Performance Manager does not prompt you to select instances and draws graphs for all the available instances. The default value for this parameter is 'true'.</p> <p>Note: The value selected from the user interface menu option overrides the setting specified for this parameter.</p>

Parameter	Description
SHOW_MOUSE_HOVER_DEFAULT	<p>When you hover the mouse on the graph area of a drawn graph from the Performance Manager user interface, a pop-up displaying the actual value of the data point and the time interval of the selected data appears. You can configure this parameter to enable or disable the mouse hover option. The default value is TRUE/YES and the pop-up displaying the details of the data appears when you hover the mouse over the selected data on the graph. If you set this value to FALSE/NO, the pop-up displaying the value and time of the data point will not appear when you hover the mouse over the graph.</p> <p>Note: The value selected from the user interface menu option overrides the setting specified for this parameter.</p>
RESPONSE_TIMEOUT_HTTP	<p>Use this parameter to specify the time out period after which Performance Manager session expires when connection to agents through http(s) is not successful. The default time out period is 60 secs.</p>
REFRESH_RATE	<p>Use this parameter to configure the rate at which you want the meta data from datasource to be refreshed. The default value is 5 minutes.</p> <p>Note: If you specify a very high value for this parameter and if you have specified the ending date for graph as 'last', the latest last data might not be available as Performance Manager refreshes the data based on the value of this parameter.</p>
MAXPOINTS_FOR_CATEGORYBAR	<p>Use this parameter to configure the number of points upto which you want the bar graph to appear as a 'category bar'. If the value for 'number of points' exceeds the value specified for this parameter, the bars in the graph appear as 'non-category' bars where the timestamps are divided across the X-axis. This option allows you to view bar graphs more clearly when the number of points is very high. The default value for this parameter is 50.</p> <p>Note: In a "category bar" graph, the timestamp of data is displayed against each bar. If there are too many points (bars) in a graph, the timestamps against each bar makes it difficult to view clearly. Hence you can choose 'non-category bar' graph where the timestamps are spread uniformly across the X-axis. However the width of a bar in a 'non-category bar' graph is very small.</p>
IMPORT_REPORTER_NODELIST	<p>Use this parameter to make the 'Import Nodelist from Reporter' option configurable. The default value is TRUE/YES and hence by default this option is enabled and you can import node list from the Performance Manager GUI. If you want to disable this option, set the value of this parameter to 'false'.</p>

Parameter	Description
RTV_UNSUBSCRIBE_INTERVAL	Use this parameter to configure the interval at which RTV (Diagnostic View of Performance Manager) unsubscribes data gathering from RTM (Real-Time Measurement agent). The default interval period is 5 minutes. RTV unsubscribes data gathering for any metric class which is not chosen for graphing. You can configure the interval at which RTV checks for metric classes that are being used for graphing. If the metric class is not being used for duration longer than the value specified for this parameter then RTV unsubscribes the data gathering from agent.
SECURE_CLIENT_CONNECT_TIMEOUT	Use this parameter to specify the timeout period for which secure communication HTTPS protocol is used for connecting to the Performance Manager server. The default timeout period is one second. For more information, see Configuring Secure Client Connect Timeout Interval .
[SITESCOPE] SERVER NODEGROUP	You can use this section of the <code>OVPConfig.ini</code> file to import nodelists from the SiteScope Server. For more information, see Configuring for Importing Nodelist from SiteScope Server .
RTV_GRAPH_DATAPOINTS	Use this parameter to configure the maximum number of data points in the graphs drawn using the Diagnostic View.



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