

OpenView Performance Manager

User's Guide and Tutorial

Software Version: 6.00

Windows, HP-UX, Solaris



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Revision History

This manual's title page contains the following identifying information:

- Version number, which indicates the software version.
- Print date, which changes each time the document is updated.

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

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

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

Table 1 indicates changes made to this document since the last released edition.

Table 1: Changes to This Document

Date	Description
December-2004	New OVPM User's Guide and Tutorial for the 5.0 cross platform version, replaces the OVPM Concepts Guide and the OVPM Quick Tour.
March 2006	OVPM version 6.0

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Overview

Introduction

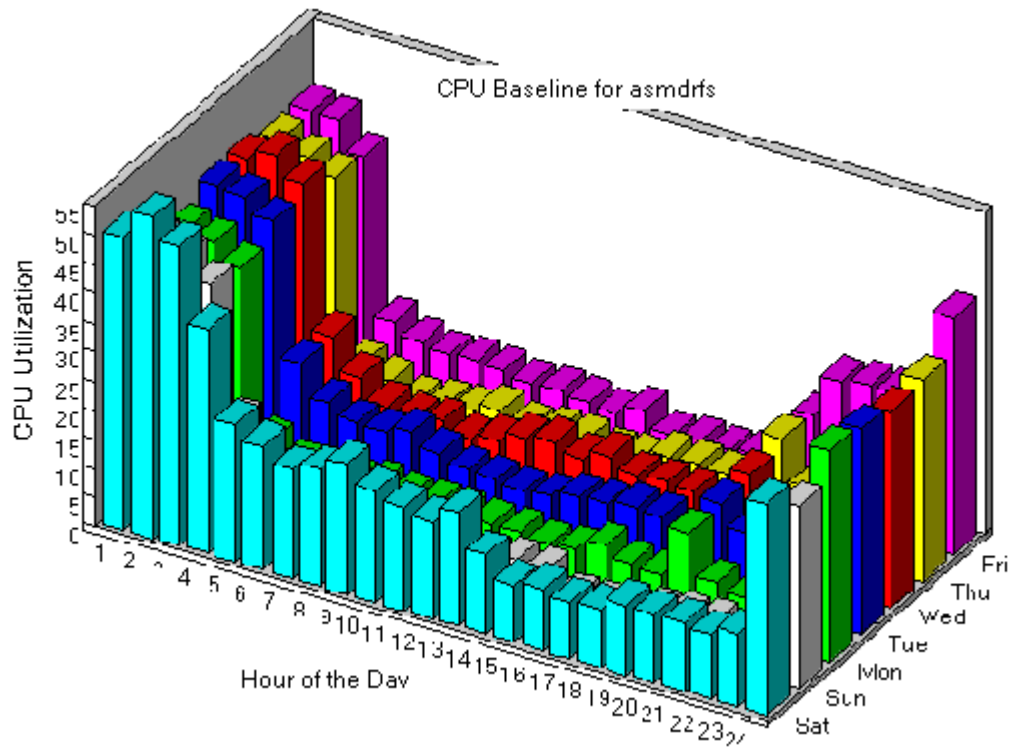
OpenView Performance Manager (OVPM) is a web-based analysis tool that helps you evaluate system performance, look at usage trends, and compare performance between systems. Using OVPM you can display any of the following:

- Graphs such as line, bar or area
- Forecast graphs
- Tables for data such as process details
- Baseline graphs
- Dynamic graphs in Java format that allow you to turn off display of individual metrics or hover over a point on a graph and see the values displayed

As part of OVPM you can also use the OVPM Planner. The Planner function uses time-series based statistical forecasting techniques to predict the service demands of your users. It helps you make more reliable decisions on when to acquire additional resources or adjust system load to meet changing demands.

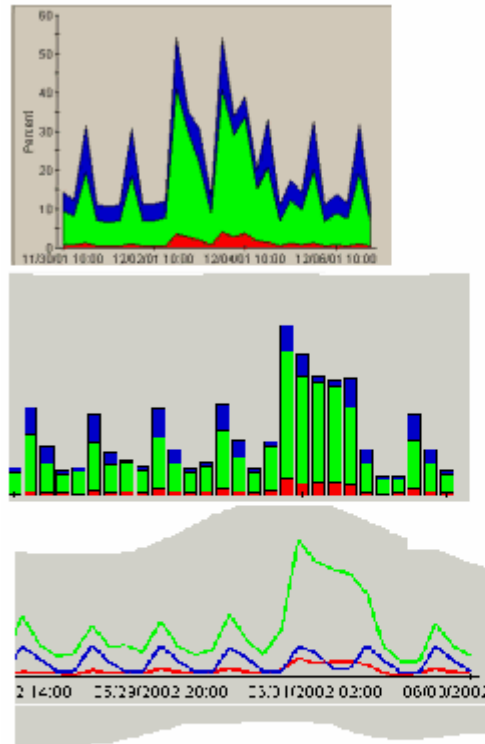
With OVPM, you can isolate interesting data and identify abnormal patterns. For example, the CPU Baseline graph shows your system's averages over time.

figure 1 CPU Baseline



You can also view many types of graphs, such as area, bar, line and table.

figure 2 **Graph Types**



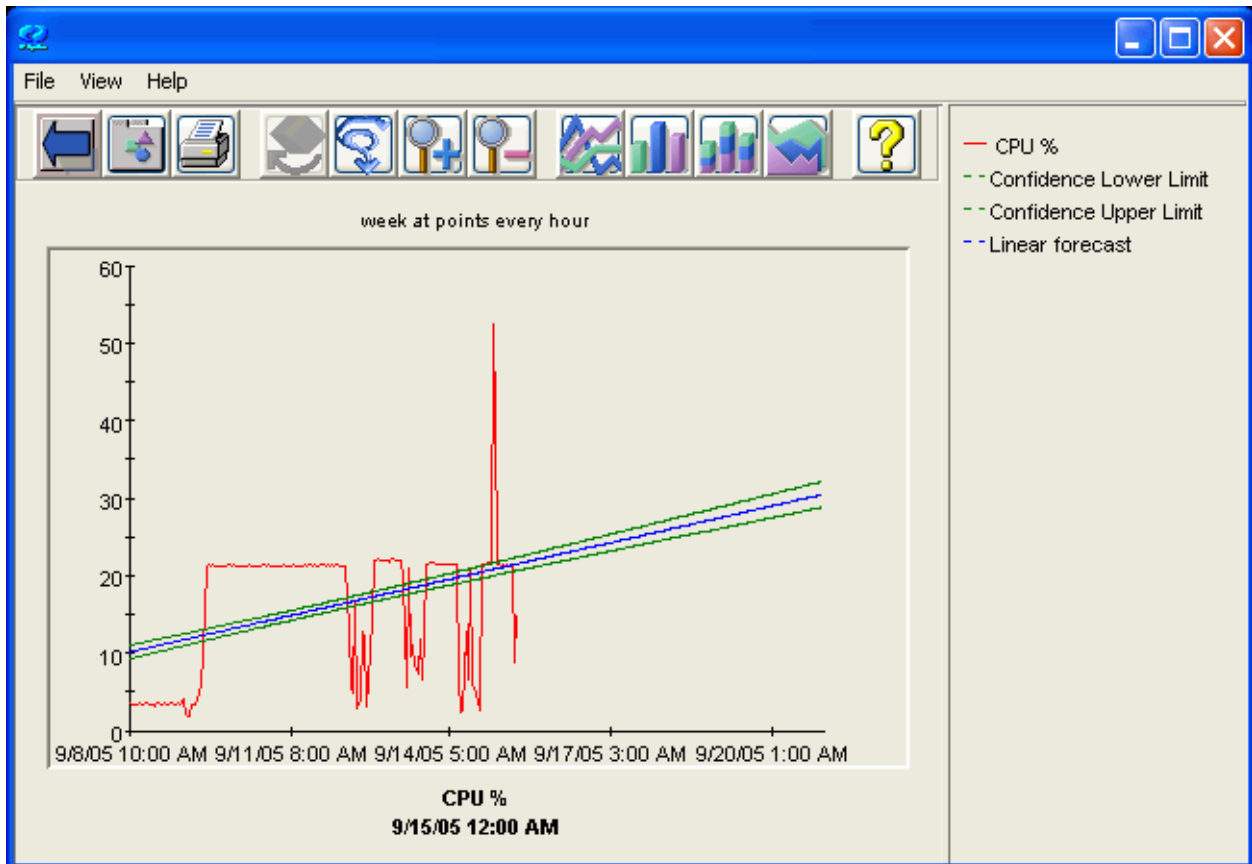
6/3/02 1:25 PM	rep_server	332	7.71	C
6/3/02 1:30 PM				
6/3/02 1:35 PM	rep_server	332	15.11	C
6/3/02 1:40 PM				
6/3/02 1:45 PM	System	2	7.57	C

In addition, with the Drill-down tool, you can easily access more detailed information for a more in-depth analysis.

The OVPM Planner provides the ability to generate a variety of forecast graphs. The main purpose of these graphs is to gain some understanding of how a particular performance metric, such as CPU Utilization, might behave in the future. You can also import specially formatted text files (also called Business Unit flat files) into OVPM, and create forecast graphs to view the impact of the business workload on your systems.

For more information about the Planner feature, refer to the OpenView Performance Planner manual.

figure 3 **Planner Graphs for Forecasting**



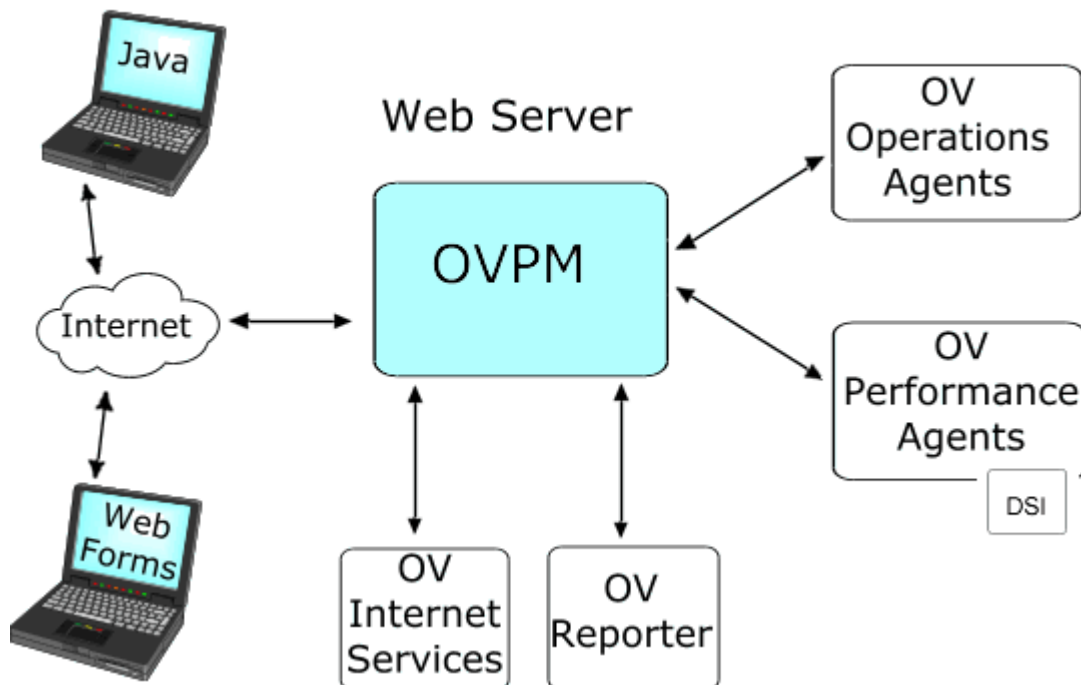
How OVPM Works

OVPM does not store performance data. Instead it uses data collection agents as data sources. Agents collect data from computer systems, summarize it and make it available for analysis and display. All systems with the same data source have the same set of predefined graphs provided in OVPM.

OVPM displays performance information only for systems with any of these agents or data collection software installed:

- OpenView Reporter (OVR)
- OpenView Performance Agent (OVPA)
- OpenView Internet Services (OVIS)
- OpenView Operations Agent (OVOA)
- Various OpenView Smart Plug-ins (SPIs) that supply data to a supported agent
- Generic Database (Microsoft SQL Server or Oracle)
- Specially formatted text files (also called business unit files or flat files)

figure 4 **How OVPM Works**



When you request a graph, OVPM retrieves the data necessary to create the graph or table from the data source you specified. The data is summarized based on your request, then formatted and displayed back to the OVPM Java or Web Forms web display.

Although OVPM provides many predefined graphs, you can easily create your own custom graphs as well.

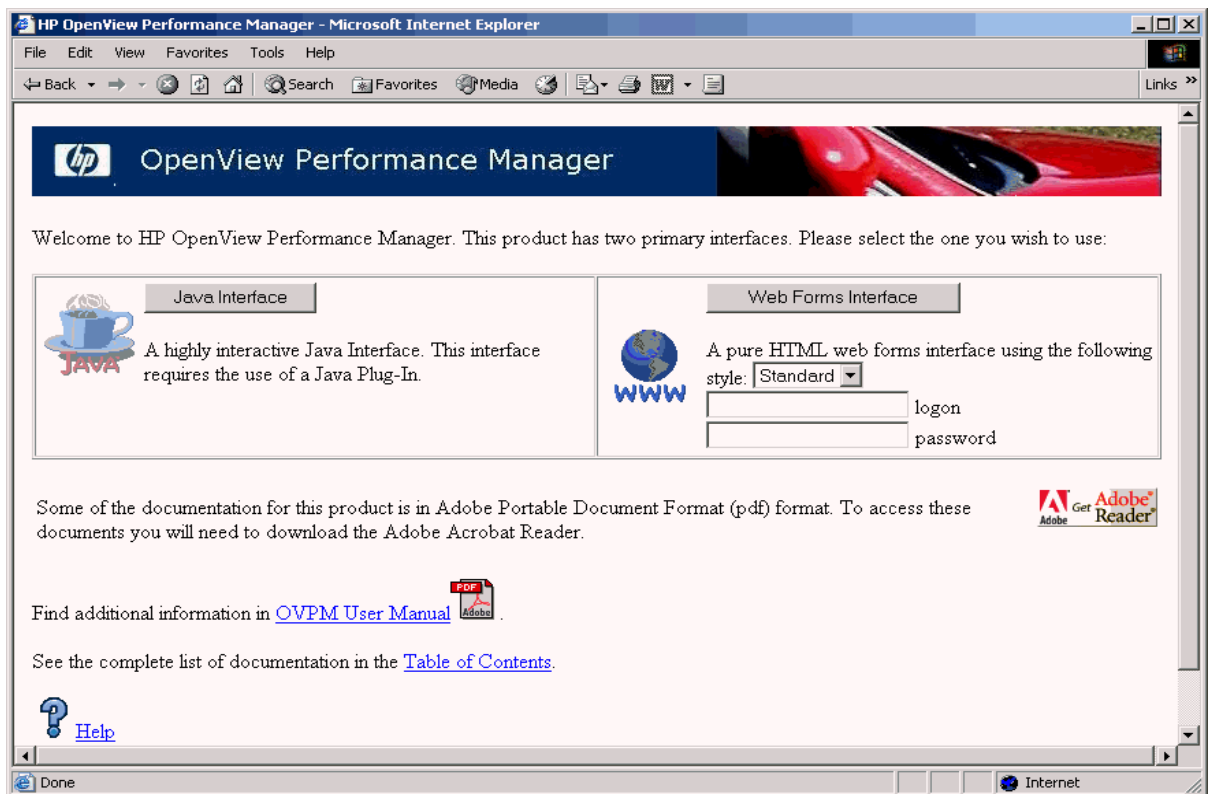
Getting Started

Accessing OVPM

Once OVPM is installed, you access its home page (OVPM.htm) by URL on the web server where OVPM is installed. For example:

`http://managementserver:8080/OVPM`

where `managementserver` is the web server where OVPM is installed, and `8080` is the port it is using.



Before pressing the Web Forms interface button, you should enter your logon and password if appropriate. (If the OVPM Administrator has not configured customers for your installation, then the logon and password fields may be blank.)

The logon is entered into the Java interface by pressing the logon button on the Java interface main screen.

If no systems or graphs are present after logging in, you may need to get a customer name and password from your administrator.

There are various login modes that restrict your rights to view systems, create and design graph templates, access the Design tab, and save the templates you design. Contact your OVPM Administrator for more details.

The Web Forms interface also allows you to select a "Style". The style can affect the look and feel and it can affect which fields are presented in the web forms. For example:

Style	Description
Standard	The Standard style presents a tabbed look and feel and presents the most commonly used fields.
Internet Services	Use this style to view your OV Internet Service (OVIS) information such as the services, probe types etc. when you have OVPM installed on the same system as OVPM. OVIS must be installed on the same system as OVPM server for this style to appear in the list.
MMC	The MMC style presents the Microsoft Management Console look and feel and is used to view your OpenView Operations for Windows information when you have OVO/Windows installed on the same system as OVPM. OVO for Windows must be installed on the same system as OVPM server for this style to be present.
Plain	The Plain style presents the same fields as the Standard style but with a much plainer look and feel than the tabbed style.
Print	The Print style is the same as the Standard style except that it forces all graph lines to be drawn double wide to be more visible on a printer.
Reporter	The Reporter style is used to view your OpenView Reporter information. Reporter needs to be installed on the same system as the OVPM server, or configured to the Reporter database in order for this style to be listed.
Shifts	Adds the Shift fields allowing you to select data by hour of the day, day of the week and to exclude holiday dates.
StartDate	This style chooses a date range by setting the starting date/time and the ending date/time instead of the usual date range and ending date/time. It also provides for selecting data by hour of the day, day of the week and Holidays.

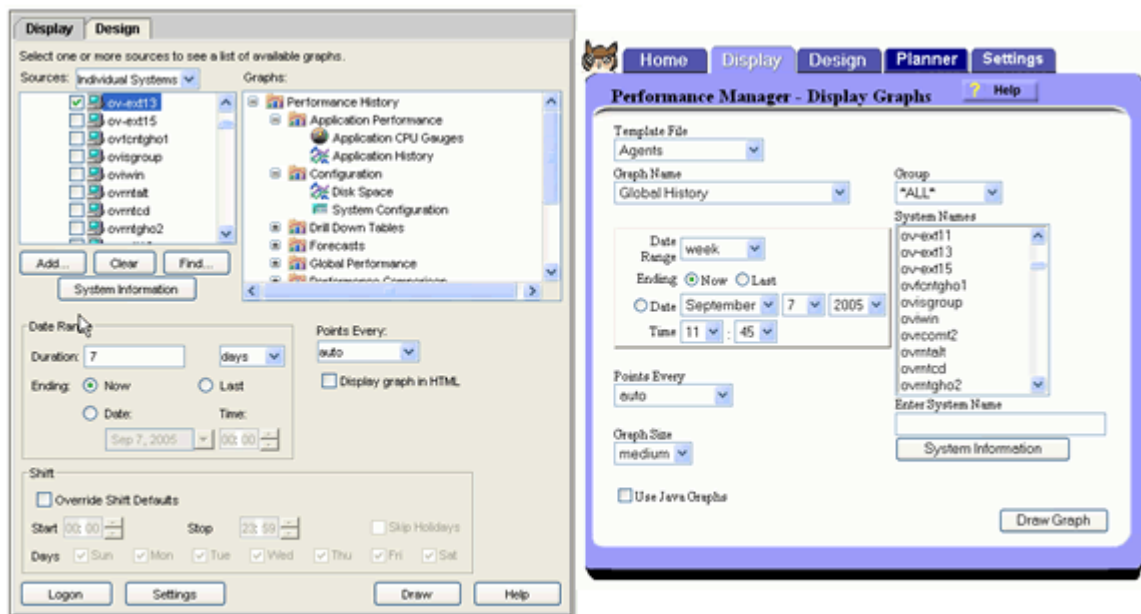
You can always select a different style by returning to the OVPM Home Page. Note: you may have other style selections if you are integrating with other products such as OpenView Internet Services.

Two Styles of Interface

OVPm has two styles of user interface; the Java user interface and the Web Forms interface.

- The Java interface is the most functional and the most interactive. It requires that a Java Plug-in which can be installed via the Java Runtime Environment (Java 2 Standard Edition) be loaded on the system where the web browser is running. Most systems will attempt to load this plug-in if it is not found. On some systems, you must load the plug-in manually.
- The Web Forms interface should run in any supported web browser without requiring a Java Plug-in. It will load quicker than the Java interface over a slow network connection. The Web Forms interface provides most, but not all of the functions available in the Java interface.

figure 5 Two OVPm User Interfaces



The table below gives you a summary of information to use in choosing which interface to use.

Feature	Java Interface	Web Forms Interface
Plug-ins	Java 1.4.2 or later plug-in is required. (see Java Plug-in Requirements).	None required
Draw Predefined Graphs	Yes	Yes
Design Custom Graphs	Yes, simple or complex	Yes, simple
Speed	Slower to load, then fast to execute	Faster to load, especially on slow speed connections. Fast to execute.
Ease of use	Provides assistance on choices	Less assistance available



Bottom Line: Pick the Java interface unless you cannot easily load the Java Plug-in or you have a slow speed connection. In this case, choose the Web Forms interface. Otherwise, try them both and choose the one you like best.



Simple graphs designed in either interface can be drawn by the other. However, avoid designing a Java graph and then editing it using Web Forms. Your java graph may lose certain features not supported by Web Forms. This caution only applies to editing graphs. You can draw graphs from either interface once they are designed.

If you decide you want to use the Java interface exclusively, bypass the home page and go directly to the Java interface by selecting the URL

```
http://<myserver>:8080/OVPM/PMJavaUI.htm
```

where <myserver> is the name of the system where OVPM is installed. Port 8080 is the default web server port number which may be different on your installation.

Requirements

Browser Requirements

You need a web browser for viewing the HTML reports:

- On HP-UX: Mozilla 1.6, 1.7, Firefox
- On Solaris: Mozilla 1.4, 1.6, 1.7, Firefox
- On Linux: Mozilla 1.6, 1.7, Firefox
- On Windows: Internet Explorer 6.00 or higher

The web browser does not have to be located on the same system where OVPM is installed. You can access OVPM using the Mozilla or Firefox browser on a UNIX system, even when OVPM is installed on a Windows system. Multiple users can access the same OVPM installation simultaneously.

Note that you should disable any Pop-Up Blocker software on the OVPM client system prior to running OVPM. This is because many of OVPM's displays will appear as pop-ups and so would be blocked by this software.

The computer stores copies of frequently accessed pages in the Web browser's memory cache or disk cache. You should set your web browser to check for newer versions of stored pages by setting it to "every visit to the page". This setting ensures that the graph images will properly update on the system. Otherwise, the browser will cache the graph images and not update when you select minor changes and redraw your graph.

Here are examples of how to do it:

Internet Explorer

To specify how often Internet Explorer checks the network for page revisions:

- 1 Open IE browser. Select Tools -->Internet Options. Under Temporary Internet Files, click the Settings button.
- 2 Check the "Every visit to the page" radio button. Click OK.

Firefox

To specify how often Firefox checks the network for page revisions (so that "stale" pages are not kept in the cache too long):

- 1 Open the Firefox browser. Select Tools > Options.
- 2 Select Privacy. Under Cache, set the value to zero for "Use up to: 0 KB of disk space for the cache".
- 3 Click OK.

Java Plug-in Requirements


- Invoking the Java graphs feature will require downloading the J2SE with the Java 1.4.2 or later Plug-in to the system where the browser is executing. You may be prompted to download this the first time your browser invokes this feature.
 - HP-UX: JPI 1.5 and 1.4.x are available.
 - Resources
 - [HP: Java on HP-UX](#).
 - Solaris, Linux, and Windows: Java 1.5 and 1.4.x are available.
 - Resources
 - [Sun: Java 1.4.2](#).
 - [Sun: Java 1.4.2 changes](#).
 - [Sun: Java 1.5.0](#).
 - [Sun: Java 1.5.0 Release Notes](#).
- To check the version of Java Plug-in (or JPI version) you are using:
 - Start (or attempt to start) the OVPM Java User Interface.
 - Enable the Java Console from your browser (Right-click on the Java Icon <show icon> and select “Open Console”).
 - The first few lines of the Java Console will list the actual Java Plug-in version being used. Or you can click on About. This is often not the version that was expected when more than one plug-in is installed.
 - In the Java Control Panel, you can select to download updates.
- On UNIX systems, it is very important to follow the installation instructions provided during the download, and to make sure that the prerequisites are met in order to get the J2SE installed properly. Often a system reboot is required in order for the plug-in to begin working properly.
- The first time you draw a Java graph, you should see a message from your browser asking whether you want to accept the certificate of the Java applet.



- This message is your assurance that the Java applet is a part of this product and has not been altered in any way. The message offers options to grant or reject ("Deny") the applet permissions. Permissions can be granted for the current session only ("Grant this session") or always ("Grant always"). It is best if you select "Grant always" because, then, the message will not bother you again. If you deny permissions, the Java applet will still run, but some interactions with your system, such as the graph and table Export feature, will not be available.
- This message may indicate that the security certificate has expired. Security certificates are only marked as valid for a short period of time. This message is only a warning that this time has passed. You should ignore this message and accept the certificate.
- If the Java screens are cut off - This may happen if you are using an unsupported version of the Java Plug-in. You may also see a wide gray band to the right of the display. The solution is to uninstall all versions of the Java Plug-in (use Add/Remove Programs from the Control Panel). Then, manually install the Java Plug-in, version 1.4.2 or later from the web.

Getting Data

Data is provided to OVPM by performance agents or other software programs that collect performance data (metrics). Agents may include OpenView Performance Agent (previously known as the MeasureWare Agent and VantagePoint Performance Agent), or OpenView Operations Agent version 7 or above. Other data collection programs may include OpenView Internet Services, OpenView Reporter and Smart Plug-ins. Agents and data collection software are referred to as data sources in OVPM.

 **Important:** Data sources are not included with OVPM. Products such as HP OpenView Performance Agent, HP OpenView Reporter, HP OpenView Operations and HP OpenView Internet Services must be purchased and installed separately.

OVPM must be able to locate the data sources that are available. Reporter and Internet Services must be installed on the same system as OVPM to be recognized automatically. If these products are running on a different system, they can be accessed after manually configuring OVPM to locate them. See the OVPM Administrator's Guide for details. Performance agents can be installed on any system with network access to OVPM. They can be located in one of two ways:

- When Reporter is running, it discovers systems in your network that have Performance and/or Operation Agents. If OVPM is configured to use the Reporter product, it will automatically have access to this information.
- If Reporter is not configured, then the System Administrator will have to edit a list of systems for each of the different performance agent types. The OVPM Administrator's Guide has details on this operation.

What do you do if you do not have Reporter, or if there are additional systems you want to access on your own? In this case, OVPM can graph data from a supported database or OpenView Agent. But you can only access additional system temporarily by using the Add button in the OVPM interface. These added systems will not be visible once you leave the current display or refresh the browser display.

- This version of OVPM supports the following agents:
 - OpenView Operations Agent (OVOA), version 7.20 or later. This agent is deployed and managed by OpenView Operations (purchased separately).
 - OpenView Performance Agent (OVPA), previously known as VantagePoint Performance Agent or MeasureWare. This agent is purchased and installed separately.
- You can temporarily add a system using either of the OVPM interfaces as described below:
 - In the OVPM Java interface, select the **Add** button in the Display tab to temporarily add a system to the Sources tree. OVPM will prompt you to select the performance agents to run on this system.

For Agents	Select Data Source
OVPA 4 Using BBC datacomm	CODA

For Agents	Select Data Source
OVPA 3 and OVPA 4 Using DCE or NCS datacomm	MWA
OVOA	CODA

- In the OVPM Web Forms interface, type the name of the system in the Enter System Name field. You cannot indicate the type of agents on the system.
- Only your System Administrator can permanently add systems. Please contact your OVPM Administrator when such a need arises. Note that your ability to add systems may be restricted by the System Administrator.

Graph Templates

Predefined graph templates for each of the performance and operations agents are installed with OVPM. Templates for other data sources should be installed with those products. In some cases, the graph template files will have to be copied to the OVPM system. Look at individual product documentation for details.

A graph template contains the information needed to get a set of data and display it in a graph within the browser. Templates contain the following kinds of information: source of the data (that is the agent or data collector), metric or set of metrics, type of graph and graph attributes like line color. When you draw a graph, you supply additional parameters such as the system name, date range, etc. See a list of predefined graphs in the template for each data source.

User-Defined graph templates: You can create your own user-defined graph templates, customized to display the data you need using the OVPM Design function. When you save these graph definitions they become usable like any predefined graph.

Display Mode and Design Mode

The OVPM interfaces both allow you to work in Display mode, where you use predefined graph templates; or in Design mode, where you create your own graphs.

- **Display:** Use the Display function to select from predefined or User-defined graphs. You can specify additional information concerning the source of the data such as which system provides the data, dates and times covered, and type of display to generate (Java or HTML). And you can select multiple systems to draw multiple graphs or a single comparison graph, depending on the graph design.
- **Design:** Use the Design function to create your own graphs. You can open a predefined graph and modify it to suit your needs; you must then save your modifications into a graph definition of your own. You cannot save a predefined graph that you have edited using its original template file and name. Once designed and saved, you can utilize user-defined graphs from the Display function in the same manner as the predefined graphs.

Display Mode for Predefined Graph Templates

In the Display mode, predefined graph templates have been provided for most types of data you want to graph. To use a predefined graph, access OVPM and select whether you want to use the Web Forms interface or the Java interface.

You can practically perform the same functions from either interface so it is just your preference. The Java interface provides more interactivity so that the display changes based on your selections; the Web Forms interface displays in most browsers and does not require a Java Plug-in. The order in which items are selected differs between the two interfaces:

- Using the Java interface Display function, you first select the data source you want to use. The graphs available in the right panel will vary depending on the data source you have selected. This is to help prevent drawing a graph for which no appropriate data source is selected.
- Using the Web Forms interface Display function, you first select the graph template file you want to use. The system names and group names in the web form will then be adjusted to match the data sources in your graph template file.

The rest of the items in the Display function can be selected in any order and are quite similar, although not identical between the interfaces. Online help is available that explains how to use each interface, complete with examples.

Design Mode for Creating Custom Graphs

There can be many reasons to design your own graphs. Perhaps a predefined graph exists, but you would like to alter it in some way. Perhaps you need to display data from a part of a data source that is not covered by a predefined graph (user-defined metrics that are provided by Data Source Integration (DSI) in OV Performance Agent are a good example). Or perhaps you would like to see the data in a new and exciting way.

You can use the Design function to preview a graph or to see data only one time. If you want to utilize a graph design again, you should save it to a user-defined graph template. You can use saved graphs from the Display function as you would predefined graphs. You can draw your graph using different systems, or date ranges, even multiple systems.

OVPM does not allow you to alter the predefined graphs in any way. You can open them in the Design function, make changes, and then save them. But you must save them as a user-designed graph and are not allowed to save over the predefined graph templates. If you really want to modify a predefined graph, try your modifications in a user graph, and then ask your OVPM Administrator to move your graph from user to permanent status.

The mechanics of using the Design function differ between the Java interface and the Web Forms interface, but most of the process is the same. A few advanced features are available only in the Java interface and not in the Web Forms interface. These features include:

- **Complex graphs:** Graphs that draw different metrics from more than one data source. This is not the same as drawing the same metric from different systems using the same type of data source. Both interfaces support this capability. Complex graphs are rarely required. An example might be where you want to show data from Internet Services and the OV Performance agent on the same graph. Only the Java interface can design and display complex graphs of this type.

- Assorted features: Graph description, background color, metric line widths, fill styles and color selection can be set using the Java interface but not the Web Forms interface.
- Some features, such as graph annotations (header and trailer) and calculated metrics can only be set using a text editor at this time.

The vast majority of graphs do not depend on these features and can be designed using either interface.

Planner

The OVPM Planner smoothly integrates into the OVPM interface. You can use the Planner to forecast system resource consumption. The Planner uses time-series based statistical forecasting techniques to predict the service demands of your users.

You can use the Planner tab in the OVPM interface to design and execute trending models against a single metric. See the *OVPM Planner Guide* for more information about statistical forecasting and details on how to use the OVPM Planner.

Expert Mode

If you log in to OVPM as an expert user, then you will be allowed to view and configure advanced features. Examples of advanced features can be seen in additional fields being available on the Settings dialog box and the Expert tab being available in the Java interface.

The System Administrator uses the Administrator's Interface to configure users and to set or unset the "expert" flag for them. The default logon (blank) will not have the option to work in expert mode.

Expert users will see additional client configuration options in the Settings dialog box displayed when they select the Settings button at the bottom of the Java interface or select the Settings tab in the Web Forms interface. In addition, the Expert tab in the Java interface Design display will be active for users logged in as experts.

Designing Your Graph

The basic process to create your own custom graph is outlined below. See the following chapters on using the OVPM Java interface and the OVPM Web Forms interface for detailed steps to creating custom graphs and see the chapter on Graph Examples for examples of custom graph creation.

1 Select a model data source.

OVPM does not know what metrics are available from each of its data sources. It discovers this information by examining a model data source, chosen and used during the design process.

Depending on the data source, you may also need to select a model system. Agent data sources MWA and Coda, for example, must know which system to contact when opening the data source. The RepSys data source is a special version of the Reporter data source. The RepSys data source requires that a system name be specified since it will treat the Reporter database as if it were a single system data source. Other data sources, such as Internet Services and Reporter (not RepSys), do not require a model system.

2 Enter Metric information.

Select which metrics you want included in the graph. The Metric Class and Metric Names vary depending on the data source selected. You can select display options for the metric. Refer to online help for definitions and usage assistance on each feature.

3 Enter date and general graph display options.

Specify the date range, ending date and Points Every settings you want to use when you preview the graph. These settings are used only when you are in the Design function since OVPM reverts to the default settings in the Display function.

Select other graph features at any time during the design process. You can preview a graph, make a change, and then preview it again until you obtain the effects you like.

4 Save the graph.

Once satisfied with your graph, you should save it so you can re-use this definition. Of course, if this is just a one time investigation and you do not expect to use this graph design again, then you can skip this step.

Note that you should not use consecutive spaces in the graph name; otherwise, OVPM will not find the graph. (OVPM will find this graph name "This is my graph", but not "This is my graph".) Also graph name should not contain "@" symbols.

When you save a graph design, you will need to provide information on how to locate this graph design in the future.

- The Java interface uses a graph Family tree, which consists of Family, Category and Name. OVPM requires a graph Family and graph Name; a Family serves as a group to organize graphs, and a graph Name uniquely identifies a graph definition. Note that you may also use Category to group graphs into different categories within the same family.

- The Web Forms interface uses graph Template Files, which correspond to Family, and Graph Names.

5 Manage saved graphs

You can use the Design function to open a graph definition. Opening a graph definition deploys it into the design function where it can be manipulated. It does not alter the original graph definition in any way. You can open user-defined or predefined graph definitions.



Important: Do not edit a graph using the Web Forms interface if it was designed using the Java interface. The editing will work, but any graph features that are not supported by the Web Forms interface will be lost when you save the graph. Similarly, editing a graph that has features not supported by the Java interface (annotations, calculated metrics) will remove those features when you save the graph and so will not necessarily match the original graph definition.

Graph templates are saved on the OVPM server (not the local system). For this reason, the only safe way to edit a predefined graph definition is to access the OVPM server and edit using a text editor. Feel free to use the predefined graph definitions as a starting point on your own graphs, just be aware that they may not work exactly like the original if some features are removed in the process.

If you save a graph using the same graph template file name and graph name, then you will replace the original file in the template file. **Exception:** attempting to replace a predefined graph will fail since the graph template name will always begin with User and no predefined graph template files should begin with User.

You can delete user-defined graphs that you have access to, which is determined by your logon. Your access to graphs also depends on your access level; ReadOnly and DisplayOnly logons cannot delete graphs. Note that you cannot delete any predefined system graph. Also once the last graph is deleted from a user graph template file, the template file itself will be removed.

Concepts

The following are a few general concepts to help you understand drawing graphs.

Date Range and Points Every Options

Use the **Date Range** selection to set how much data goes on the graph (Duration of 7 days or 1 hour for example). Use the Ending selection to adjust up to where in time the graph draws. For example 7 Days Ending April 10, 2002 08:00 will include data from April 3, 2002 at 08:00 through and including April 10, 2002 at 07:59. Selecting an ending date of **Now** will take data up to the current date and time. Selecting **Last** will take data up to the date and time when data was last added to the logfile.

Use the **Points Every** selection in conjunction with the Duration from the Date Range selection to set how dense the data points are. With duration of 1 day, selecting Points Every 1 hour will draw 24 points on the graph (or show 24 rows in a table). Selecting Points Every 5 minutes will show 288 points (or 255 in an HTML graph, the maximum number of points in HTML).

Setting Points Every to **Auto** will automatically pick a value such that approximately 100 data points will be drawn. (This can vary for different graphs types.) Until you have a good reason not to, you should use Auto.

Setting Points Every to **Unsummarized** will plot one point for every data point that is available from the data source (i.e. you will see all the data from the data source). Be careful: you can often get more data than you can handle if you do not set a short Duration. Some graphs depend on having summarized data and will produce odd results if you draw them unsummarized. Use this feature with care.

HTML and Java Graphs

There are two basic types of graphs: HTML graphs are static image files while Java graphs are interactive Java applets. Each OVPM interface defaults to drawing graphs using the same technology as the interface itself. However, they also have an option that allows you to draw an HTML graph from the Java interface and a Java graph from the Web Forms interface.

- Choose an HTML graph to show a static graph image that is good for copying and emailing, etc. The HTML graphs display quickly on all supported browsers. If you want to draw a large number of graphs at one time (such as drawing a graph for every system in a group) then the HTML graph might be the better choice. It generates one web page with a graphics file for each graph. Java graphs will generate an applet window for each graph. (Ever try to close 100 windows when you are through with them?)
- Choose a Java graph to allow interaction with the graph once it is drawn. Java graphs can be resized, examined and prodded in a variety of ways. Java graphs allow you to select an area of interest from the graph then zoom in to see it better, or even to drill-down and draw another graph or table to show what was happening in the timeframe you selected.

Graph Types

You can display graphs as an area graph, stacked bar graph, bar graph, line graph pie graph or gauge.

Special graph types include baseline graph showing the average values for a metric and forecast graph predicting how the metric may perform in the future. Data can also be displayed in XML, Excel, TSV or CSV format. In addition you can drill down to display performance metric data in table format.

Graph Display Options (Java Interface Only)

Graph description, background color, metric line widths, fill styles, table filter and highlights and color selection can be set using the Java interface but not the Web Forms interface.

Zoom and Drill Down (Java Graphs Only)

You can select an area of the graph to zoom in on.

With the Drill Down function you can select an area on the graph for which you can then request more detailed information.

Export data (Java Graphs and Tables Only)

You can export the data from a Java Graph or Java Table in a variety of formats (CSV, TSV, Excel Spreadsheet, web table, etc.) and save it on your local disk or display it in another web page.

Administrator's Tasks

The OVPM System Administrator has direct access to the system where OVPM is installed, and can perform tasks that cannot be performed using the web browser interface. These tasks include:

- Configuring OVPM to access data sources, systems and graphs.
- Setting security to control who is allowed to access OVPM.
- Performing special actions, such as promoting a user-defined graph to read-only status to prevent its being modified.
- Setting the default styles for graphs and tables

An *OVPM Administrator's Guide* is available on the system where OVPM is installed (\paperdocs\Administrator.pdf).

In addition an online *OVPM Administrator interface* is available for the person administering the OVPM system to configure customers, users, groups and systems for use in OVPM.

OVPM Predefined Graphs

OVPM includes predefined templates for more data sources. The following lists some of the main graphs provided out-of-the-box in the predefined templates:

Graph Template File: Agents (Performance History)

Global Performance Graphs

Graph Name	Description	OVPA	OVOA
Global History	Overall system performance summary	X	X
CPU Summary	Summary of CPU utilization	X	X
CPU Utilization Baseline(1)	Typical weekly CPU utilization	X	X
Global Run Queue Baseline(1)	Typical weekly global run queue	X	X
Disk Summary	Overall disk utilization	X	X
Disk Throughput(3)	Individual disk activity	X	X
Memory Summary	Summary of virtual memory activity	X	X
Network Summary	Overall network activity	X	
Individual Networks(3)	Individual network interface activity	X	X
Individual CPUs	Individual processor utilization	X	X

Graph Template File: Agents (Performance History)

Performance Comparison Graphs

Graph Name	Description	OVPA	OVOA
CPU Comparison	CPU utilization for multiple systems	X	X
CPU Gauges	CPU gauges for multiple systems	X	X

Graph Template File: Agents (Performance History)

Transactions Graphs

Graph Name	Description	OVPA	OVOA
Transaction Health(3)	Service level objective percent for each transaction	X	
Transaction History(3)	A set of metrics displayed for each transaction (best seen in HTML)	X	

Graph Template File: Agents (Performance History)

Application Performance Graphs

Graph Name	Description	OVPA	OVOA
Application CPU Gauges	A gauge shows the CPU usage for each application. Designed for use with 1 system at a time.	X	
Application History	Summary of one application's activity	X	

Graph Template File: Agents (Performance History)

Process Performance Graphs

Graph Name	Description	OVPA	OVOA
Process CPU(3)	Individual Process CPU Usage For best results, select a small Date Range (process data can be voluminous).	X	

Graph Template File: Agents (Performance History)

Configuration Graphs

Graph Name	Description	OVPA	OVOA
Disk Space	Individual file system space used	X	
System Configuration(4)	System and collector configuration information.	X	X

Graph Template File: Agents (Performance History)

Drill Down Tables

Graph Name	Description	OVPA	OVOA
Global Details(2)	Table of overall system activity	X	X
Application Details	Table of activity of all applications	X	
Process Details(2)(3)	Table of all process activity.	X	
Disk Details(2)(3)	Individual disk device drill-down table - selected metrics	X	X
Filesystem Details(2)(3)	Individual file systems drill-down table - selected metrics	X	X
CPU Details(2)(3)	Individual processor drill-down table - selected metrics	X	X
Network Interface Details(2)(3)	Table of activity of all network interfaces - selected metrics	X	X
Transaction Details(2)(3)	Table of activity of all ARM transactions - selected metrics	X	
Configuration Details(4)	OVPA configuration drill-down table - selected metrics	X	

Graph Template File: Agents (Performance History)

Forecast Graphs

Graph Name	Description	OVPA	OVOA
Application CPU Forecasts	Draws one graph for each application showing future CPU usage	X	
Global CPU forecast	Forecasts future CPU utilization	X	X
Multiple Global Forecasts	Forecasts eight different metrics for a system	X	X
Seasonal CPU Forecast	Forecast future CPU utilization Allowing for time dependent patterns	X	X
Transaction Response Forecasts	Transaction response time, one graph for each transaction name	X	

- (1) Baseline graphs must read all available data in order to form their baseline measures. This may take some time regardless of the amount of time selected in the graph.
- (2) These graphs display unsummarized data, regardless of the user interface settings. Short date ranges should be used to avoid extremely long run times and truncated data.
- (3) These graphs retrieve data for all instances of a multi-instance data source. For systems with a large number of instances (disks, transactions, processes) short date ranges should be used to avoid long run times.
- (4) The OVPA data source logs configuration data infrequently. You may have to select a longer daterange or use the Ending **last** setting in order to display any data.

The following graph templates are available if OpenView Reporter integration has been configured.

Graph Template File: Reporter (graphs for the entire database contents for all systems)

Graph Name	Description
Top CPU Systems	Each system shows a single bar, sorted by overall CPU usage
Top Disk IO	Each system shows a single bar, sorted by overall average disk transfer rate
Top Networking	Each system shows a single bar, sorted by overall network packet rates
Application Sorter	CPU utilization for each user-defined application on each system. (This graph may take a long time to execute. Select a single system in order to reduce the time.)
ARM Transactions	Application Response Measurement transactions

Graph Template File: Reporter (graphs for the entire database contents for all systems)

Graph Name	Description
Global History	Overall system performance summary
CPU Comparison	CPU utilization for multiple systems
CPU Gauges	CPU gauges for multiple systems
CPU Baseline	Typical weekly CPU utilization
CPU Utilization by Shift	System CPU utilization by shift
Global Performance Details	Table of overall system activity
Single System Configuration	Table of system configuration details in Reporter, used for single systems.

The following graph templates are available if OpenView Internet Services integration has been configured.

Graph Template File: Internet Services

Graph Name	Description
Internet Response Time	Response Time graph for each probe type
Snapshot Gauges	3 gauges - Availability, Response, SLO Violations
Snapshot Five Gauges	5 gauges - Availability, Response, SLO Violations, SetUp Time, Throughput
Snapshot Response	Bar graph showing setup and response times
Snapshot Availability	Bar graph showing availability
Snapshot SLO Violations	Pie graph showing probe types with SLO violations
Availability by Service Group	Bar graph showing availability for each service group
Availability by Customer	Bar graph showing availability for each customer
Availability by Work Shift	Bar graph showing availability for each work shift
Response by Service Group	Bar graph showing response time for each service group
Response by Customer	Bar graph showing response time for each customer
Response by Work Shift	Bar graph showing response time for each work shift
Service Level by Service Group	Bar graph showing service level violations for each service group
Service Level by Customer	Bar graph showing service level violations for each customer
Service Level by Work Shift	Bar graph showing service level violations for each work shift
Trend Availability	Typical weekly availability

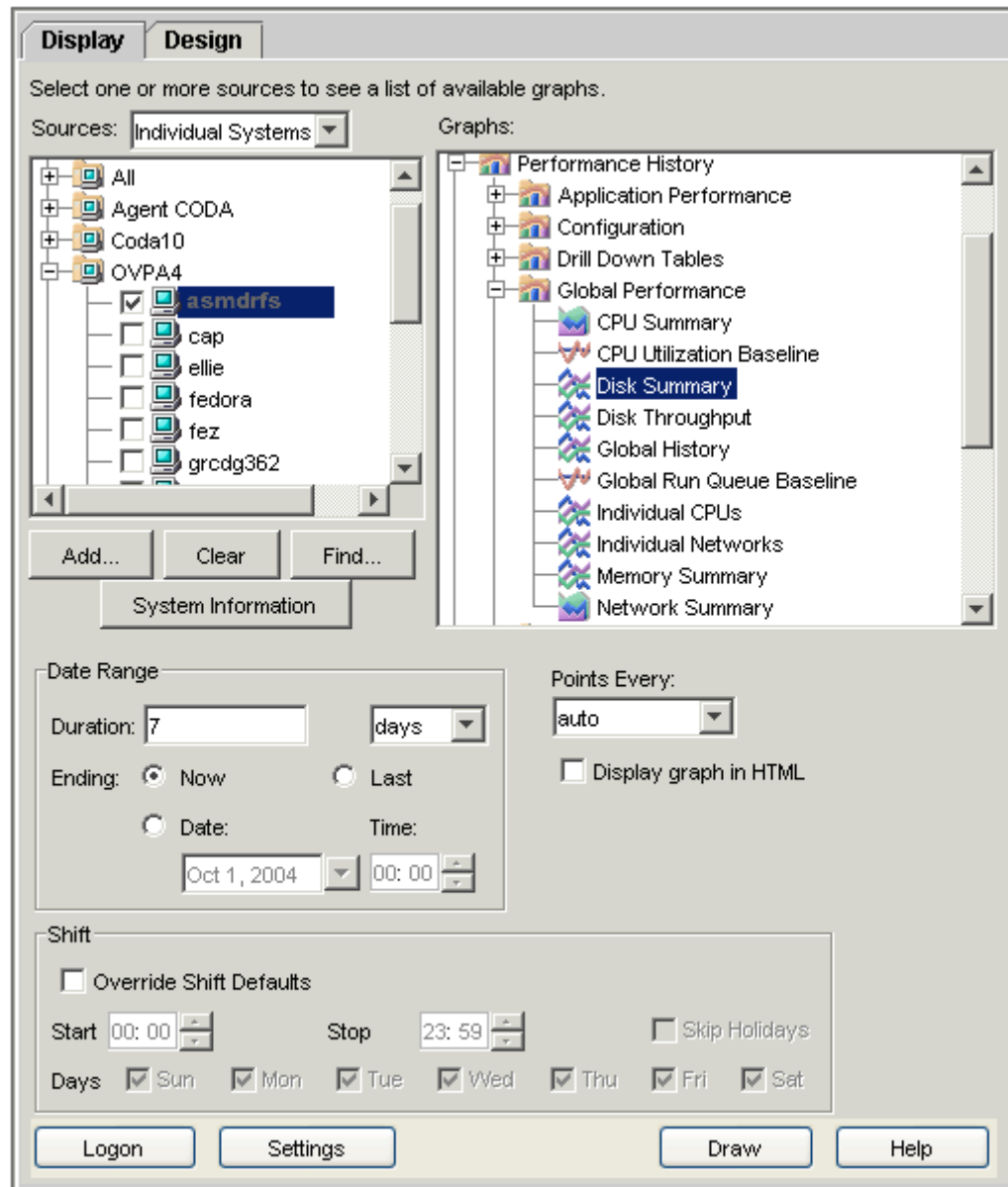
Graph Name	Description
Trend Response	Typical weekly response time
Trend Service Level	Typical weekly service level violations

Using OVPM – Java Interface

Drawing Predefined Graphs

The following example demonstrates how to draw a predefined graph using the Java interface.

- 1 Access the OVPM Home page and click on the Java Interface button. OVPM automatically brings up the Display window (otherwise accessed via the Display tab), where you will enter the criteria to draw your graph.

figure 6 **Java Interface Display Window**

The Sources field defaults to Individual Systems. Therefore, in the Sources pane you will see a list of all individual systems organized into groups. In the Graphs pane you will see a list of the graphs that can be drawn for the selected systems.

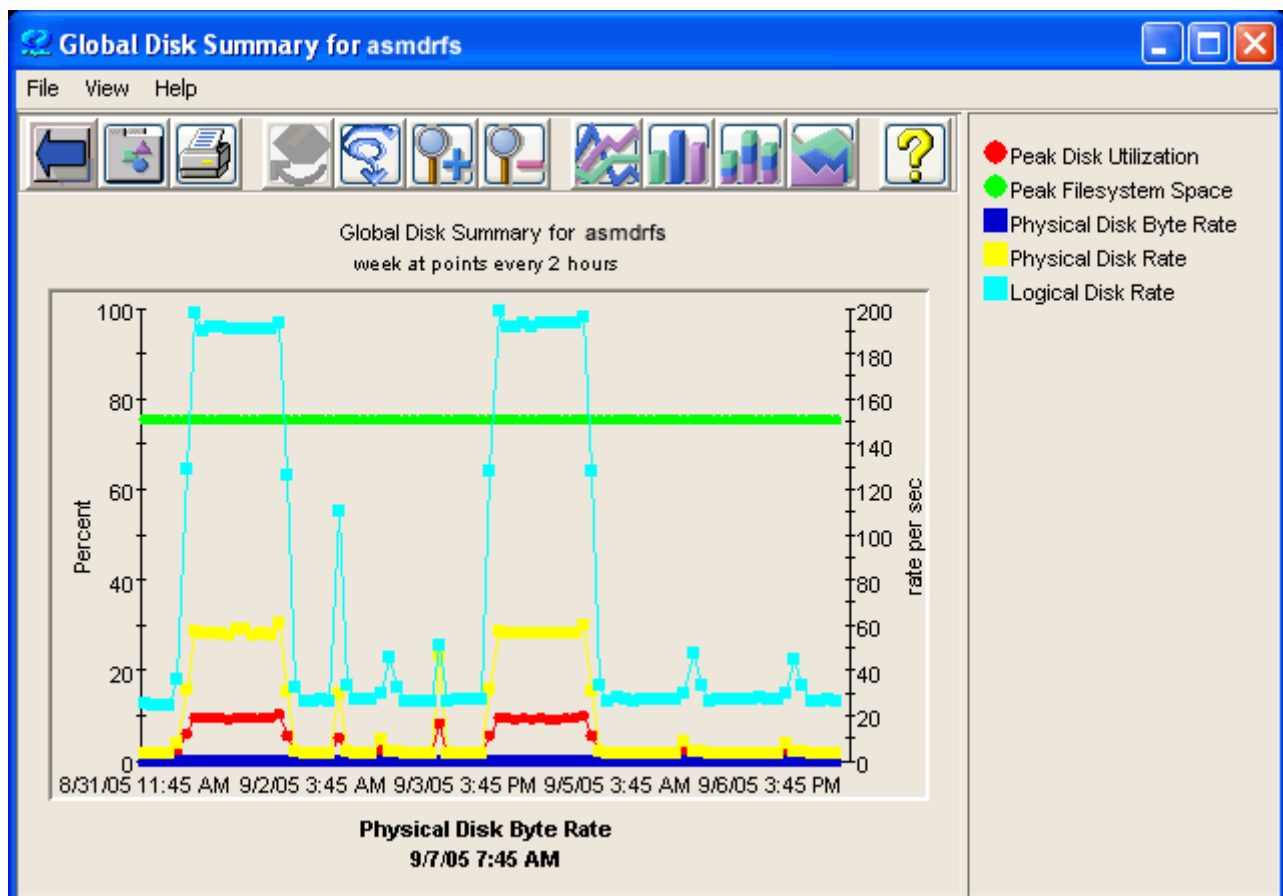
- 2 Expand the tree in the Sources pane by clicking on the + sign and select one or more systems. The graphs then change to match the system you choose.
- 3 Expand the graph tree and select a graph.

OVPM comes with predefined graphs for you to select from. If you have other HP OpenView products installed, such as SPIs, Reporter, or Internet Services, their graphs will also be available in OVPM. As you select systems in the Sources pane, OVPM displays in the Graphs pane the graphs corresponding to the system(s) you selected.

OVPM does not store data. Instead it retrieves the data needed to create the graph or table from the data source you specified.

- 4 Use the Duration and Ending fields to select the range of data you want to graph. To get more data points on the graph, use shorter time periods. The Points Every field controls how much data is summarized into a single data point.
- 5 Click on the **Draw** button to see the resulting graph.

figure 7 **Resulting Graph**



Reporter Graphs

You would use the following steps to draw a graph for a group of systems using the Reporter family of graphs. Although you can use the Reporter graphs for individual systems, you should use them only for groups of systems, since the graphs were designed to analyze the behavior of multiple systems.

- 1 Change the Source drop-down value to System Groups on the Java Display window.
- 2 Select a group.
- 3 In the Graphs pane, select a graph from the Reporter family of graphs, and draw the graph.

A few reminders:

- If you do not make any selection in the Sources pane, OVPM will draw a graph for all systems in the Sources pane.
- If you select all systems within a group (by right-clicking on a system group name) OVPM will then draw a graph for all systems in that group.
- If you want to draw a graph for a single system within the Reporter database, follow the instructions in Example 1 using a graph from the Selected Systems From Reporter family of graphs.

Logon and Configuration Settings

You can select the **Logon** button to logon as a different user. The System Administrator manages the user and customer logons.

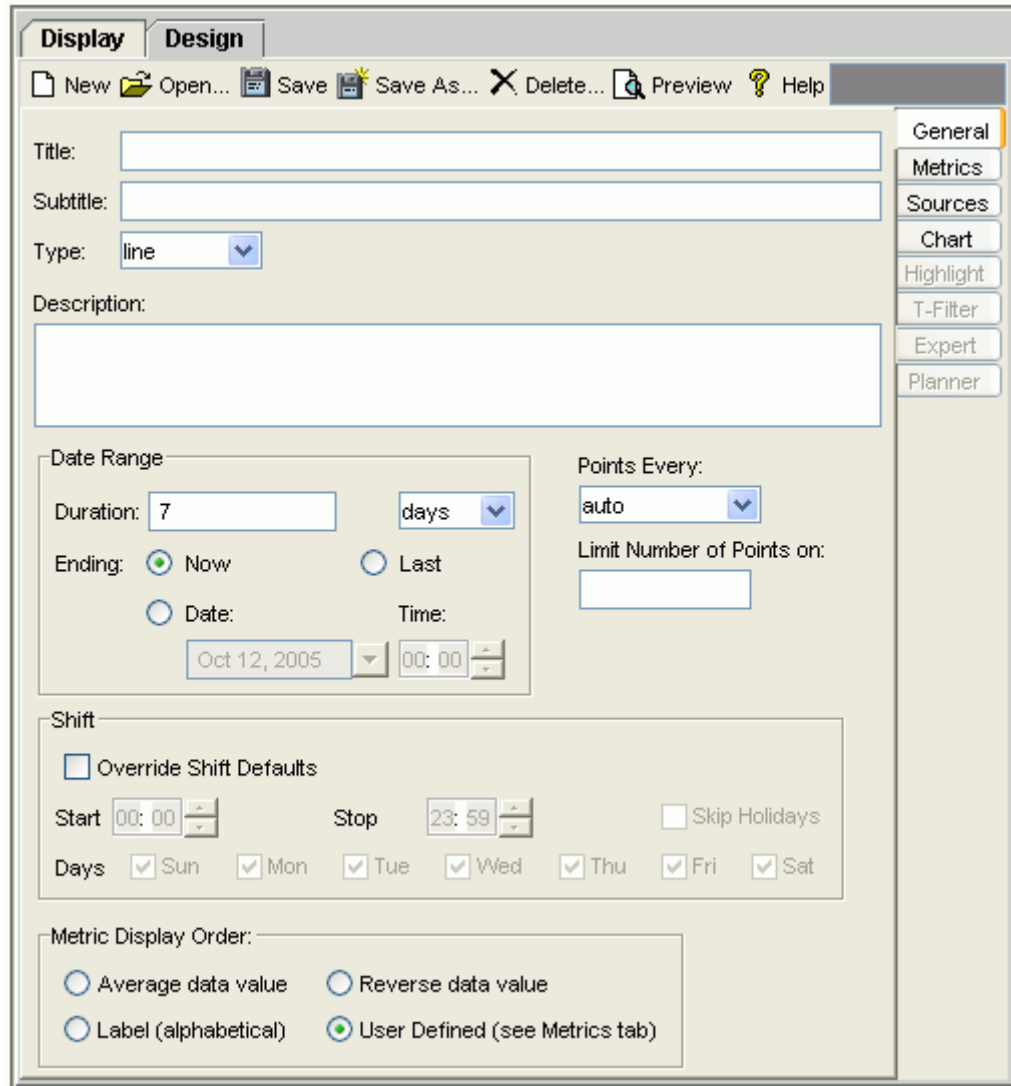
You can select the **Settings** button to configure settings that are local to the client browser. These settings will be saved in a Cookie on the client system and accessed whenever a request is made to OVPM. (NOTE: Cookies should be enabled in the client browser for the settings tab to work as expected. If cookies are disabled, the changes made in the settings tab will not be saved). The client setting items allow you to change the appearance of OVPM graphs from a different client system. These settings will be for that system and not your original system. The client settings apply regardless of the OVPM logon (user or customer) being used.

If you log in to OVPM as an expert user, then you will see additional fields on the Settings screen. The System Administrator uses the Administrator's Interface to configure users and to set or unset the "expert" flag for them. The default logon (blank) will not have the option to work in expert mode.

Designing Graphs

To create your own graphs, use the Design tab. OVPM, by default, displays the Design - General window.

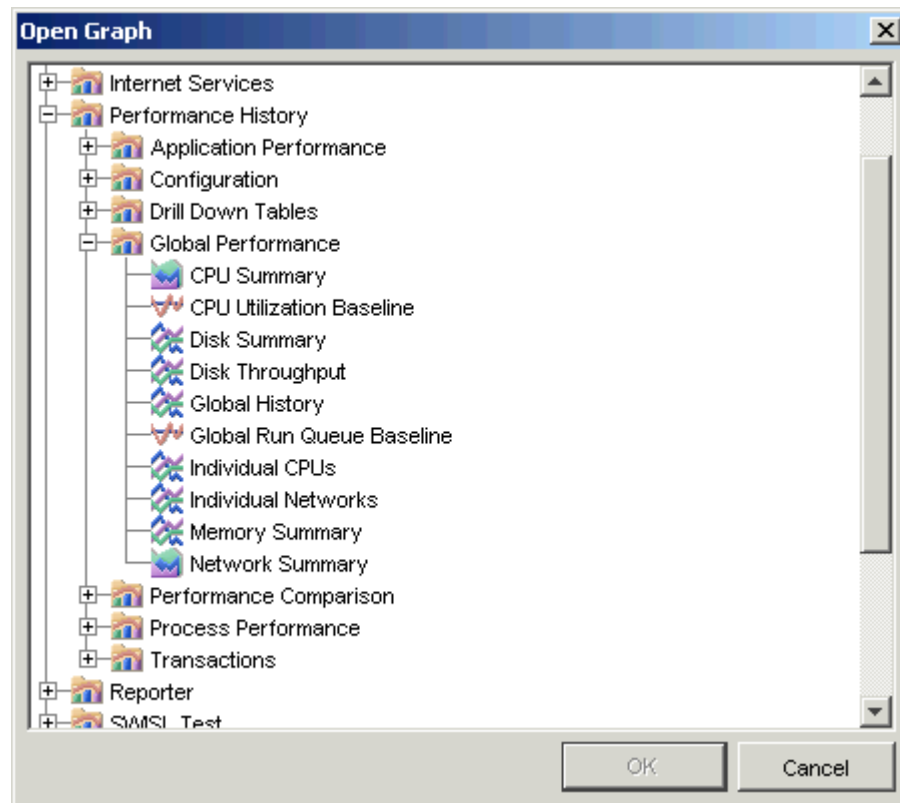
figure 8 **Java Interface Design Window – General Tab**



You can design a custom graph starting from an existing graph or create a new graph from scratch.

Note that the Highlight, T-Filter, Planner and Expert tabs are greyed out in the Java UI, when you first click on the Design tab.

To customize an existing graph, click on the **Open** button in the General tab window. Then select a graph from the list of graph templates displayed in the Open Graph window.



You can then make modifications such as change the graph type, add a system name to the graph title (add @@ [SYSTEM] to the title), add metrics to a graph and edit metrics properties.

Note that after you save your customized graph, you can reuse it just like you would any predefined graph. Also note that sometimes, OVP will not let you proceed until you take some action in a dialog box that seems to have vanished from your display. Press ALT-TAB to bring up the dialog box. ALT-TAB allows you to toggle between windows and will bring up any window that may seem to have disappeared but is simply hidden behind other windows.

Creating a New Graph Using the Java Interface

To design a graph from scratch, you will need to use the tabs to the right of the Design window (General, Metrics, Sources and Chart are used for most graphs. Highlight and T-filter are only used for tables and Planner is only used for forecast graphs. A tab will be disabled unless the type on the General tab is selected accordingly). Click the **New** button in the General tab window to start creating a new graph.

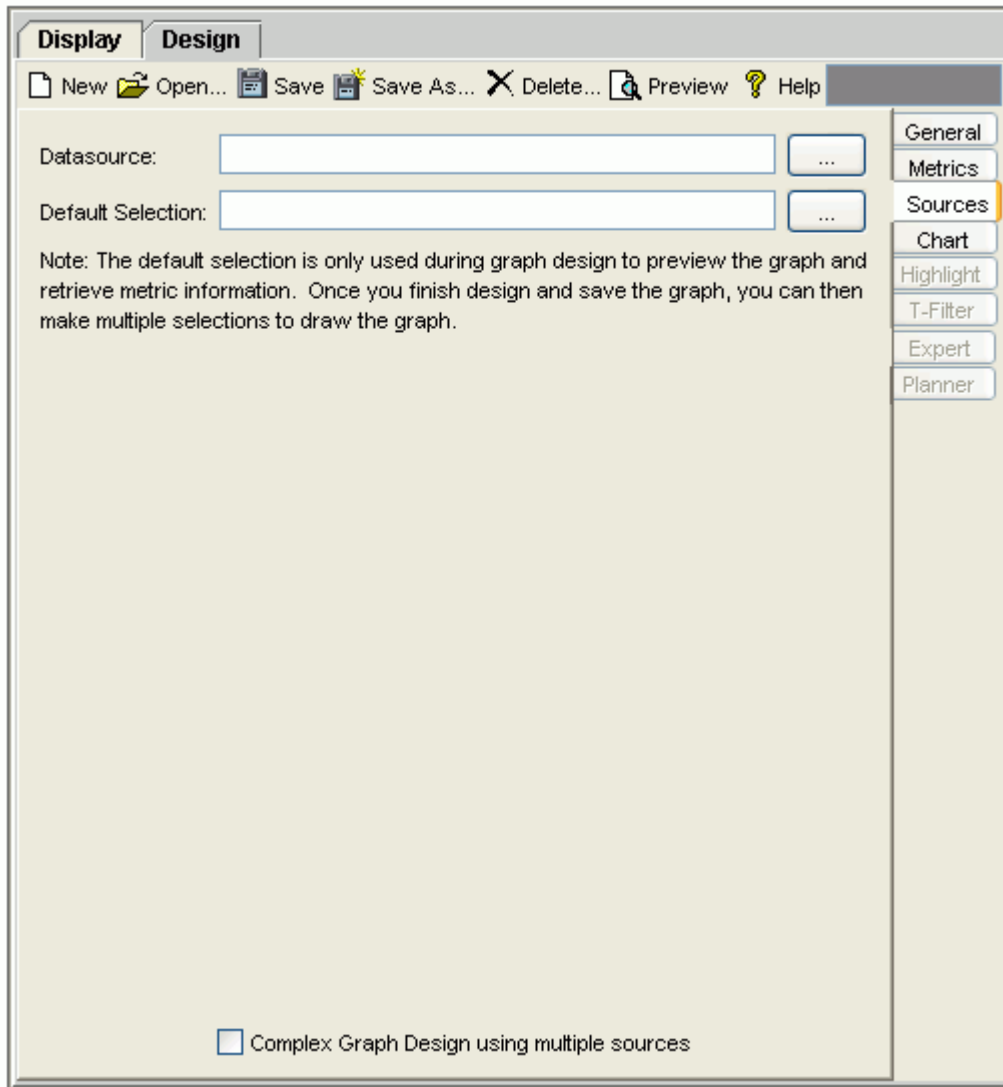
First, you will need a source of data to use as a model for your initial graph design.

Click the **Sources** tab to select a data source. A Source consists of a Data source and Default Selection. An agent is an example of a data source and a system or service is an example of a default selection.

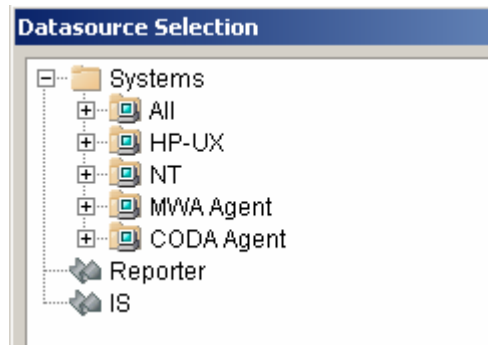
The **Default Selection** is used only as a model while you create your graph. It allows you to retrieve metrics information and preview the graph. After completing and saving your graph, you will then be able to use it for other systems containing the same data source.

Reporter and Internet Services are data sources that do not require you to select a model system when drawing graphs from these databases. Graphs from these sources represent data taken from all services or systems in the database.

figure 9 **Java Interface Design Window – Sources Tab**

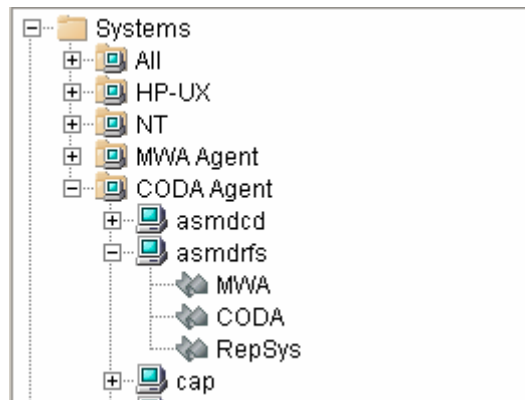


Click the **Filter** button (ellipsis... either one) to access the Data source Selection window.



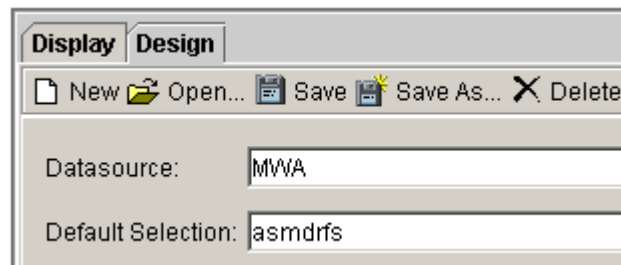
Expand the Systems tree to select the group and the system to use as your model data source. OVPM will fill in the Data source and Default Selection fields, as appropriate.

- If you select a system group, you will need to expand the group, expand a system, and then select the data source.
- If you select Reporter, no default selection is required.
- If you select IS, no default selection is required, but you can select a service if you wish by clicking on the Default Selection filter button.



In this instance, the system `asmdrfs` has three data sources.

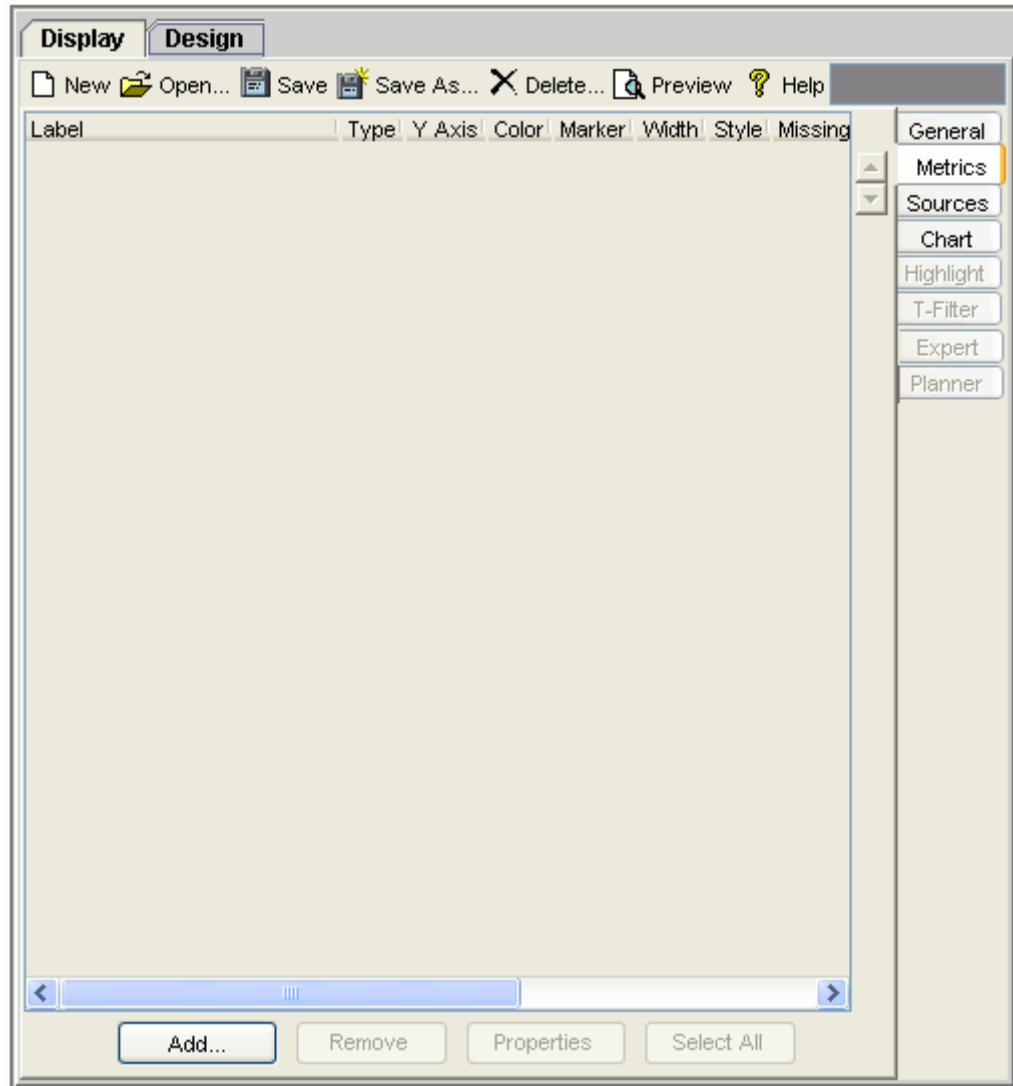
MWA and CODA are data collectors installed on `asmdrfs`. RepSys is a special version of the Reporter data source, internal to OVPM, which allows single system data to be drawn from the Reporter database.



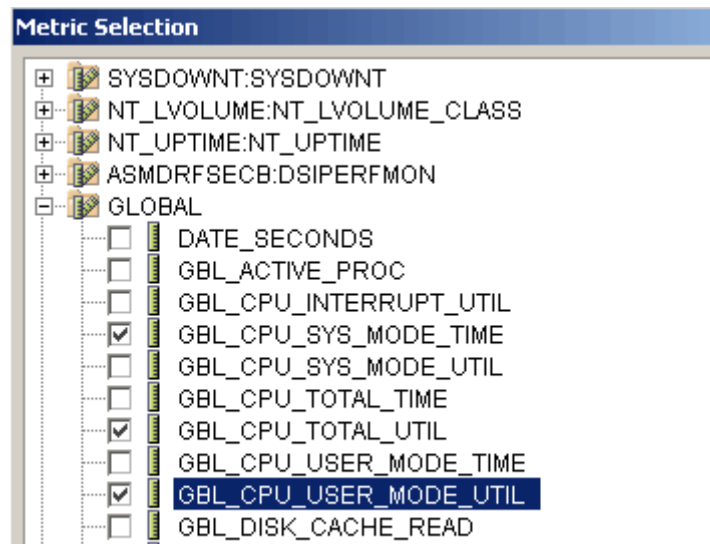
Upon selecting this data source, OVPM displays both data source and system in the Sources window.

Now, click the **Metrics** tab.

figure 10 **Java Interface Design Window – Metrics Tab**



Click **Add** at the bottom of the screen, to go to the Metric Selection window where you will select your metrics. (In the absence of a data source, OVPM would have prompted you to select a data source.)



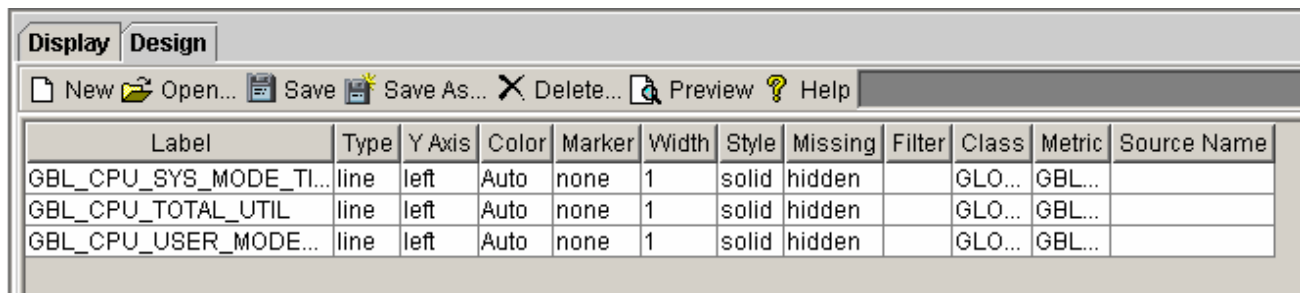
OVPM lists the metrics classes in this window. In this example, we also have Data Source Integration (DSI) metrics collected by the agent (ASMDRFSECB:DSIPERFMON).

Expand a metric class and select the metrics you want to graph. (You may select metrics from more than one area in the tree.)

Click **OK**.

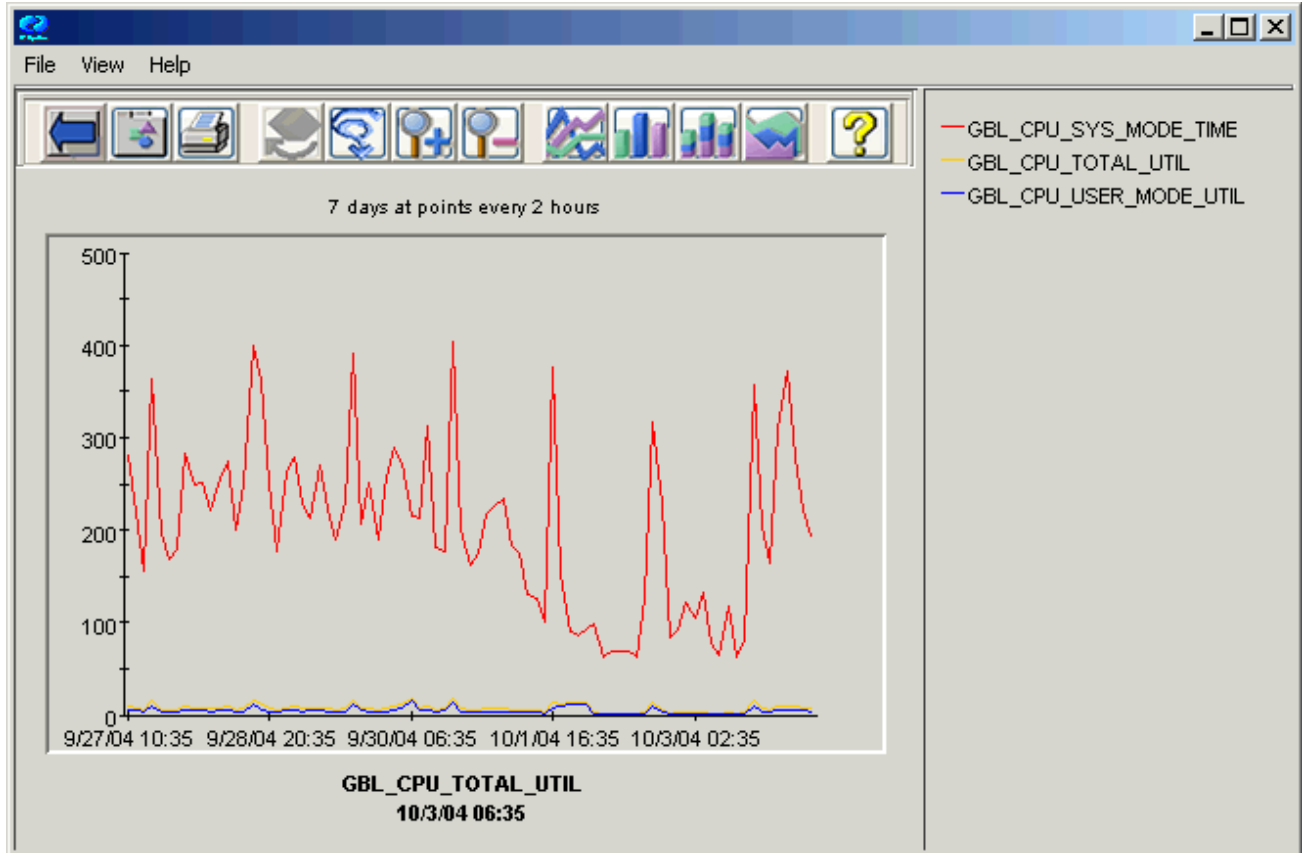
OVPM fills in the metrics information in the Metrics window.

figure 11 **Metrics Window**



Click **Preview** to check your progress. Remember that once you have a data source and metrics defined, you can preview your graph as often as you want and make any adjustments.

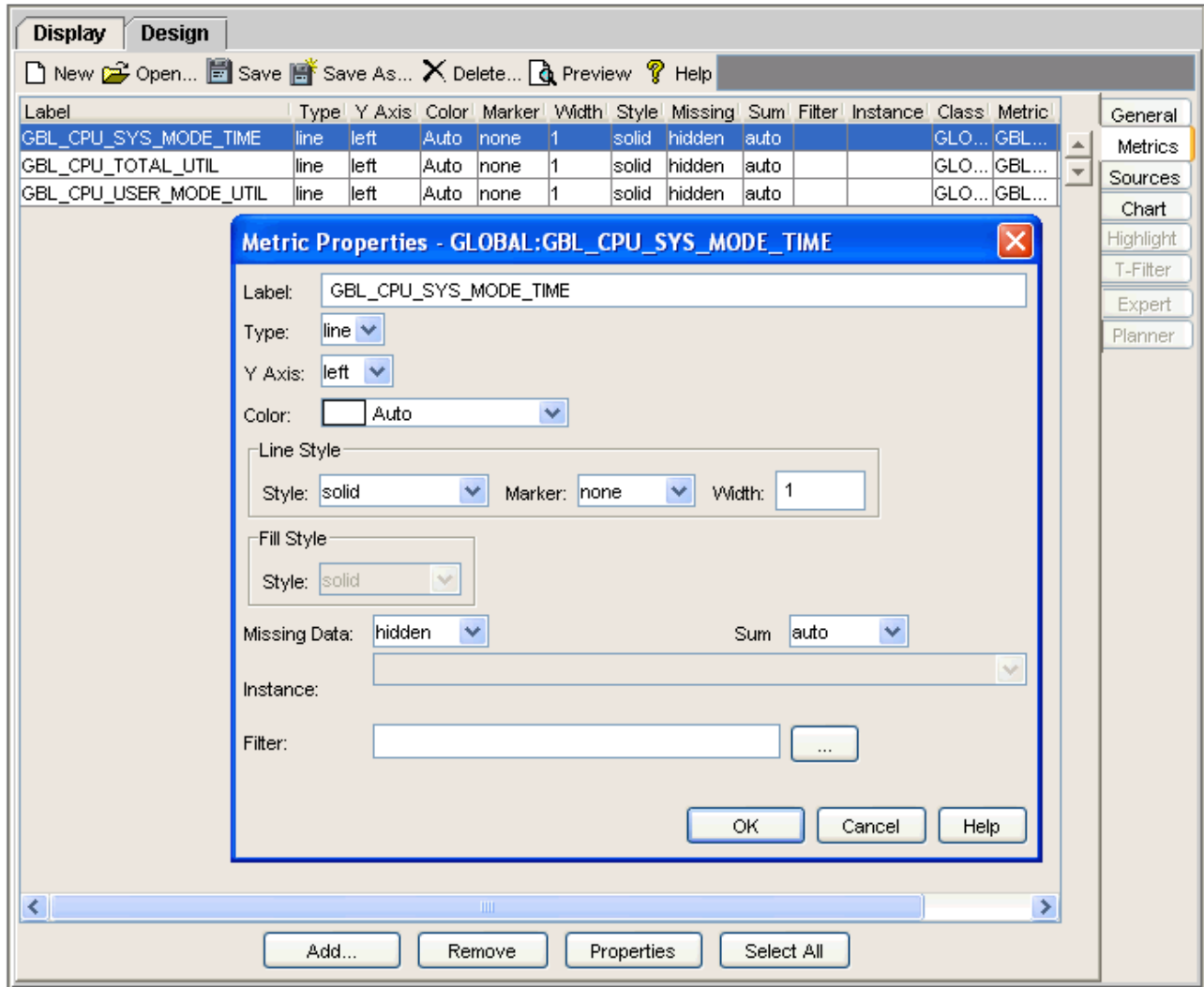
figure 12 **Graph Preview 1**



Your graph can be customized in many ways.

Go back to the **Design - Metrics** tab and double-click on a metric (or select a metric and click the Properties button) and make the changes you wish in the Metrics Properties window.

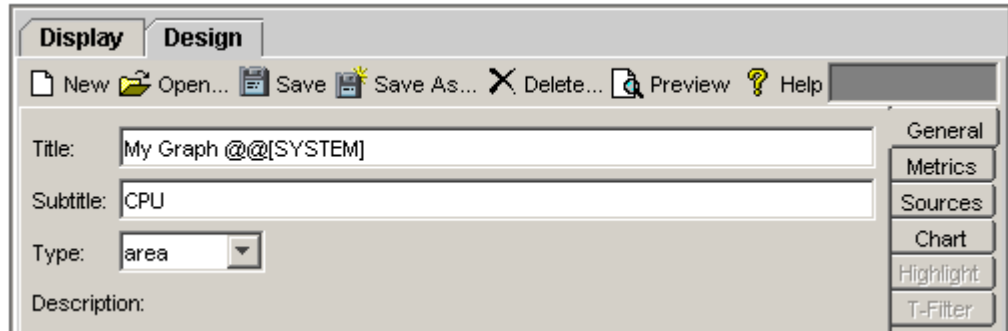
figure 13 Metrics Properties Window



You can customize your metric labels, graph title, and graph type and other attributes such as Marker, Color and Line Width. To replace the label, simply type over it. Replace your other metrics labels in the same way. See the online help for more information on particular field options. Click **OK** when you have completed customizing graph elements.

If you select Y axis=right, this allows you, in the Chart tab, to specify a label for the right side of the graph to identify the right hand Y-Axis.

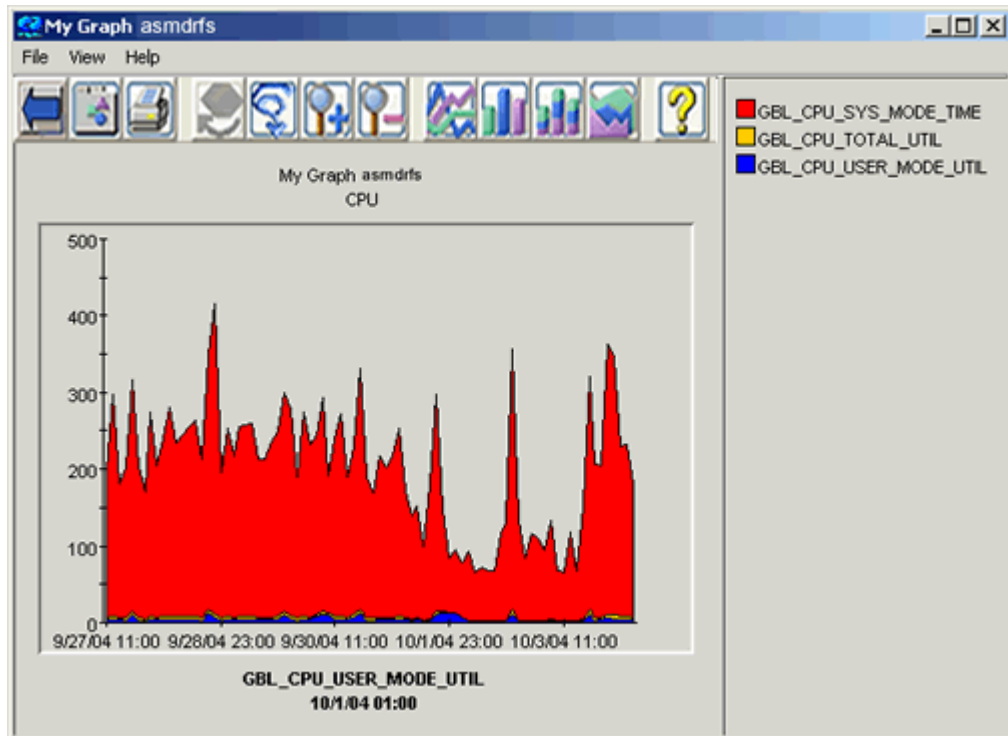
Go back to the **Design - General** tab and create a title for your graph, enter the graph type and graph description.



Enter My Graph @@[SYSTEM] in the Title field. A system name will be substituted for @@[SYSTEM] when you draw the graph. You can also change the graph type to **Area** for example.

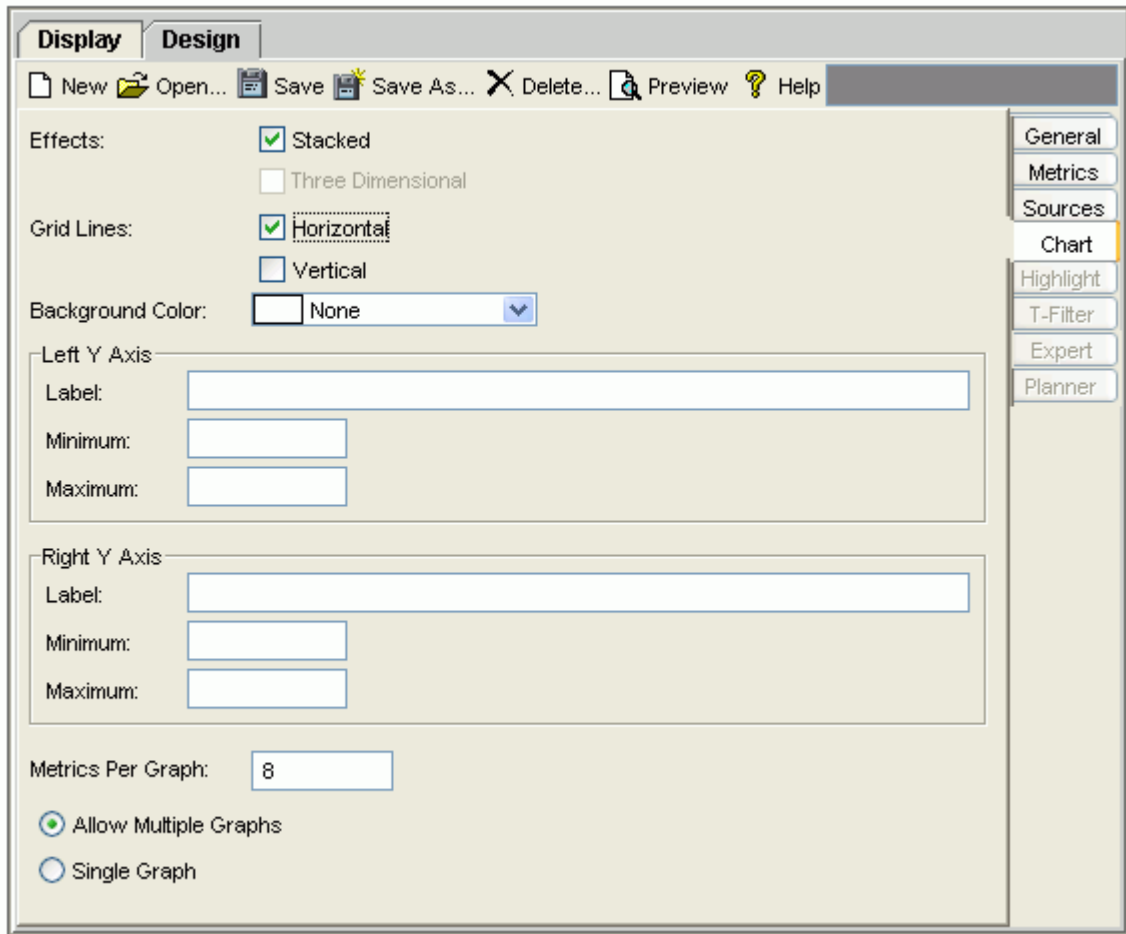
Preview your graph. Clicking on each metric on the right of the graph allows you to hide or show the value for that metric. Sometimes you may not see some of the metrics because they are hidden behind other metrics with larger values.

figure 14 **Graph Preview 2**



Go back to the **Design** window and select the **Chart** tab.

figure 15 **Java Interface Design Window – Chart Tab**



Make any changes that will give the graph the appearance you wish.

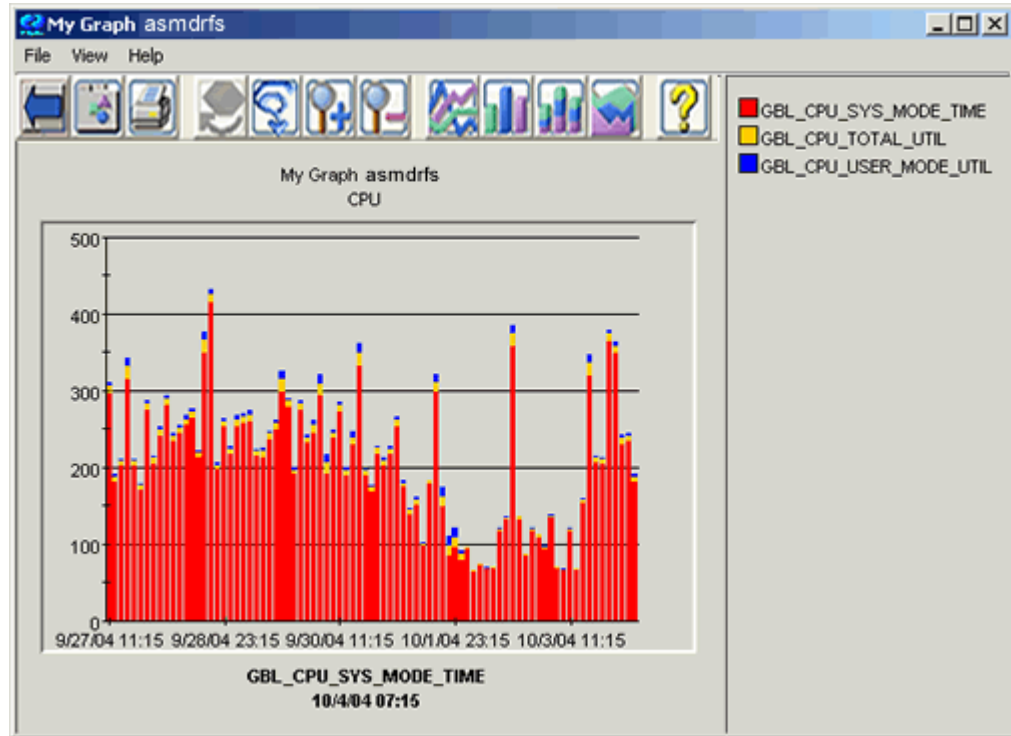
Right Y Axis allows you to specify a label for the right side of the graph to identify the right hand Y-Axis. This field will be ignored unless at least one metric has "Right Y-Axis" selected in the Metrics tab.

For Area graphs, set the Effects to **stacked** so that all the metrics will be visible.

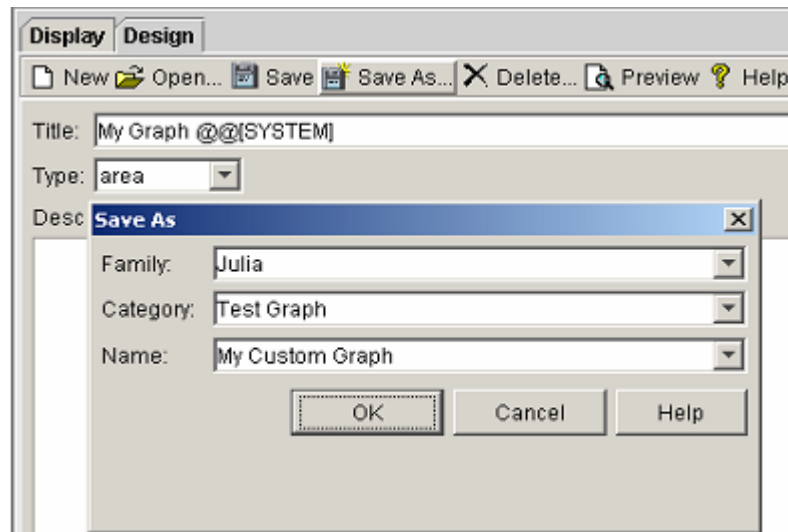
Click **Preview** again to see the results.

In the graph window you can select a different graph type by pressing one of the graph type buttons at the top of the window. If you select the bar graph icon the graph changes as shown below.

figure 16 **Graph Preview 3**



Go back to the **Design** window and save the graph by pressing the **Save** button. In the Save As window, the Family, Category, and Name fields control how this graph is located among other graphs. Note that you should not use consecutive spaces in the graph name; otherwise, OVPM will not find the graph. (OVPM will find this graph name "This is my graph", but not "This is my graph".) Also the graph name should not contain "@" symbols.



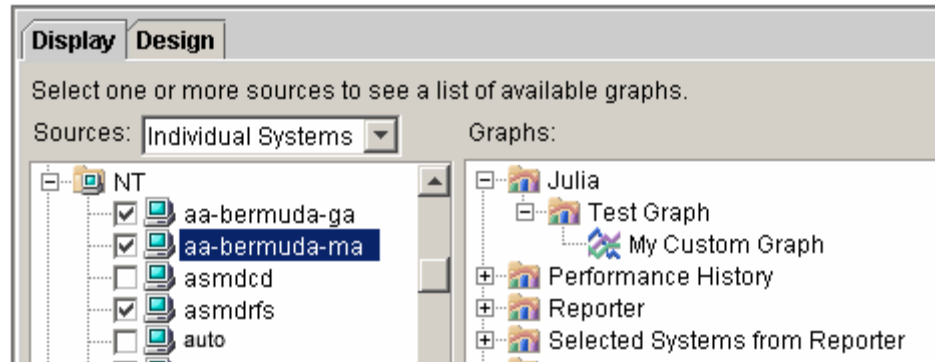
Click **OK**. Once you save a graph, it becomes available for you to use as any other predefined graph.

Return to the **Display** window.

Select one or more MWA systems.

Since this graph has a MWA data source, it will be available in the Graphs pane for any MWA system you select. The graphs you see in the Graphs pane depend on the systems selected in the Sources pane.

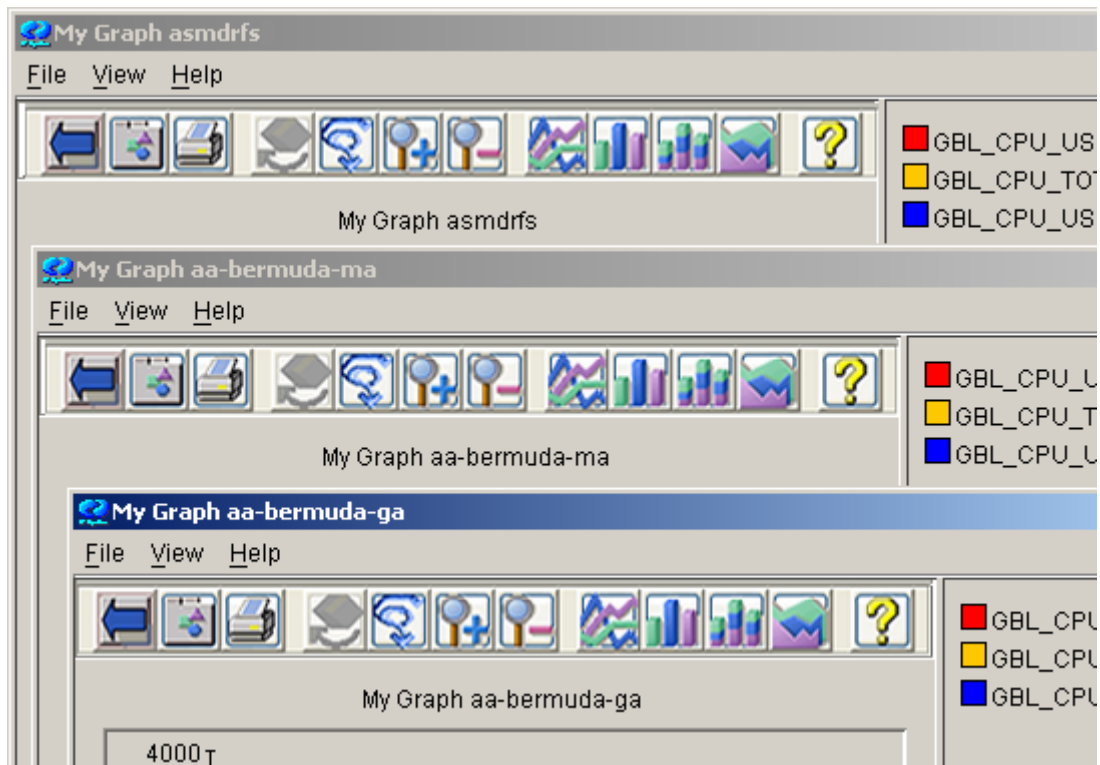
figure 17 **Display Window View Custom Graph**



“My Custom Graph’ appears in the Graphs pane under the Family **Julia** and the Category **Test Graph**. Select the graph and press **Draw**.

You should see one graph for each system. Note that the system name appears in the title.

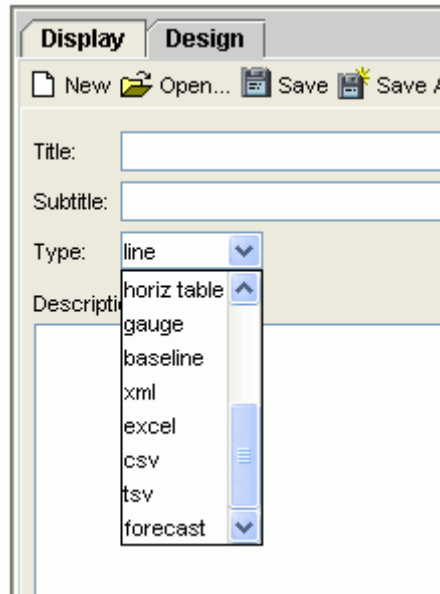
figure 18 **'My Custom Graph' for Several Systems**



Using Planner in the Java Interface

You can use the Planner tab in the OVPM interface to design and execute trending models against a single metric. See the *OVPM Planner Guide* for more information about statistical forecasting and details on how to use the OVPM Planner.

Note that to access the Planner in the OVPM Java interface, select the Design tab and select a graph Type=forecast.



Then you will see the Planner tab active on the right hand side of the Design display. Selecting the Planner tab displays the following screen, where you can select the type of forecast and other forecast settings.

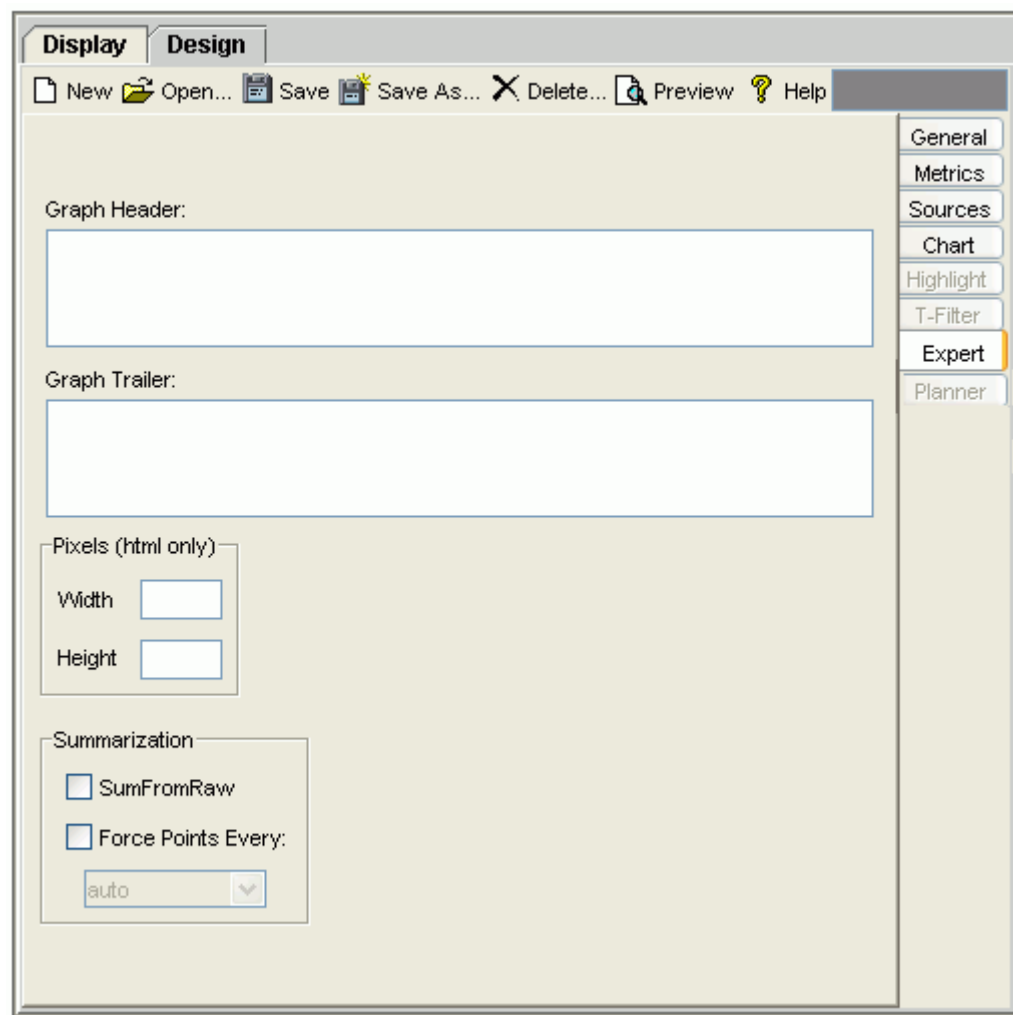
The screenshot displays the 'Design' tab of the OVPM Java Interface. The interface includes a menu bar with options: New, Open..., Save, Save As..., Delete..., Preview, and Help. Below the menu bar, there are several configuration sections:

- Trending Method:** Radio buttons for Smoothing (selected), Linear, Exponential, S-Curve, and Business Units.
- Seasonality:** Checkboxes for Hour of the Day, Day of the Week, Week of the Month, and Month of the Year.
- S-Curve Min:** A text input field.
- S-Curve Max:** A text input field containing the value '100'.
- Business Metric:** A text input field with 'Edit...' and 'Source...' buttons.
- Confidence Lines:** A dropdown for 'Interval type' set to 'none' and a dropdown for 'Confidence Level' set to '70%'. A checkbox for 'Show Validation data' is present.
- Date Range:**
 - Duration:** A text input field with '7' and a dropdown for 'days'.
 - Ending:** Radio buttons for 'Now', 'Last' (selected), and 'Date:'. Below 'Date:' are dropdowns for 'Date' (set to 'Oct 12, 2005') and 'Time' (set to '00:00').
 - Forecast Ending:** A dropdown menu set to 'Oct 19, 2005'.
 - Points Every:** A dropdown menu set to 'auto'.

On the right side of the interface, there is a vertical sidebar with tabs: General, Metrics, Sources, Chart, Highlight, T-Filter, Expert, and Planner. The 'Planner' tab is currently selected and highlighted.

Using Expert Mode in the Java Interface

If you log in to OVPM as an expert user, then the Expert tab in the Design screen will be active. Selecting the Expert tab displays the following dialog box. The System Administrator uses the Administrator's Interface to configure users and to set or unset the "expert" flag for them. The default logon (blank) will not have the option to work in expert mode.

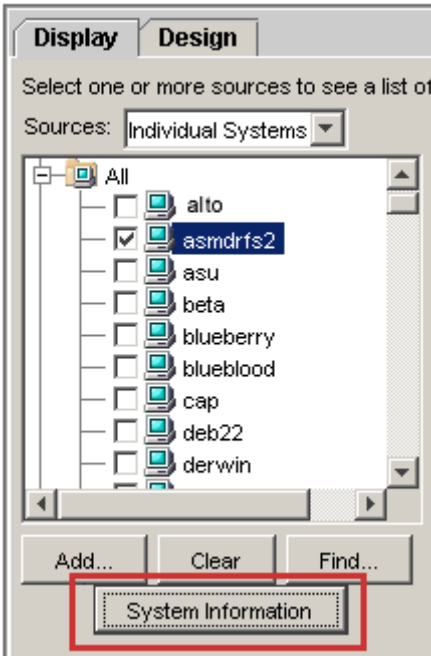


In addition, expert users will see additional client configuration options in the Settings dialog box displayed when they select the Settings button at the bottom of the Java interface or select the Settings tab in the Web Forms interface.

System Information

In the Java interface, you can get agent system information by selecting one or more systems then pressing the System Information button in order to generate a System Information Report. The data for this report is obtained by querying the system to discover what data sources are present. If the OVPA (MWA) or OVOA (Coda) data sources are discovered, then the system information they provide plus a list of all data classes they supply will be included in the report.

figure 19 System Information



The screenshot shows the 'System Information' window in the OVPM Java interface. The 'Design' tab is selected, and the 'Sources' dropdown is set to 'Individual Systems'. A tree view shows a list of systems: 'alto', 'asmdrfs2' (checked), 'asu', 'beta', 'blueberry', 'blueblood', 'cap', 'deb22', and 'derwin'. At the bottom, there are buttons for 'Add...', 'Clear', and 'Find...'. A red box highlights the 'System Information' button.

System:asmdrfs2

System "asmdrfs2" is known to OVPM as having data sources "MWA"

MWA Data source (OVPA with DCE or NCS datacomm) processing took 45.32 seconds

SystemID	ASMDRFS2
Collector	SCOPE/NT C.03.65(00)
Machine	80686
Memory	785904
CPUs	2
Disks	2
Networks	2
OS Name	NT
OS Release	5.0
OS Version	SvcPk.4
Swap Available	1527808

There are 11 graphable classes

Class	First Date	Last Date	Multi-Instances
SYSDOWN/NTSYSDOWN/NT	9/16/04 2:36 PM	10/1/04 8:21 AM	
NT_LVOLUME/NT_LVOLUME_CLASS	9/17/04 10:15 AM	10/1/04 10:15 AM	
GLOBAL	9/16/04 2:32 PM	10/1/04 1:50 PM	
APPLICATION	9/16/04 2:32 PM	10/1/04 1:50 PM	APP_NAME (5)
PROCESS	9/16/04 2:36 PM	10/1/04 1:53 PM	
TRANSACTION	9/16/04 2:32 PM	10/1/04 1:50 PM	TT_APP_TRAN_NAME (3)
DISK	9/16/04 2:32 PM	10/1/04 1:50 PM	BYDSK_DEVNAME (2)
NETIF	9/16/04 2:32 PM	10/1/04 1:50 PM	BYNETIF_NAME (2)
CPU	9/16/04 2:32 PM	10/1/04 1:50 PM	BYCPU_ID (2)
FILESYSTEM	9/16/04 2:32 PM	10/1/04 1:50 PM	FS_DIRNAME (3)
CONFIGURATION	9/16/04 2:32 PM	10/1/04 8:20 AM	

CODA Data source (OVO-EPC with BBC datacomm) processing took 48.06 seconds

SystemID	ASMDRFS2
Collector	Coda A.07.10.02
Machine	80686
Model	Intel x86 based PC
CPU Clock	499
Memory	785904
Swap Available	1491
CPUs	2
Disks	2
Networks	1
OS Name	NT
OS Release	5.0
OS Version	SvcPk.4
GMT Offset	420
Boot Time	10/1/04 8:19 AM

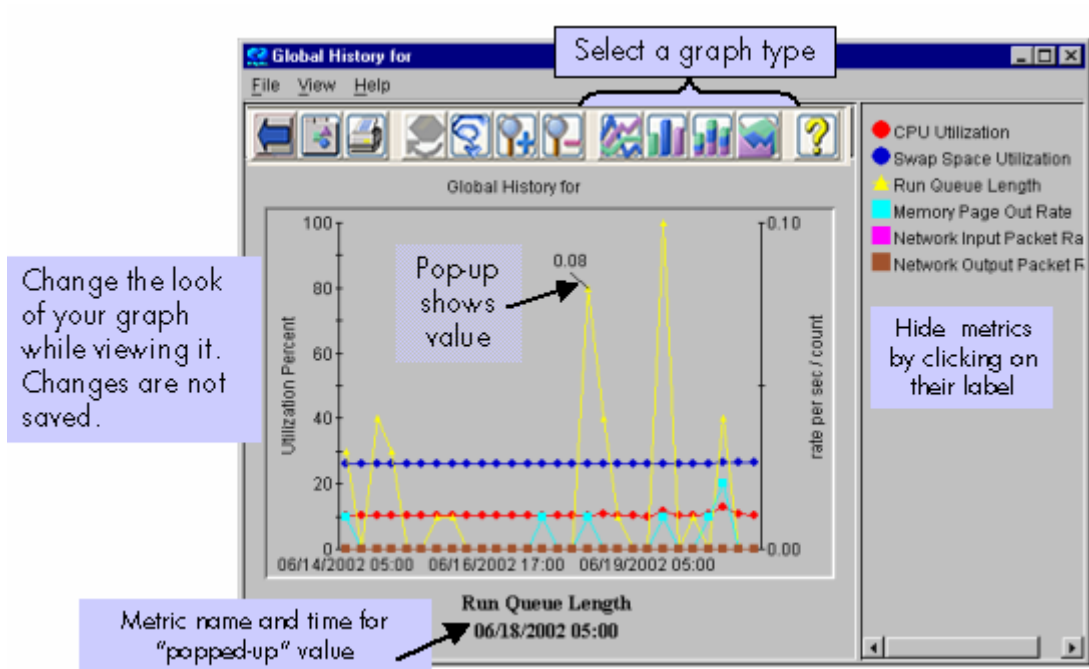
There are 14 graphable classes

Class	First Date	Last Date	Multi-Instances
GLOBAL	9/2/04 9:57 AM	10/1/04 1:55 PM	
CPU	9/2/04 9:57 AM	10/1/04 1:55 PM	BYCPU_ID (2)
NETIF	9/2/04 9:57 AM	10/1/04 1:55 PM	BYNETIF_ID (1)
FS	9/2/04 9:57 AM	10/1/04 1:55 PM	FS_DEVNO (2)
DISK	9/2/04 9:57 AM	10/1/04 1:55 PM	BYDSK_ID (2)
WINOSSPI-WinOS WINOSSPI_TermServSess	9/2/04 9:57 AM	10/1/04 1:55 PM	
WINOSSPI-WinOS WINOSSPI_LogicalDisk	9/2/04 9:57 AM	10/1/04 1:55 PM	
WINOSSPI-WinOS WINOSSPI_Memory	9/2/04 9:57 AM	10/1/04 1:55 PM	
WINOSSPI-WinOS WINOSSPI_PagingFile	9/2/04 9:57 AM	10/1/04 1:55 PM	
WINOSSPI-WinOS WINOSSPI_PhysicalDisk	9/2/04 9:57 AM	10/1/04 1:55 PM	
WINOSSPI-WinOS WINOSSPI_Redirector	9/2/04 9:57 AM	10/1/04 1:55 PM	
WINOSSPI-WinOS WINOSSPI_Server	9/2/04 9:57 AM	10/1/04 1:55 PM	
WINOSSPI-WinOS WINOSSPI_Process	9/2/04 9:57 AM	10/1/04 1:55 PM	
WINOSSPI-WinOS WINOSSPI_System	9/2/04 9:57 AM	10/1/04 1:55 PM	

Java Graph Features

Java graphs are interactive. As you hover over the graph, OVPM will display the exact value for the datapoints while at the same time adjusting the date and time when the datapoint value was captured.

figure 20 **Java Graph Interactive Feature**



You can display your graph as an area graph, stacked bar graph, bar graph or line graph.

figure 21 **Area Graph**

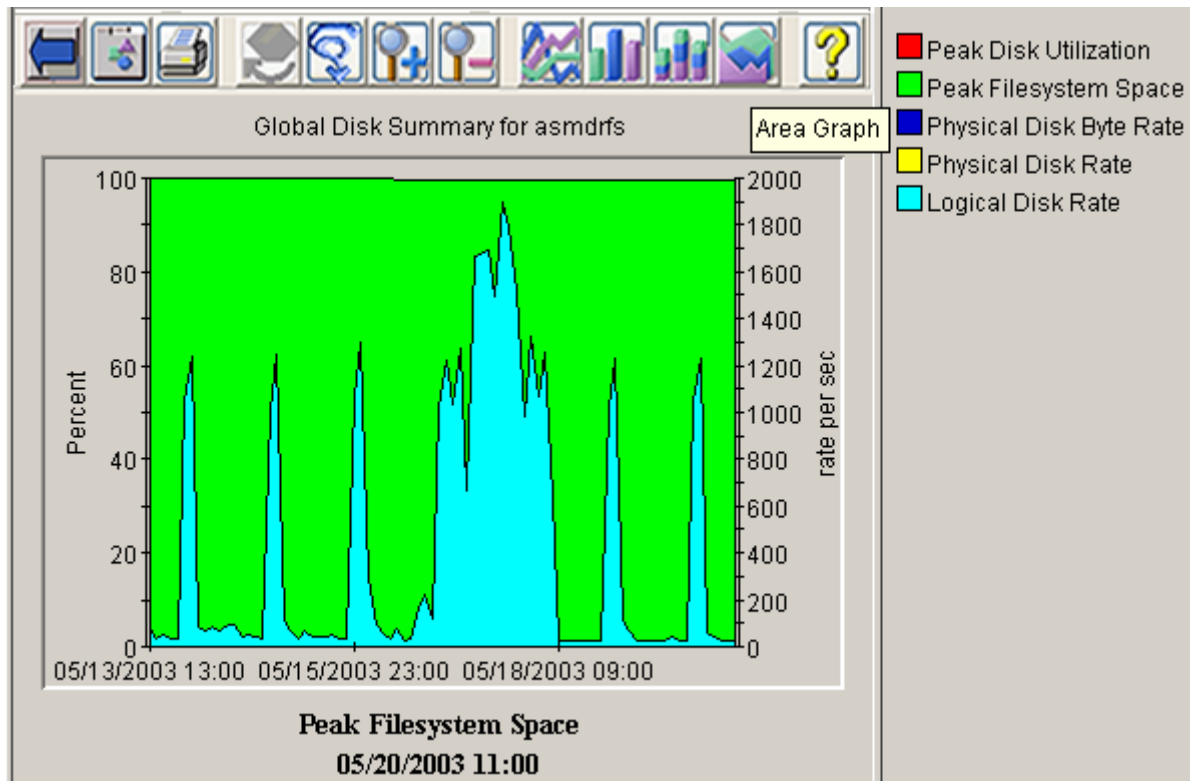
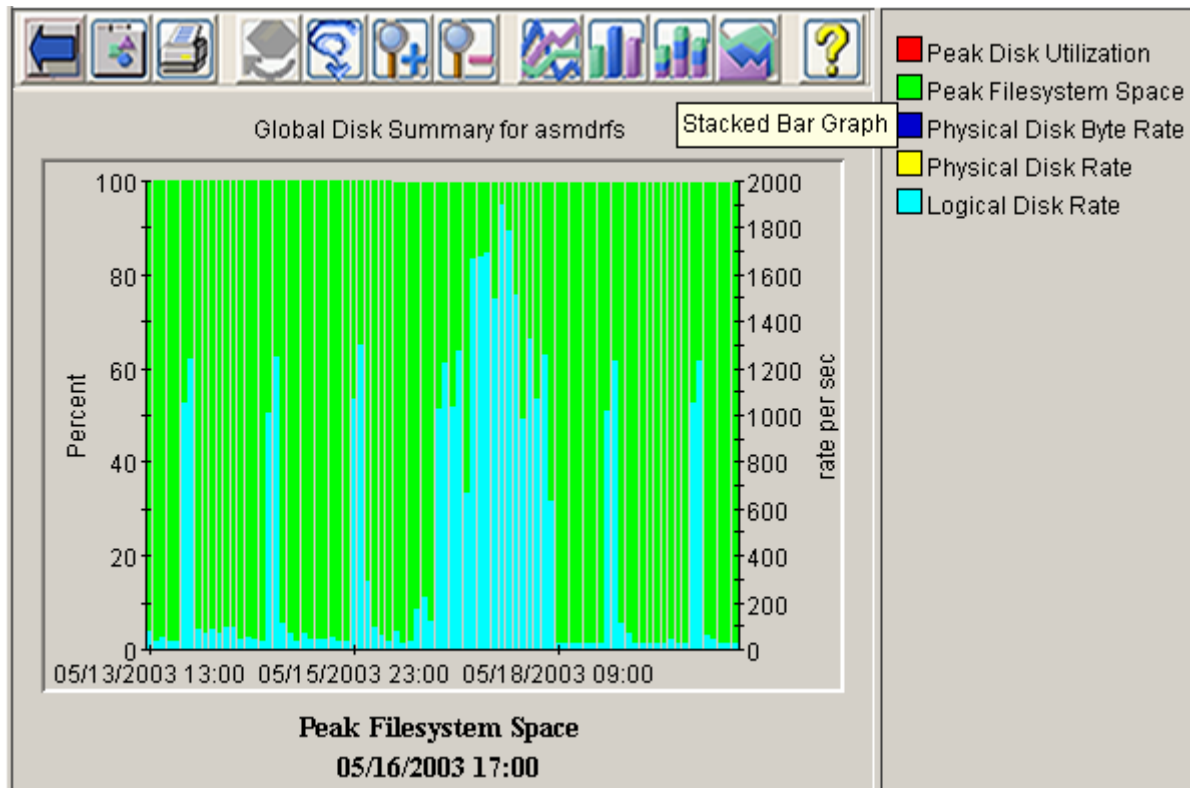


figure 22 **Stacked Bar Graph**



Drill Down

With the **Drill-Down** button, you can select an area on the graph for which you can then request more detailed information in the Drill Down Properties window.

figure 23 **Drill Down Selection**

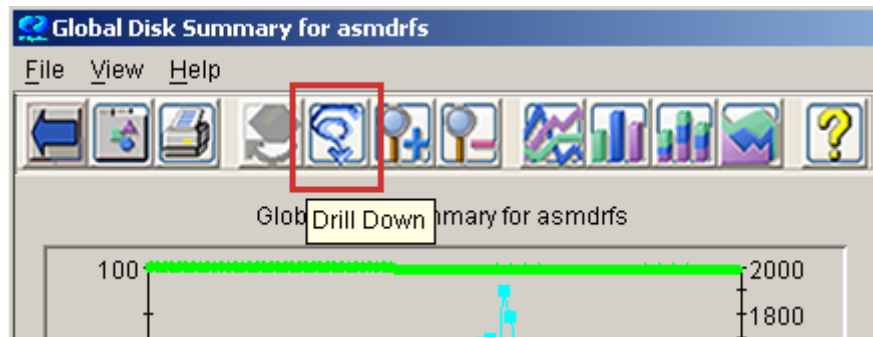
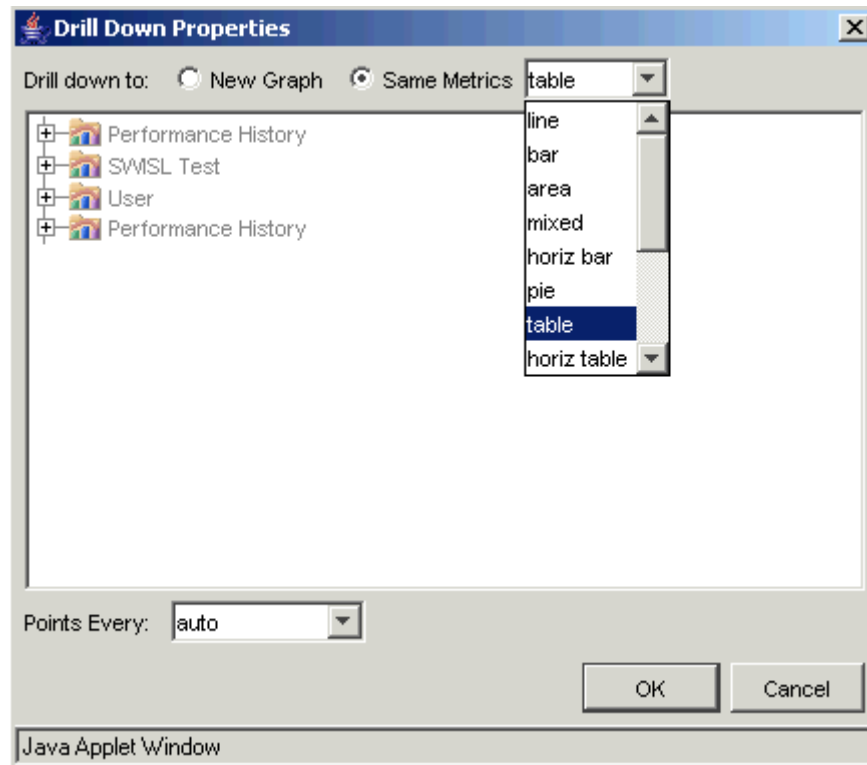


figure 24 Drill Down Properties



You can then select to see the same metrics as in the original graph, but in more detail, either as a different graph type (ranging from bar to pie or gauge), or in table format.

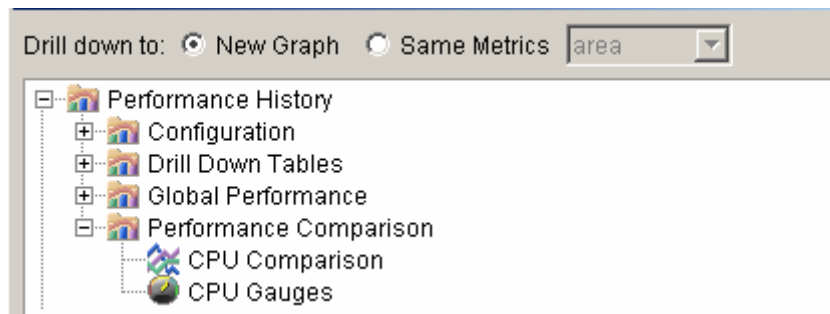
The table format is shown in the following screen shot. This drill down shows **Process Details**.

figure 25 Drill Down to Process Details

TIME	Peak Disk Utilization	Peak Filesystem Space	Physical Disk Byte Rate	Physical Disk Rate	Logical Disk Rate
9/24/04 2:45 PM	16.5	94.24	275.8	59.4	382
9/24/04 2:50 PM	15.63	94.24	798.3	171.8	457
9/24/04 2:55 PM	22.98	94.24	528.6	84.4	587
9/24/04 3:00 PM	27.88	94.24	880.4	182.7	611
9/24/04 3:05 PM	25.95	94.24	1,069.1	214.7	508
9/24/04 3:10 PM	23.64	94.24	1,994.1	430	685
9/24/04 3:15 PM	26.4	94.24	1,862.8	414.5	917
9/24/04 3:20 PM	20.74	94.24	927.9	169.9	416
9/24/04 3:25 PM	19.75	94.24	2,149.4	394.5	685
9/24/04 3:30 PM	33.67	94.24	2,867.3	485.5	825
9/24/04 3:35 PM	38.19	94.24	3,033.8	409.9	674
9/24/04 3:40 PM	38.1	94.24	3,425.6	436.6	708
9/24/04 3:45 PM	29.79	94.24	1,575.6	230.5	609
9/24/04 3:50 PM	21.95	94.24	361.2	77	336
9/24/04 3:55 PM	24.47	94.24	1,715.8	224.2	665
9/24/04 4:00 PM	16.26	94.24	590	90.7	332
9/24/04 4:05 PM	17.89	94.24	395.6	72.6	491

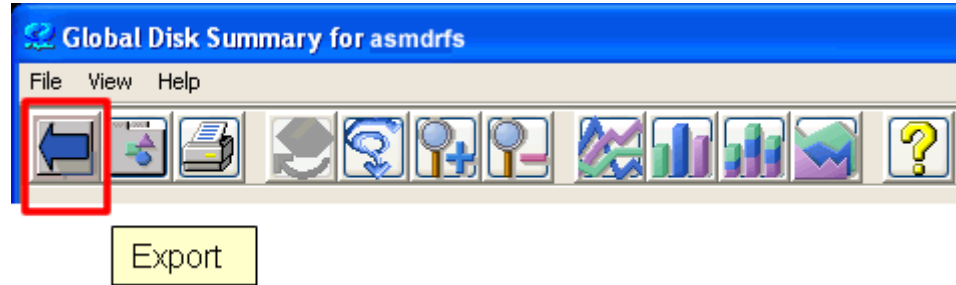
You can also drill down to see a new graph for the area you selected. In this case, you will need to choose a graph from the list of graphs provided. Note that the metrics will then be different.

figure 26 Drill Down to New Graph

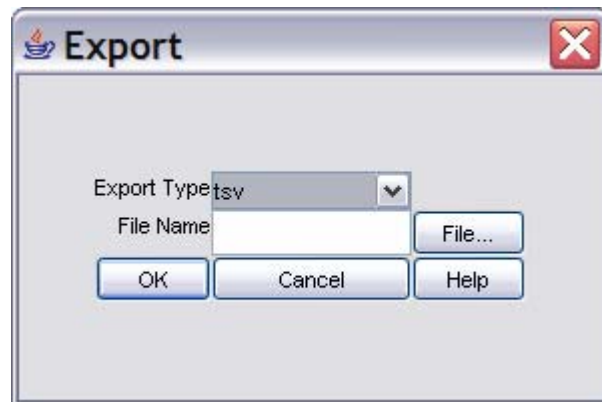


Export from a Graph

With the **Drill-Down** button, you can select an area on the graph for which you can then request more detailed information in the Drill Down Properties window.

figure 27 **Export Selection**

You can then select the format and destination of the exported data using the Export Data dialog



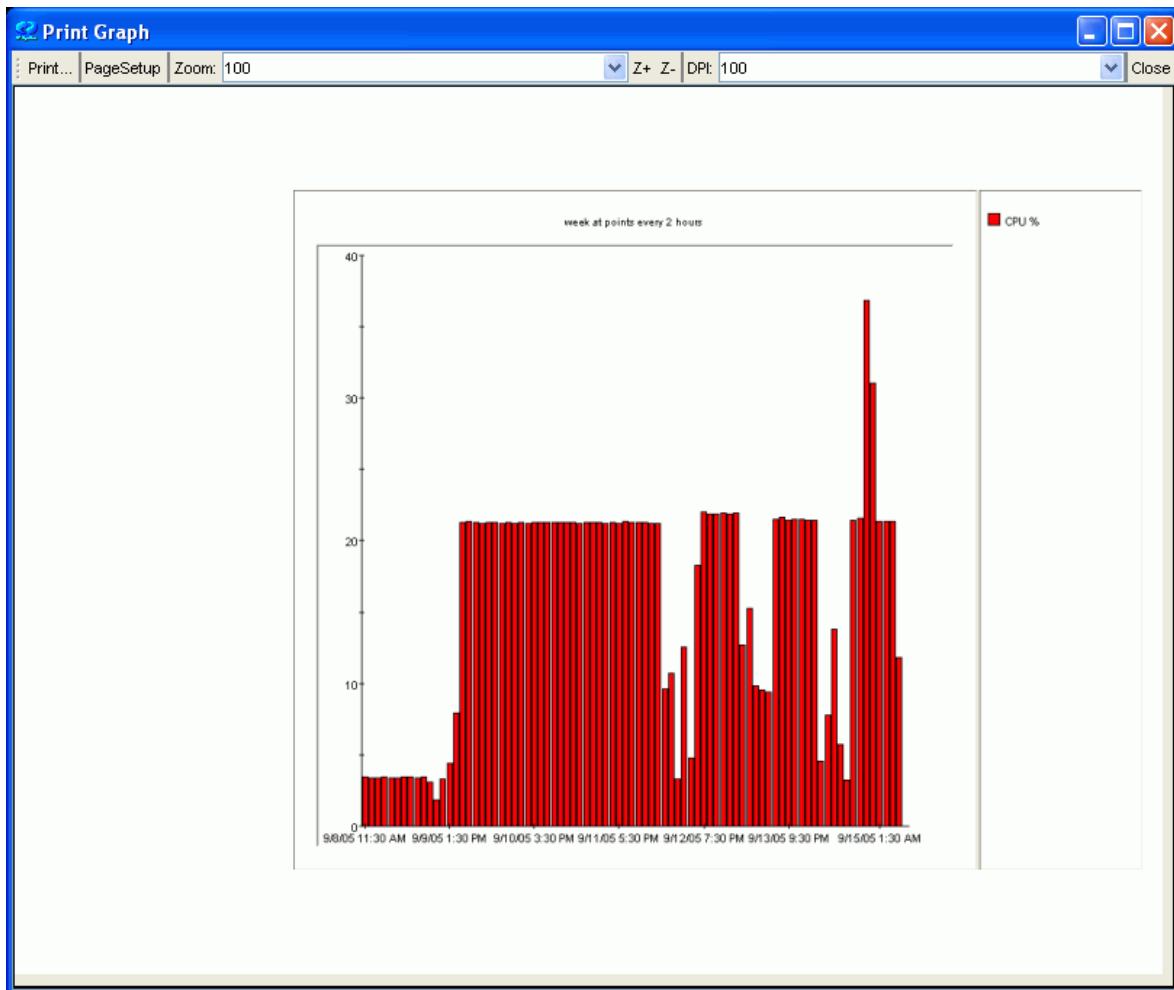
If you leave the File Name blank then the data will be displayed in a new Web Browser window. Enter a file name or press the File... button to select a file on your local disk as the destination. Press OK to complete the operation.

Print Graph

Use the **Print** button to print the currently displayed graph.



You have a number of options in printing the graph. For example, you can set up the print properties of the page such as the paper size and orientation. And you can print the graph without having to print the browser header information.



Java Table Features

Java tables allow you to interact with the table after it has been drawn.

figure 28 **Java Tables**


TIME	CPU Percent	Active Processes	CPU Priority Queue	Run Queue	Peak Disk Utilization	Physical Disk IO Rate	Physical Disk IO Rate
3/31/04 9:45 AM	27.49	73	0	0.33	4.93	15.2	
3/31/04 6:45 AM	29.12	73	0	0.32	5.44	16	
3/31/04 10:40 AM	26.84	73	0	0.31	10.53	41.3	
3/31/04 3:40 AM	26.9	75	0	0.3	10.08	40.5	
3/31/04 5:45 AM	25.45	71	0	0.3	4.85	14.6	
3/31/04 3:45 AM	23.37	77	0	0.29	4.86	14.7	
3/31/04 6:40 AM	27.41	76	0	0.29	10.14	41.1	
3/31/04 7:45 AM	24.89	73	0	0.29	4.75	14.8	
3/31/04 8:45 AM	25.24	73	0	0.28	4.67	14.9	
3/31/04 10:45 AM	25.33	73	0	0.28	5.61	16.1	
3/31/04 4:45 AM	24.87	72	0	0.27	4.75	14.8	
3/31/04 9:40 AM	24.68	75	0	0.27	10.11	40.5	
3/31/04 4:40 AM	26.31	75	0	0.26	10.27	41.8	
3/31/04 7:40 AM	26.85	76	0	0.26	10.11	40.6	
3/31/04 8:40 AM	24.75	74	0	0.26	10.11	41.3	
3/31/04 4:50 AM	25.15	73	0	0.25	2.35	10.6	
3/31/04 5:40 AM	24.73	75	0	0.24	10.2	40.1	
3/31/04 6:15 AM	18.24	71	0	0.24	1.76	6.9	
3/31/04 6:50 AM	25.29	75	0	0.24	2.55	12	
3/31/04 6:55 AM	17.77	70	0	0.24	1.72	6.2	
3/30/04 10:45 ...	16.91	66	0	0.23	4.92	16	
3/31/04 8:05 AM	16.2	71	0	0.23	1.84	6.3	
3/31/04 7:10 AM	17.71	74	0	0.22	1.89	7	
3/31/04 9:30 AM	18.91	71	0	0.22	1.87	7.2	
3/31/04 11:05 AM	18.11	71	0	0.22	1.75	6.1	
3/30/04 11:25 AM	16.18	66	0	0.21	5.03	16.9	
3/30/04 7:45 PM	17.00	65	0	0.21	4.80	15.4	

Arranging and Sorting Columns

The columns can be rearranged by selecting the column header and dragging it to another location within the table.

You can also sort on a column by clicking on the column header. A sort icon will appear in the column and the rows in the table will be resorted based on the value in the



selected column. To sort by multiple columns, select the multi-sort icon  at the top of the table. When you finish selecting the sort columns, press the multi-sort button again and the table rows will be sorted as you have indicated.

To return to the original order, select the header of the TIME column.

You can change the column width by dragging the right vertical edge of the column heading.

Table Highlights



You can specify rules to set different color highlighting for cells in a table, based on the cell's content. Select the Table Highlights icon  at the top of the table and use the Table Highlights window to view and edit these highlighting rules.

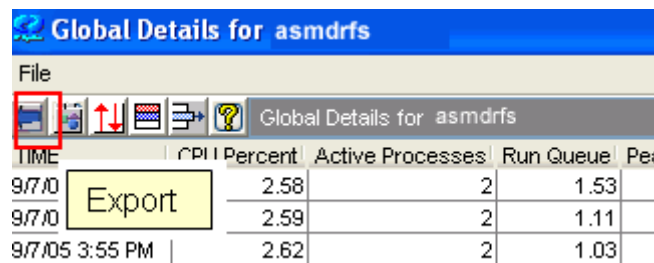
Table Filters

You can specify filtering rules to set which rows will be displayed, based on the cell's content. Select the Table Filtering icon  at the top of the table and use the Table Filter window to view and edit these filtering rules.

Export from a Table

With the **Drill-Down** button, you can select an area on the graph for which you can then request more detailed information in the Drill Down Properties window.

figure 29 **Export Selection**



You can then select the format and destination of the exported data using the Export Data dialog



If you leave the File Name blank then the data will be displayed in a new Web Browser window. Enter a file name or press the File... button to select a file on your local disk as the destination. Press OK to complete the operation.

Using OVPM – Web Forms Interface

Drawing Predefined Graphs

The following example demonstrates how to draw a predefined graph from the Web Forms interface.

- 1 Access the OVPM Home page and click on the Web Forms interface. This will take you to the Display Graph window (otherwise accessed via the **Display** tab).

Template File determines the names shown in **Graph Name** and **System Names** fields

The **Agents** template is for both OVOA and OVPM

ALL lists all systems in System Names

- 2 To draw a graph, you will first select a Template File from the drop-down menu.

The Template File identifies both available graphs and data source, and works in conjunction with the Graph Name, Group, and System Names fields. The values in these fields correspond to the template file you select. OVPM refreshes the screen whenever you make a selection in one of these fields (Graph Name excepted).

- 3 Select a graph name.
- 4 Optionally, select a group. You do not have to select a Group; but if you decide to do so, OVPM will display in System Names only those systems belonging to that group which contain the proper data source for the system you selected. If you keep the default 'ALL', OVPM displays all systems within all groups which contain the data source you selected.
- 5 Select a System Name. For certain groups, OVPM allows you to select **Each System in Group**, that is, all the system listed for that group. If you do not see the system you want to use listed in the System Names list, you can type it in the Enter System Name field.
- 6 Verify that the Date Range and Points Every settings are as you wish. The Date Range fields allow you to select the range of data you want to graph. To get more data points on the graph, use shorter time periods. The Points Every field controls how much data is summarized into a single data point.
- 7 Click the **Draw Graph** button. If you checked the Use Java Graphs checkbox the graph will be drawn as a Java graph, otherwise the graph will be an HTML graph.

Note that the graph size defaults to Medium. If you are drawing a graph with multiple metrics for several systems, you might want to change the size to Small so you can see several graphs side by side.

Also note that below the resulting HTML graph (or graphs, if you had selected several systems), OVPM includes a brief explanation of the different metrics used in the graph. And HTML graph provide the capability to Automatically Refresh the graph periodically.

Designing Web Forms Graphs

To create your own graphs, use the Design tab. You can design a custom graph starting from an existing graph or create a new graph from scratch.

To customize an existing graph, click on the **Design** tab in the Web Forms interface. This will take you to the Graph Designer window.

figure 30 Web Forms Interface – Design Window

The screenshot shows the 'Performance Manager - Graph Designer' window. At the top, there are navigation tabs: Home, Display, Design (selected), Planner, and Settings. Below the tabs, the window title is 'Performance Manager - Graph Designer' with a 'Metric' icon and a 'Help' button. The main content area is divided into several sections:

- Title and Subtitle:** Text input fields for 'Title' and 'Subtitle' (with a placeholder: <small>@@DATERANGE at points every @@POINTSEVERY</small>).
- Graph Configuration:** Includes a 'Draw Graph' button, 'Data Source' dropdown, 'System Name' input, and 'System Information' button.
- Date and Time Settings:** 'Date Range' dropdown (set to 'week'), 'Ending' radio buttons (Now selected, Last), 'Date' dropdowns (September, 7, 2005), and 'Time' dropdowns (13, 20).
- Graph Style and Metrics:** 'Points Every' dropdown (set to 'auto'), 'Graph Type' dropdown (set to 'line'), 'Maximum Points' input (100), 'Metrics Per Graph' input (8), and radio buttons for 'Multiple Graphs' and 'Single Graph' (selected).
- Display Options:** Checkboxes for 'Use Java Graphs', 'Horizontal Grid', and 'Vertical Grid'. A 'Metrics on form' input (8) and an 'Update Form' button.
- Filtering and Sorting:** 'Metric Filter' dropdown (set to '='), 'Instance' dropdown, and radio buttons for sorting: 'Sort By Value', 'Sort By Reverse Value', 'Sort By Label', and 'Sort By Sequence' (selected).
- Axis Labels:** 'Missing Data' dropdown (set to 'hidden'), 'Left Y-Axis Label' input, and 'Right Y-Axis Label' input.
- Metric Table:** A table with 7 columns: Class, Metric, Label, Line Type, Marker, Sum Type, and Right Y-Axis. It contains 8 rows, all with 'none' in the first three columns and 'solid' in the fourth.
- Bottom Section:** Includes 'Agents' dropdown, 'Template File' input, 'Global History' dropdown, 'Graph Name' input, 'User Template File' input, 'Save Graph Name' input, and buttons for 'Open Graph', 'Save Graph', 'Delete Graph', 'Reset', and 'Draw Graph'.

Select a graph template from the Template File field (bottom of the screen) by clicking on the down arrow; then select a graph name and click on **Open Graph**. Note how OVPM fills in the Designer window with all the data pertaining to the graph you selected.

Select a data source from the drop-down list.

Change the Title of the graph to include the system the graph is being drawn for (add @@[SYSTEM] to the title). Change the Graph Type, if desired, using the drop-down list. When you selected a data source, OVPM filled in the matching data classes and existing metrics in the Metric Selection table. You can add metrics to a graph by clicking on the Metric down arrow in a Metric cell where None is displayed. You can change the Line Type and Marker for each metric using their drop-down menus.

Note that after you save your customized graph, you can reuse it just like you would any predefined graph.

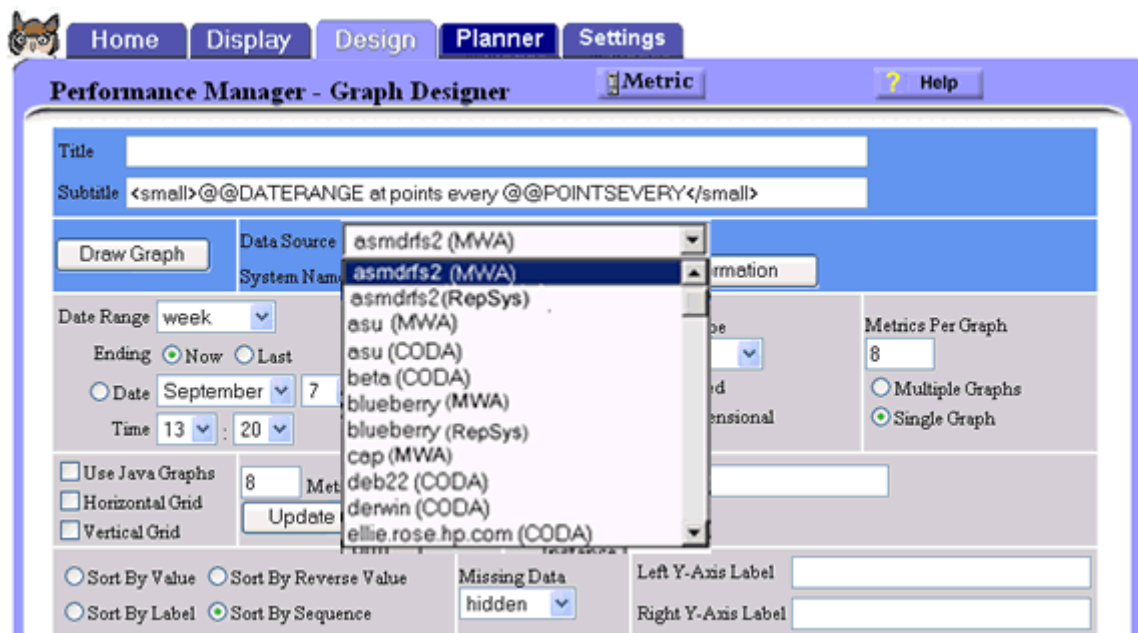
Also note that when you leave the Graph Designer, OVPM clears the screen of all data.

Creating a New Graph Using the Web Forms Interface

To design a graph from scratch, you click on the **Design** tab in the Web Forms interface.

In the Graph Designer window, select a data source to use as a model for your initial graph (the data source `asmdrfs2 (MWA)` is shown selected). The data source provides a list of data classes and metrics and allows you to preview the graph.

figure 31 **Web Forms Interface Design Window –Sources Section**



Reporter and Internet Services are data sources that do not require you to select a model system when drawing graphs from these databases. Graphs from these sources represent data taken from all services or systems in the database.

In the example above, the system `asmdrfs2` has two data sources. MWA is a data collector installed on `asmdrfs2`. To choose a system not in the drop down list, enter the name in the System Name field and click the **Update Form** button.

RepSys is a special version of the Reporter data source, internal to OVPM, which allows single system data to be drawn from the Reporter database.

Upon selecting a data source, OVPM retrieves classes and metrics available from the data source you selected.

Use the drop down selector to select data Classes and Metrics. As you select a data class, the screen changes to include the metrics contained in the class selected.

figure 32 Web Forms Interface Design Window – Metrics Section

Class	Metric	Label	Line Type	Marker	Sum Type	Right Y-Axis
GLOBAL	GBL_CPU_SYS_MODE_TIME		solid	none	auto	<input type="checkbox"/>
GLOBAL	GBL_CPU_TOTAL_UTIL		solid	none	auto	<input type="checkbox"/>
GLOBAL	GBL_CPU_USER_MODE_TIME		solid	none	auto	<input type="checkbox"/>
GLOBAL			solid	none	auto	<input type="checkbox"/>
GLOBAL			solid	none	auto	<input type="checkbox"/>
APPLICATION			solid	none	auto	<input type="checkbox"/>
PROCESS			solid	none	auto	<input type="checkbox"/>
TRANSACTION			solid	none	auto	<input type="checkbox"/>
DISK			solid	none	auto	<input type="checkbox"/>
LVOLUME			solid	none	auto	<input type="checkbox"/>
NETIF			solid	none	auto	<input type="checkbox"/>
CONFIGURATION			solid	none	auto	<input type="checkbox"/>
SYSDOWNT:SYSDOWNT			solid	none	auto	<input type="checkbox"/>
LVOLUMES:LVOLUME_METRICS			solid	none	auto	<input type="checkbox"/>
VGCAPACITY:VGROUPS			solid	none	auto	<input type="checkbox"/>

If you need more lines to select additional metrics, indicate how many metrics you want to see on the graph in the Metrics on Form field and click **Update Form**.

figure 33 Web Forms Interface Design Window – Graph Features Section

Date Range

Ending Now Last

Date

Time :

Use Java Graphs

Horizontal Grid

Vertical Grid

Sort By Value

Sort By Label

Sort By Sequence

Metrics on form

Missing Data

Enter My Second Graph for @@[SYSTEM] in the Title field. When you draw the graph, OVPM will substitute the system name in the title.

Title

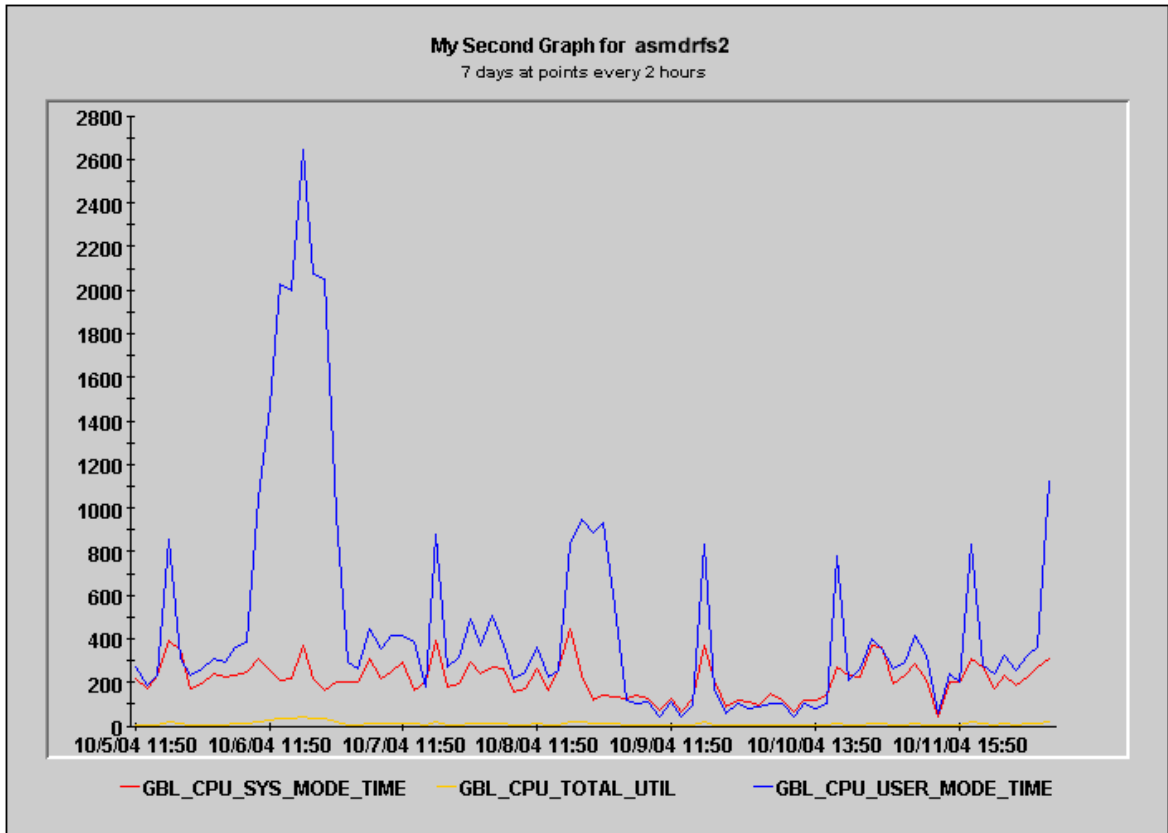
Subtitle

Data Source

System Name

Click Draw Graph to see your graph at any time. The system name appears in the graph title.

figure 34 Graph Preview 1



You might want to change the names of the metrics. Simply type the new name in the Label field for each metric. You might also want to specify the Line Type and Marker for each metric.

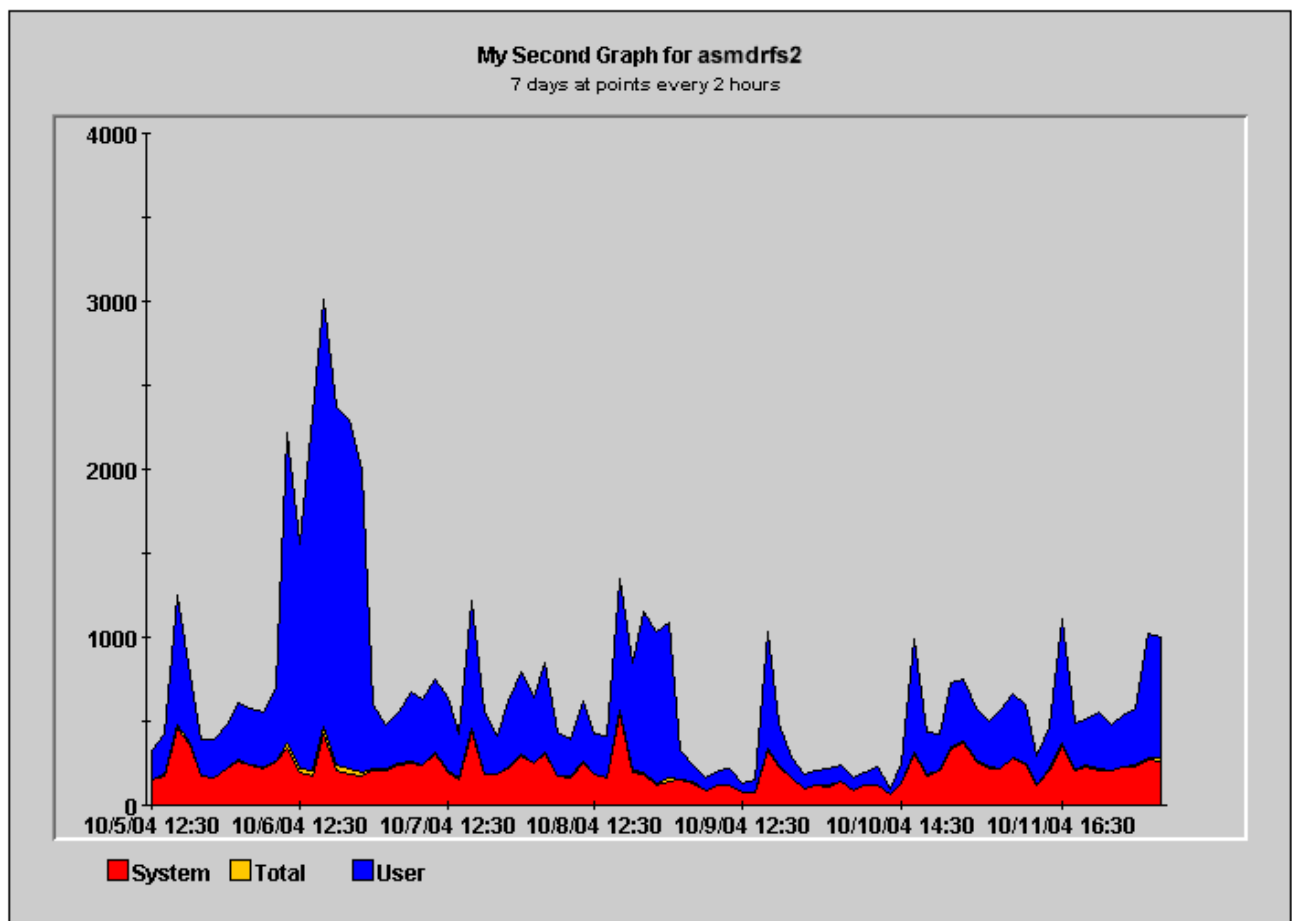
Class	Metric	Label	Line Type	Marker	Sum Type	Right Y-Axis
GLOBAL	GBL_CPU_SYS_MODE_TIME	System	solid	square	auto	<input type="checkbox"/>
GLOBAL	GBL_CPU_TOTAL_UTIL	Total	solid	dot	auto	<input type="checkbox"/>
GLOBAL	GBL_CPU_USER_MODE_TIME	User	solid	cross	auto	<input type="checkbox"/>
GLOBAL			solid	none	auto	<input type="checkbox"/>
GLOBAL			solid	none	auto	<input type="checkbox"/>
GLOBAL			solid	none	auto	<input type="checkbox"/>
GLOBAL			solid	none	auto	<input type="checkbox"/>
GLOBAL			solid	none	auto	<input type="checkbox"/>

You can modify the Graph Type. If you think your graph will look better as an area graph, for example, select Area in the Graph Type field. Area graphs should be Stacked so that all the metrics will be visible. Smaller values may be hidden behind larger ones.

Date Range: <input type="text" value="week"/>	Points Every: <input type="text" value="auto"/>	Graph Type: <input type="text" value="line"/>	Metrics Per Graph: <input type="text" value="8"/>
Ending: <input checked="" type="radio"/> Now <input type="radio"/> Last	Maximum Points: <input type="text" value="100"/>	<input type="checkbox"/> Stacked	<input type="radio"/> Multiple Graphs
<input type="radio"/> Date: <input type="text" value="September"/> <input type="text" value="7"/> <input type="text" value="2005"/>		<input type="checkbox"/> 3 Dimensional	<input checked="" type="radio"/> Single Graph
Time: <input type="text" value="13"/> : <input type="text" value="25"/>	Metric Filter: <input type="text"/>	Instance: <input type="text"/>	
<input type="checkbox"/> Use Java Graphs	<input type="text" value="8"/> Metrics on form	Left Y-Axis Label: <input type="text"/>	
<input type="checkbox"/> Horizontal Grid	<input type="button" value="Update Form"/>	Right Y-Axis Label: <input type="text"/>	
<input type="checkbox"/> Vertical Grid	Missing Data: <input type="text" value="hidden"/>		
<input type="radio"/> Sort By Value	<input type="radio"/> Sort By Reverse Value		
<input type="radio"/> Sort By Label	<input checked="" type="radio"/> Sort By Sequence		

Click **Draw Graph** to see your graph with the changes you made to add labels and change the graph type.

figure 35 Graph Preview 2



Once satisfied with your graph, you may save it to reuse it with other systems.

Remember that Web Forms Graph Designer does not support as many features as the Java interface. If you edit and save in Web Forms graphs that you created in the Java interface, some features may be lost.

Scroll down to the bottom of the form to find the **Save Graph** button.

Agents	Template File	Julia	User Template File	
Global History	Graph Name	My 2nd graph	Save Graph Name	Reset
Open Graph		Save Graph	Delete Graph	Draw Graph

Enter a User Template File name and a Save Graph Name. Note that you should not use consecutive spaces in the graph name; otherwise, OVPM will not find the graph. (OVPM will find this graph name "This is my graph", but not "This is my graph".) Also graph name should not contain "@" symbols.

If you leave the User Template File and the Save Graph Name fields empty, OVPM will use the values in the Template File and Graph Name fields.

Click the **Save Graph** button to save the graph.

OVPM displays a message above the Graph Designer stating that Graph xx was added to the User xx template file.

Note that OVPM adds `User` to the name of the template file. This is to differentiate user-created graphs from predefined graphs. User-created graphs can be modified and deleted while predefined graphs cannot.

Now return to the Display form and locate your new graph.

Select the template file you created, and then the graph from the Graph Name list.

Home Display Design **Planner** Settings

Performance Manager - Display Graphs ? Help

Template File
UserJulia

Graph Name
My 2nd graph

Group
ALL

Date Range week

Ending Now Last

Date September 7 2005

Time 13 : 30

Points Every
auto

Graph Size
medium

Use Java Graphs

System Names
asmdrfs2
alpha
aphrdbc2
asmdcd
asmdrfs2
asu
beta
blueberry
blueblood
cap

Enter System Name

System Information

Draw Graph

You may select a group or leave the default **All**. Continue by selecting one or several systems (holding down the Control or Shift key) and clicking on each system.

Determine the date range for which you want to graph data and your Points Every settings. By default, you will see an HTML graph when you draw graphs in the Web Forms interface. If you wish to see a Java graph, check the **Use Java Graphs** box.

Template File
UserJulia

Graph Name
My 2nd graph

Date Range 7 days

Ending Now Last

Date October 12 2004

Time 12 : 05

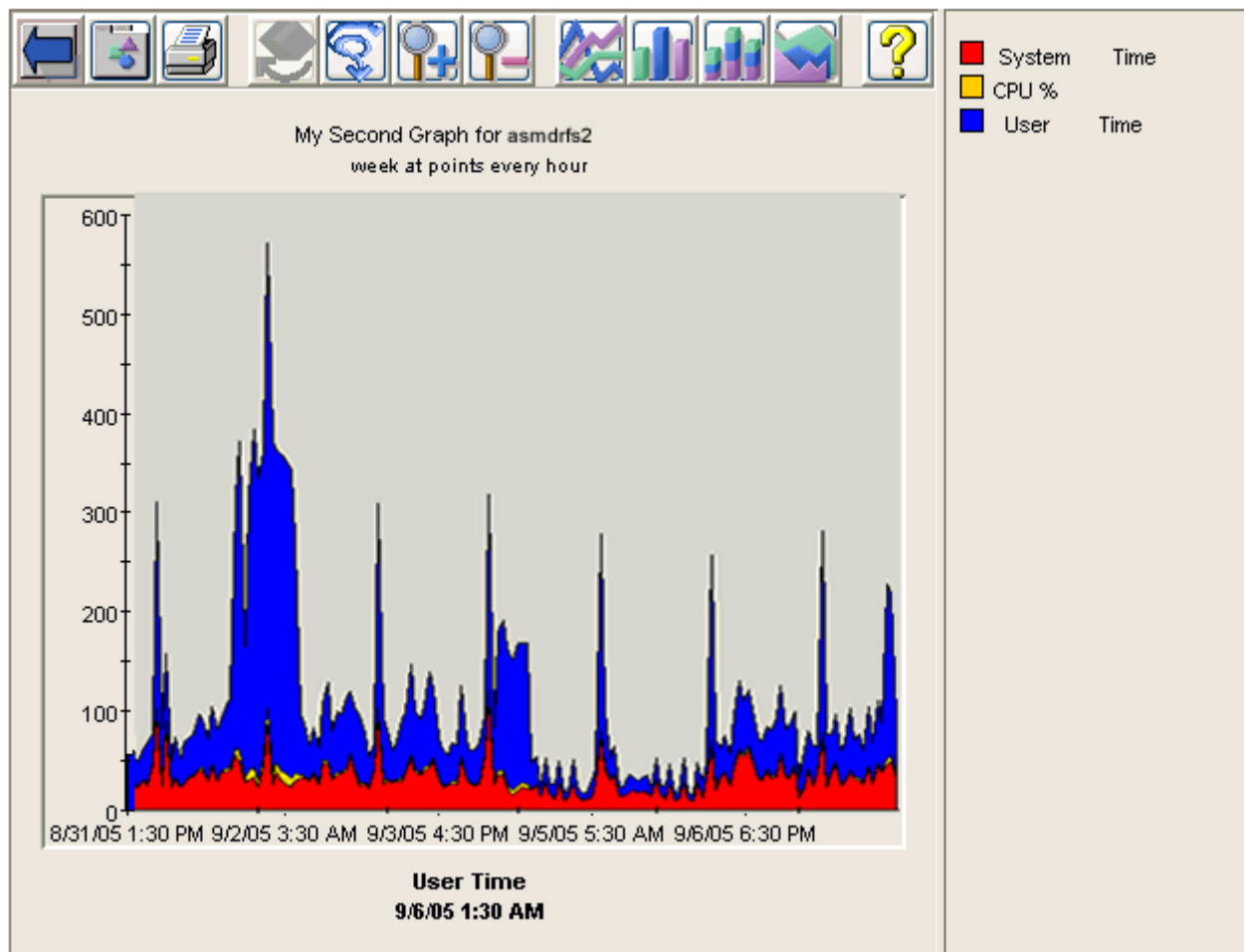
Points Every
hour

Graph Size
small

Use Java Graphs

You can choose to draw HTML graphs in different sizes. Medium is the default. Use Small when you have multiple systems.

Draw your graph.



If you need more assistance, each screen has a link to a Help page covering details on how to use that screen.

Using Planner in the Web Forms Interface

You can use the Planner tab in the OVPM Web Forms interface to design and execute trending models against a single metric. See the *OVPM Planner Guide* for more information about statistical forecasting and details on how to use the OVPM Planner.

The screenshot shows the 'Performance Manager - Planner' interface. At the top, there are navigation tabs: Home, Display, Design, Planner, and Settings. The 'Planner' tab is active. Below the tabs, there is a 'Metric' dropdown and a 'Help' button. The main area is divided into several sections:

- Title and Subtitle:** Text input fields for 'Title' and 'Subtitle' (containing a template string: <small>>@@DATERANGE at points every @@POINTSEVERY</small>).
- Data Source and System Information:** A 'Data Source' dropdown, a 'Draw Graph' button, and a 'System Information' button.
- Date Range and Points Every:** 'Date Range' set to 'week', 'Points Every' set to 'auto'. 'Ending' options: 'Now' (selected) and 'Last'. 'Date' set to 'September 7, 2005'. 'Forecast Ending' set to 'September 15, 2005'.
- Shift Times and Days:** 'Shift Times' dropdowns, 'Days' checked for Sun, Mon, Tue, Wed, Thu, Fri, Sat. 'Skip Holidays' checkbox is unchecked.
- Trending Method:** 'Smoothing' (selected), 'Linear', 'Exponential', 'S-Curve' (with 'Min Value' and 'Max Value' 100.0), and 'Business Units'.
- Business Units:** 'Data Source' dropdown, 'Class' and 'Metric' dropdowns.
- Seasonality:** 'Hour of Day', 'Day of Week', 'Week of Month', and 'Month of Year' checkboxes are all unchecked.
- Interval type and Confidence Level:** 'Interval type' set to 'none', 'Confidence Level' set to '70%'.
- Validation and Grids:** 'Show Validation data', 'Use Java Graphs', 'Horizontal Grid', and 'Vertical Grid' checkboxes are all unchecked. 'Metrics on form' is set to '1'. 'Update Form' button is present.
- Metric Filter and Instance:** 'Metric Filter' dropdowns, an equals sign, a text input field, and an 'Instance' dropdown.
- Y-Axis Label:** A text input field.
- Table Configuration:** A table with columns: Class, Metric, Label, Line Type, Marker, and Sun Type. The 'Class' dropdown is set to 'none', 'Line Type' is 'solid', 'Marker' is 'none', and 'Sun Type' is 'auto'.
- Agents and Template File:** 'Agents' dropdown, 'Template File' dropdown, 'User Template File' text input.
- Global History and Graph Name:** 'Global History' dropdown, 'Graph Name' text input, 'Save Graph Name' text input, 'Reset' button.
- Buttons:** 'Open Graph', 'Save Graph', 'Delete Graph', and 'Draw Graph' buttons.

Configuration Settings

You can use the Configuration tab to set configurable settings that are local to the client browser. These settings will be saved in a Cookie on the client system and accessed whenever a request is made to OVPM. The client setting items allow you to change the appearance of OVPM graphs and tables but does not allow you to make changes that affect other users. If you access graphs from a different client system then these settings will be for that system and not your original system. The Client settings items apply regardless of the OVPM logon (user or customer) being used.

If you need to make selections that affect more than one client, or are tied to a particular logon or customer, then you should see the OVPM Administration Guide for information on how to use the OVPM "Style" files.

Performance Manager - Settings ? Help

Subtitle

Default Label

Graph Background Color

Graph Size:

Look and Feel:
 Java Web Forms

No Markers Show Markers No Tool Bar Show Tool Bar

Date Format Time Format

If you log in to OVPM as an expert user, then you will see additional fields in the Settings screen. The System Administrator uses the Administrator's Interface to configure users and to set or unset the "expert" flag for them. The default logon (blank) will not have the option to work in expert mode.



Home

Display

Design

Planner

Settings

Performance Manager - Settings

? Help

Subtitle <small>@@DATERANGE at points every @@POINTSEVERY</small>

Default Label @@[LABEL]

Graph Background Color None

Graph Size:
medium

Maximum Points for:

Java Graph 2048

Java Table 5000

HTML Graph 1024

HTML Table 5000

Look and Feel:

Java system

Web Forms Standard

No Markers Show Markers

No Tool Bar Show Tool Bar

Date Format

M/d/yy

Time Format

h:mm PM

Cancel

Save

Graph Examples

Creating Graphs Using Advanced Features

The following 4 examples only include the steps to demonstrate how to use more advanced features. They do not repeat the steps to create graphs. Each example includes the Java and Web Forms procedure.

- [Using a complex filter](#)
- [Top 'n' graph: 1 metric across multiple systems](#)
- [Comparison graph](#)
- [Multi-instance graph](#)

Complex Graphs for Multiple Sources

- [Creating a complex graph](#)

Note: All italicized text in the examples must be entered as specified.

Using Advanced Features

Using a Complex Filter

Multi-instance data may vary from system to system but you might want just one graph template that applies to all systems. For example, file system utilization for any selected systems or per CPU utilization for any selected systems.

This example illustrates how to create an application graph showing all applications sorted in alphabetical order, except the one named "My Application." The filter `APP_NAME=@` separates the values by the application instances rather than summing them together. The HTML **Sort By Label** option sorts the metrics by application name, which is included in the label.

Select a single metric to graph all applications together on one graph. If using multiple metrics, OVPM will display each application on a separate graph. Use single quotes around any metric value which has a space in it. Note: This example uses OpenView Performance Agent (MWA data source) metrics, but the same concept can be applied to metrics from other data sources.

Java Interface

- 1 In the Java interface, select a MWA system in the **Sources** tab.
- 2 Add the metric APPLICATION:APP_CPU_TOTAL_UTIL from the **Metrics** tab. To do so, select the APPLICATION class in the Metric Selection window and then select the metric APP_CPU_TOTAL_UTIL.
- 3 Also from the Metric Selection window: Type in the Label field @@APP_NAME to show the application name for each metric.
- 4 Type in the Filter field APP_NAME=@&&APP_NAME!='My Application' to show all applications, except the one named My Application.
- 5 On the **General** tab window, in the Metric Display Order field, select Label (alphabetical).

Web Forms Interface

- 1 In the Web Forms interface, select a data source which supports application type metrics (MWA).
- 2 Select the APPLICATION class and then select the metric APP_CPU_TOTAL_UTIL.
- 3 Type in the Label field @@APP_NAME to show the application name for each metric.
- 4 Select the "Sort By Label" option.
- 5 In the Metric Filter field, select APP_NAME from the drop-down menu, and type APP_NAME=@&&APP_NAME!='My Application', this will show all applications, except the one named "My Application".

Top 'n' Graph: 1 Metric across Multiple Systems

This example shows how to create a Top 5 graph that will display only 5 systems that use the most CPU, sorted by the top CPU user. As a result only the top 5 CPU users will be shown. The **Metrics Per Graph** and the **Single Graph** option limit the number of systems displayed on a single graph. **Sort By Value** sorts by the value of the resulting data.

After creating the graph with one system, use the Display tab to draw the graph, selecting a group of systems that you are interested in checking.

Use a single metric so that all systems will be displayed on the same graph.

Java Interface

- 1 In the Java interface, create a graph using MWA, CODA, or RepSys data source.
- 2 On the Metric Selection window, add the metric GLOBAL:GBL_CPU_TOTAL_UTIL and type @@[SYSTEM] in the Label field.
- 3 On the **Chart** tab window, type 5 in Metrics Per Graph and select the Single Graph option.

- 4 On the **General** tab window, select the **Average data value** option for the Metric Display Order.
- 5 Preview and save your graph.
- 6 On the **Display** tab window, select a group of systems, and then select the graph you just created.

Web Forms Interface

- 1 In the Web Forms interface, create a graph using MWA, CODA, or RepSys data source.
- 2 On the **Graph Designer**:
 - a. Select the data class GLOBAL.
 - b. Add the metric GBL_CPU_TOTAL_UTIL.
 - c. Type @@[SYSTEM] in the Label field.
 - d. Type 5 in Metrics Per Graph.
 - e. Select the Single Graph option.
 - f. Select the Sort by Value option.
 - g. Preview and save your graph.
- 3 On the **Display** tab window, select the template file and graph name you created; then select more than 5 systems. (Hold down the Ctrl key to select multiple systems.)

Comparison Graph

This example shows how to display only 10 systems on each graph when graphing a large number of systems. Systems with the highest Memory Utilization values are sorted in descending order, with the system name displayed for each value.

The **Metrics Per Graph** option used with the **Multiple Graphs** option causes OVPM to create a new graph for the specified number of systems. (Only HTML graphs will work this way. Java graphs will show ALL systems on the same graph.) **Sort By Value** sorts by the value of the resulting data.

Java Interface

- 1 Create a graph using any system which has a GLOBAL metric class in your data source (for example MWA, CODA, RepSys data source).
- 2 Add the metric: GLOBAL:GBL_MEM_UTIL and type @@[SYSTEM] in the Label field.
- 3 On the **Chart** tab window, type 10 in Metrics Per Graph and select the Unlimited Metrics option.
- 4 On the **General** tab window, select the Average data value option for the Metric Display Order.
- 5 After saving this graph, draw it from the Display tab window with a large number of systems. Remember to select Display graph in HTML to create separate graphs.

Web Forms Interface

- 1 Create a graph using any system which has a GLOBAL metric class in your data source (for example MWA, CODA, RepSys data source).
- 2 Add the metric: GLOBAL:GBL_MEM_UTIL and type @@ [SYSTEM] in the Label field.
- 3 Type 10 in Metrics Per Graph, select the Multiple Graphs option and check the Sort By Value option.
- 4 After saving this graph, draw it from the Display tab window with a large number of systems.

Multi-Instance Graph

This example shows how to create a multiple-instance graph where the set of metrics for each instance is displayed on separate graphs. This is useful with systems that have multiple CPUs, disks, network interfaces, or protocols.

This example will graph individual CPUs; each CPU is identified, and each CPU will have its set of metrics displayed on a separate graph (only with HTML graphs).

- Setting the Filter to BYCPU_ID=@ separates the metrics by individual CPUs rather than summarizing them together.
- Using @@BYCPU_ID to show the CPU name in conjunction with the **Sort By Label** option will group the metrics together for each different CPU.

Set the **Metrics Per Graph** value equal to the number of metrics that you choose for the graph. In this case, we use 3 metrics. The label must display the CPU instance name at the beginning of the label for the sort feature to work correctly.

Make sure to choose a data source that supplies the metrics you need. Not every agent supplies the same metrics on all platforms.

Java Interface

- 1 In the Java interface, create a graph using any system that has the desired metrics from the data source selection list.
- 2 Add 3 metrics from the same data class (e.g. CPU class)
 - CPU: BYCPU_CPU_TOTAL_UTIL
 - CPU: BYCPU_CPU_SYS_MODE_UTIL
 - CPU: BYCPU_CPU_USER_MODE_UTIL
- 3 Set the Filter on all metrics in the Metric Selection window to BYCPU_ID=@.
- 4 On the **Metrics** tab window, select each metric individually, and add the String: CPU @@BYCPU_ID at the beginning of each label. This will place the instance name at the beginning of the label, which allows you to sort the metrics by instance name.
 - CPU @@BYCPU_ID Total Utilization
 - CPU @@BYCPU_ID System Mode Utilization
 - CPU @@BYCPU_ID User Mode Utilization
- 5 On the **Chart** tab window, type 3 in **Metrics Per Graph** and select the **Unlimited Metrics** option.

- 6 On the **General** tab window, select the **Label (alphabetical)** option for the Metric Display Order. Remember to select Display graph in HTML to create separate graphs.

Web Forms Interface

- 1 In the Web Forms interface, create a graph using any system that has the desired metrics from the data source selection list.
- 2 Add 3 metrics from the same data class (e.g. CPU class)
 - CPU: BYCPU_CPU_TOTAL_UTIL
 - CPU: BYCPU_CPU_SYS_MODE_UTIL
 - CPU: BYCPU_CPU_USER_MODE_UTIL
- 3 Set the Filter to BYCPU_ID=@.
- 4 Add the string: CPU @@ BYCPU_ID at the beginning of each label. This will place the instance name at the beginning of the label, which allows you to sort the metrics by instance name.
 - CPU @@BYCPU_ID Total Utilization
 - CPU @@BYCPU_ID System Mode Utilization
 - CPU @@BYCPU_ID User Mode Utilization
- 5 Type 3 in **Metrics Per Graph**, select the **Multiple Graphs** option, and the **Sort By Label** option.

Complex Graphs

Creating a Complex Graph with Different Data sources

This example shows how to combine two different data sources, OV Performance Agent (MWA) and Internet Services (OVIS), on the same graph. On this graph you will use system CPU utilization together with Internet Response time. Note: Complex graphs are only supported in the Java Interface.

- 1 When creating a complex graph, start by selecting **Complex Graph Design Using Multiple Sources** in the **Sources** tab window.
- 2 Click the **Add** button to select sources.
 - a. In the Add Source window, select a MWA system and data source. Note that OVPM automatically labels this source `Source 1`.
 - b. Double-click on `Source 1` to access the Edit Source window and change `Source 1` to `Web Server`. (Or select the Source row and click on **Edit**.)
 - c. Repeat this step to select the OVIS data source using `Service Group` as the Source Name.

- 3 On the **Metrics** tab window, add a metric to each source and specify the metric label for each source. Note that when you access the Metric Selection window, OVPM has a source drop-down list that allows you to specify the source for which you are selecting metrics.
 - a. Add a metric and label for `Web Server`
Source: Web Server
Metric: GLOBAL:GBL_CPU_TOTAL_UTIL
Label: CPU Util on @@[SYSTEM]
 - b. Add a metric and label for `Service Group`
Source: Service Group
Metric: IOPS_PROBE_DATA:RESPONSE_TIME
Label: Response Time
- 4 Preview your graph, and then save it (with the **Save As** option).
- 5 To reuse your graph for other systems/services, in the **Display** tab window, select the graph you created and press **Draw**.
- 6 Because the graph contains multiple sources, OVPM then displays the Select Graph Source dialog box for you to select a system or service for each source. After making your selection, press **OK** and OVPM will draw the new graph.

Troubleshooting

Troubleshooting Data Display Problems

The following gives you some information to use in troubleshooting problems getting data to display in OVPM:

- [No names are in the System Name box](#)
- [Agent not found on a system](#)
- [Unable to find the first web page](#)
- [Unable to find graph](#)
- [OVPM does not respond](#)
- [No graphs display in Java interface](#)
- [Data overlaps in area graphs](#)
- [A graph does not display all of my metrics](#)
- [No data found in the selected range](#)
- [No data is shown in a graph](#)
- [Export gives an access error](#)
- [Cannot print tables](#)

No names are in the System Name box (Web Forms) or Data Sources window (Java Interface)

- In the Web Forms, the contents of the System Name box will vary based on the types of data sources that are in the selected report template. System Names will be available when the data source is MWA, or Coda. No system names will be generated for the data source Reporter. If more than one data source is in the template file, then the System Name field will contain a mixture of names for all those data sources.

- In the Java interface, all system names that are configured are displayed. If Reporter is configured and customers are present in the Reporter database, then only those systems that match the current logon customer will be shown. If an invalid customer or password is entered, then no systems will be shown. If you add a valid system but then are denied the ability to draw a graph from it, then customer security may be at work.
- No system names can be found. System names are provided from the Reporter database if it is present. Otherwise, your system administrator must configure the system names for each data source. Contact your system administrator for help.

Agent not found on a system

- When drawing a graph, you may get a message similar to **MeasureWare Agent not found on XYZ (Socket connection was refused)**. This indicates that OVPM was not able to connect to the agent running on that system.
- Contact your system administrator. They can check to be sure an agent of the selected type is actually running on that system (it may not be installed, or it may have been stopped). Or determine if you are trying to connect to the wrong type of agent? They can also verify that the network connection is up and running.

Unable to find the first web page

It is possible that the OVPM web service is not running on the system to which you are attempting to connect. Try to access the same URL without the OVPM at the end.

```
http://system:8080
```

If you see a web page describing Jakarta web server, then the web server itself is running. It is still possible that something has happened to the OVPM application. Your system administrator can check on its status.

When OVPM is installed or re-initialized, it creates a web page called index.htm in the web server OVPM directory. If you attempt to start OVPM and get an error message, it may be caused by the inability to display this web page. Have your system administrator check to see that this page is present.

Unable to find graph

The Web Forms cannot locate a graph if the Graph Name includes more than 1 consecutive space. Do not use consecutive spaces in the graph name. (The Web Forms will find this graph name "This is my graph," but not "This is my graph.")

OVPM does not respond

- Sometimes, OVPM will not let you proceed until you take some action in a dialog box that seems to have vanished from your screen. Press ALT-TAB to bring up the dialog box. ALT-TAB allows you to toggle between windows and will bring up any window that may seem to have disappeared but is simply hidden behind other screens.
- When Analyzer is timing out, OVPM will display a blank grey box. Try to determine what is causing the time-out and fix it. Then restart OVPM.

No graphs display in Java Interface

In the Java interface, OVPM displays a list of graphs only after you select a data source. Select a system in the left pane. If no systems are present, then you may have to provide a valid customer name and password. Locate the **Logon** button at the bottom left of the Java Display screen. If it is there, then this indicates that customers are configured (maybe for Internet Services, maybe for Reporter and all systems, maybe for both). Ask your system administrator if you need to use a customer logon in order to see systems.

Data overlaps in area graphs

Area graphs should either be stacked or the Fill styles should be other than **Solid** to see overlapping data.

A graph does not display all of my metrics

In Web Forms interface Design window, the **Metrics per Graph** option is preset to the default value of 8. This value takes precedence over the actual number of metrics defined in the graph template. To see all the metrics defined in the graph when you draw it, either match the value in **Metrics per Graph** to the actual number of metrics defined, or select the **Multiple Graphs** option. The **Multiple Graphs** option will enable HTML graphs to display the extra metrics on a separate graph, and will enable Java graphs to display all the metrics on the same graph.

No data found in the selected range

- A Configuration Details graph shows **no data found in the selected range ...**
Please use these tips to draw this type of graph for different agents:
 - OVPA (MWA or CODA data source): In **Duration**, select **Points Every = day** and a large date range to capture the time when a record was logged. MWA logs a configuration record only when the agent is started. This will be different for each system.
 - OVOA (CODA data source): In **Duration**, select a very small date range, such as 1 hour, to capture the data.
- Sometimes graphs drawn in the browser do not refresh even when the browser is configured to not cache pages. To work around this problem, you can force page reloads by selecting **Ctrl+F5** or **Ctrl+R**. In extreme cases it is necessary to right-click on the image, select View Image, then right-click on the image and select Reload.
- Using the Java interface **Design** tab, previewing graph does not work if the graph type is gauge, baseline or xml. Save the graph, and then draw it from the **Display** tab.

No Data is shown in a graph

It is possible to draw a graph that shows no data when you expect data to be displayed.

If you get an error message indicating **Could not make connection to agent** or **The metrics in graph <graphname> were not found on this data source**, then it indicates that either OVPM could not contact the system or data source requested, or that it contacted it, but the list of classes and metrics do not match those required in the graph definition.

- Click the **System Information** button to request a report against this system. The report will tell you what data sources are available on this system. The agent on the system may not provide the metrics you are trying to graph. For example, the Operations Agent does not provide Process, Transaction or Application metrics.
- Make sure you have selected a system that provides the metrics for this graph and that that system is operational and accessible. If you are attempting to draw a graph provided by a Smart Plug-in, make sure that SPI is properly deployed and collecting data. You may have to wait as much as 10-15 minutes before data is available from a newly deployed agent or SPI.
- Check the graph definition and compare it to the data source you selected to insure they are compatible.
 - Open the graph in the Graph Design window. Examine the metrics in the Metrics tab.
 - Open another Graph Design window. Select the Metrics tab, and then select the data source from the list (or you may first select the data source from the Sources tab). Examine the list of available metrics for this data source.
 - Compare this set of metrics to those in the original graph definition.
- If you are presenting a graph versus a table or XML document, then only numeric items can be displayed. Non-numeric items are shown in the metric list with quoted names. Make sure that at least, one numeric metric is selected for a graph.
- If you are drawing a graph, but that graph is empty:
 - Verify that the **Date Range** and **Ending** are not selecting a time when no data exists. Change Date Range to **All** (in the Web Forms Interface) and re-draw the graph. If you get a graph this time, examine it to determine what dates and times have data available.
 - If it appears that the date and time range you selected have data now, but not when you draw a smaller date range, or if you still get a blank graph: You may have the situation where data is present sporadically, or at intervals less than your **Points Every** setting. Change the graph type to **Table**, and set the **Points Every** to **Unsummarized**. When you draw this graph, you should see each data point from the data source. If this table is blank, then there truly does not appear to be any data in the date range you selected; try Date Range **All** again.
 - When data from the data source is present less frequently than your **Points Every** setting, then you can graph data that appears invisible. Actually it is a graph that is trying to draw a line between ONE data point (cannot be done). You can:
 - Change your graph settings to select a marker for each data point.
 - Change the **Missing** setting to **Previous** or **Zero**.
 - Change your **Points Every** setting to be equal or greater than the distance between each data point.

Export gives an access denied error

If you get a popup error window each time you try to export data saying that permissions are denying access to this function, then look into these areas:

- When you started the Java user Interface or first loaded a Java graph. If you were asked whether to accept the applet certification and selected "Deny" then this is what is denying the ability to export data. In order to export data outside of the web browser environment you must accept the applet certification.

Stop all web browsers on your system (even ones not running the OVPM application.) This is to force the browser to stop caching the Java applet and load a new one.

Start the OVPM Java Interface or draw the Java graph again. This type when asked whether to accept the applet certificate, select "Accept" or "Accept Always".

- The Java applet you are using may not be properly signed. If you have never been asked to accept or deny the applet certificate check to see that the insightapplet.jar file on your OVPM server is the same one that was shipped with OVPM.

Cannot print tables

OVPM does not support printing of graphs in table formats. To print the information, use the Export function, save the file in one of the formats listed, and open the file in an application such as Microsoft Excel to print the table.

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