HP OpenView Performance Manager Integration with Service Information Portal

Version: 3.2

Windows®, HP-UX, and Solaris

Manufacturing Part Number: None
September 2004

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Support

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`http://www.managementsoftware.hp.com/`

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You can also go directly to the support web site at:

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- Enter discussions with other software customers
- Research and register for software training

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1 How OVPM Works with SIP

HP OpenView Performance Manager and SIP

The HP OpenView Performance Manager (OVPM) program lets you take a proactive approach to monitoring system resource utilization and performance metrics such as overall disk usage, network summary, and CPU utilization on a system-by-system basis. The integration of OVPM into HP OpenView Service Information Portal (SIP) offers a secure and highly customizable portal view of OVPM's currently configured reports.

OVPM generates reports on various performance metrics and displays the data in SIP as tables, graphs and gauges. SIP communicates with OVPM and requests that OVPM generate the images that SIP presents to the user.

SIP protects OVPM information by mapping a SIP user to an OVPM-defined *customer*. The SIP administrator sets up this mapping through SIP Role *property* settings. After the SIP Role properties are configured, the Performance Manager module displays only information related to a specific OVPM customer. In addition, SIP's *customer model* allows for further restriction of available monitored systems. For more information about role properties, see "Establishing Communication Between OVPM and SIP" on page 16.

For more information about the OVPM software, such as establishing *customer* definitions, see the documentation that came with OVPM, such as the *OVPM Administrator's Guide*. All OVPM manuals are available online at the web site: `http://ovweb.external.hp.com/lpe/doc_serv`

The Performance Manager Module

You can easily perform a real-time export of reports from OVPM through SIP. The Performance Manager module offers a secure and highly customizable view of the system-specific performance measures that OVPM monitors. You can:

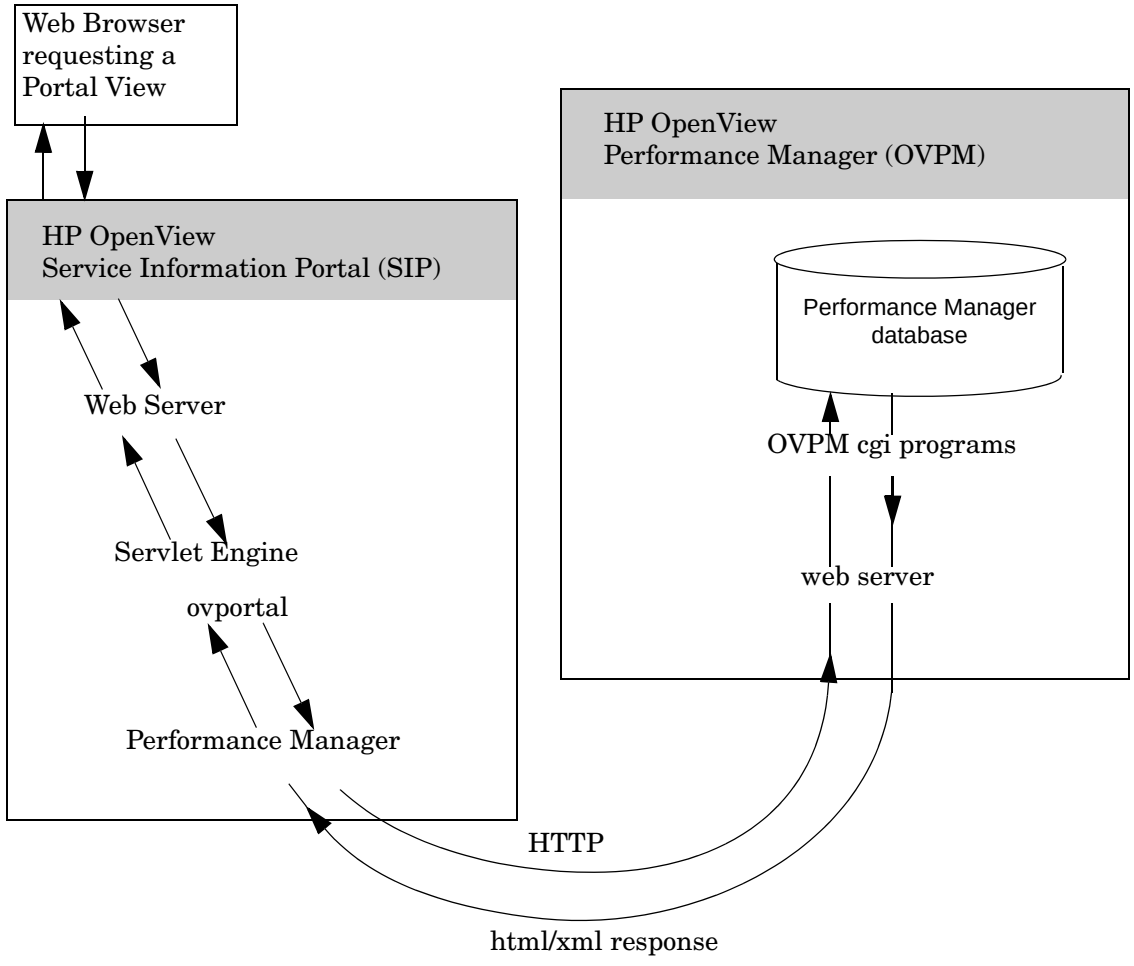
- Choose which tables, charts and gauges are displayed according to preconfigured OVPM graph templates and groups.
- Customize various attributes of the resulting images, such as size, granularity (frequency of data points), default time interval, end time and target systems.
- Connect remotely to OVPM management stations.
- Use multiple instances of the Performance Manager module simultaneously, each with its own (possibly different) OVPM management station.
- Enable single-sign-on: Your customer logs into SIP and the system displays only the customer's configured information from OVPM.
- Within a session, override the default time interval on a per-module basis.
- Define mapping of a portal user to an OVPM customer.

Communication Paths Between OVPM and SIP

The following diagram illustrates the processes involved in communicating data from SIP to OpenView Performance Manager and visa versa:

Figure 1-1 illustrates how OVPM works with SIP.

Figure 1-1 Communication Process for the Performance Manager Module



Installation of the Performance Manager Module

SIP can run on Windows, HP-UX, or Solaris and can communicate with multiple OVPM management stations running on any combination of HP-UX, Windows NT, Windows 2000, or Windows 2003. You configure each SIP role to communicate with one defined OVPM *customer* and a default OVPM management station. Within SIP's Performance Manager module, you can override the default OVPM management station; however, you must ensure that the same OVPM *customer* definition is available on the new OVPM management station.

The Performance Manager module for SIP is installed automatically with the Service Information Portal software. The SIP *Installation Guide* (`SIP_Install_Guide.pdf`) includes information about required OVPM versions and patch requirements.

Before using the module, you must configure SIP and OVPM to communicate with each other. See "Establishing Communication Between OVPM and SIP" on page 16.

2 Configuration Steps

Establishing Communication Between OVPM and SIP

To establish communication between your OVPM management station and SIP, you need to take the following steps on each OVPM management station and on the SIP server.

SIP can run on Windows, HP-UX, or Solaris and can communicate with multiple OVPM management stations running on any combination of Windows NT, Windows 2000, and Windows 2003 (the probes that supply data to OVPM can run on Windows NT, Windows 2000, Windows 2003, HP-UX, Solaris, and/or Linux).

On the OVPM management station

NOTE Verify that you are using a version of HP OpenView Performance Manager that is supported by SIP, see the SIP *Installation Guide* (`SIP_Install_Guide.pdf`) for the list of supported product versions.

SIP enforces security by mapping SIP Roles to OVPM *customer* settings. The Performance Manager module only displays data for the specified OVPM *customer*. Make note of the currently defined OVPM *customer* settings and their respective *passwords*, if applicable. You must use this information in the following section.

For more information about configuring *customers* within OpenView Performance Manager itself, see the documentation set that comes with OVPM. All OVPM manuals are available online at the web site: `http://ovweb.external.hp.com/lpe/doc_serv`).

On the SIP Server

To enable communication between SIP and OVPM, you need to associate *properties* with SIP Roles and establish the OVPM management station configuration settings.

1. On the SIP server, open the SIP Configuration Editor:

Windows: `Start:Programs:HP OpenView->Service Information Portal->Configuration Editor`

UNIX: `/opt/OV/SIP/bin/SIPConfig`

2. In the SIP Configuration Editor, navigate to your Management Stations definitions.
3. To add a new OVPM management station, right-click the title `Management Stations`, select `New`. Type in the fully-qualified host name of the OVPM management station.

   To add OVPM settings to an existing management station, right-click the name of the management station, and select `Properties`.
4. In the `Properties` dialog box, navigate to the `OVPM` tab.
5. Select `OVPM Is Installed On This System`.
6. Select `Access OVPM Using http` and verify that the default HTTP Port Number matches the port number configured on your OVPM management station. This specifies the http port that SIP uses to contact the OVPM management station. The default is 80. Change the number, if necessary. See “Secure Socket Layer (SSL) Support” on page 21.
7. Repeat from step 2 for each OVPM management station with which SIP should communicate.
8. Navigate to your Role definition (other than `SIP Administrator`).
9. Right-click the role name and select `Properties`.
10. Move to the `Properties` tab and enter the three properties shown in Table 2-1 for this role.

    Only one set of OVPM properties are allowed per role.

For more information about configuring SIP roles, see the *SIP Deployment and Integration Guide*, "Creating Users and Roles" (`SIP_Deployment_Integration.pdf`). This document also provides detailed information about the elements and attributes of the `UserRole.dtd` file.

Table 2-1

Name	Value
`OVPM.server`	Enter the fully-qualified hostname of the OVPM management station that is the default server for this role (can be overridden at the module instance level).
`OVPM.customer`	Enter the OVPM *customer* name (exactly as configured on the OVPM management station).
`OVPM.password`	If your OVPM management station runs in restricted mode (skip this property pair if OVPM is *not* running in restricted mode): Enter this OVPM customer's *password* (exactly as configured on the OVPM management station). The password is supplied to OpenView Performance Manager's `Analyzer.exe` cgi program.

11. Repeat from step 8 for each SIP Role that is allowed to view the Performance Manager module.
12. Save your changes and exit the SIP Configuration Editor.
13. You can now add the "Performance Manager" module to the desired portal tab.

SIP Distribution Model

SIP can be configured in a tiered distribution model. For example:

- Web Browser Tier
- Web Server Tier
- SIP Server Tier
- Management Server Tier

For more information about the tiered distribution model, see the "Distribution Model" section of the *SIP Deployment and Integration Guide* (`SIP_Deployment_Integration.pdf`).

The web browser to SIP server communication can go through a firewall and only requires HTTP or HTTPS.

The SIP server to OVPM management station communication can also go through a firewall, if desired. The port that needs to be opened through the firewall to gather data for the Performance Manager module is specified through the SIP Configuration Editor program, `Management Station` configuration settings, on the `OVPM` tab (see "On the SIP Server" on page 16).

Table 2-2 Port Requirements for SIP to OVPM Communication

Protocol	Default Port	Configuration Location
http	80	On the SIP server, use the SIP Configuration Editor to configure protocol and port (OVPM tab for management stations).

Running in Languages Other Than English

Following are required configuration tasks to prepare the Performance Manager module to operate in non-English language mode.

For information about configuring SIP and your web browser for non-English language mode, see the *SIP Deployment and Integration Guide* (`SIP_Deployment_Integration.pdf`), "Running SIP in Non-English Language Mode" section.

Any language that can be displayed within the UTF-8 codeset can be displayed through SIP.

Configuring SIP to Access UTF-8 Data From OVPM

OVPM does not use the UTF-8 character set that is required by SIP. SIP still displays data from OVPM running in languages other than English, provided that you take the following precautions.

1. On the SIP server, when entering the OVPM property pairs into SIP configuration settings, use only ASCII characters ("On the SIP Server" on page 16).
2. On the OVPM management station:
   - You must ensure that the OVPM *customer* names that SIP accesses are configured with ASCII characters.
   - If running OVPM in restricted mode, you must ensure that the OVPM customer *passwords* are configured with ASCII characters.

NOTE In SIP's Performance Manager module, the graph's legends and titles always appear in English at this time.

Secure Socket Layer (SSL) Support

The SIP server to OVPM management station communication cannot be configured to use Secure Socket Layer (SSL) at this time.

Running the Performance Manager Module in a Wireless Environment

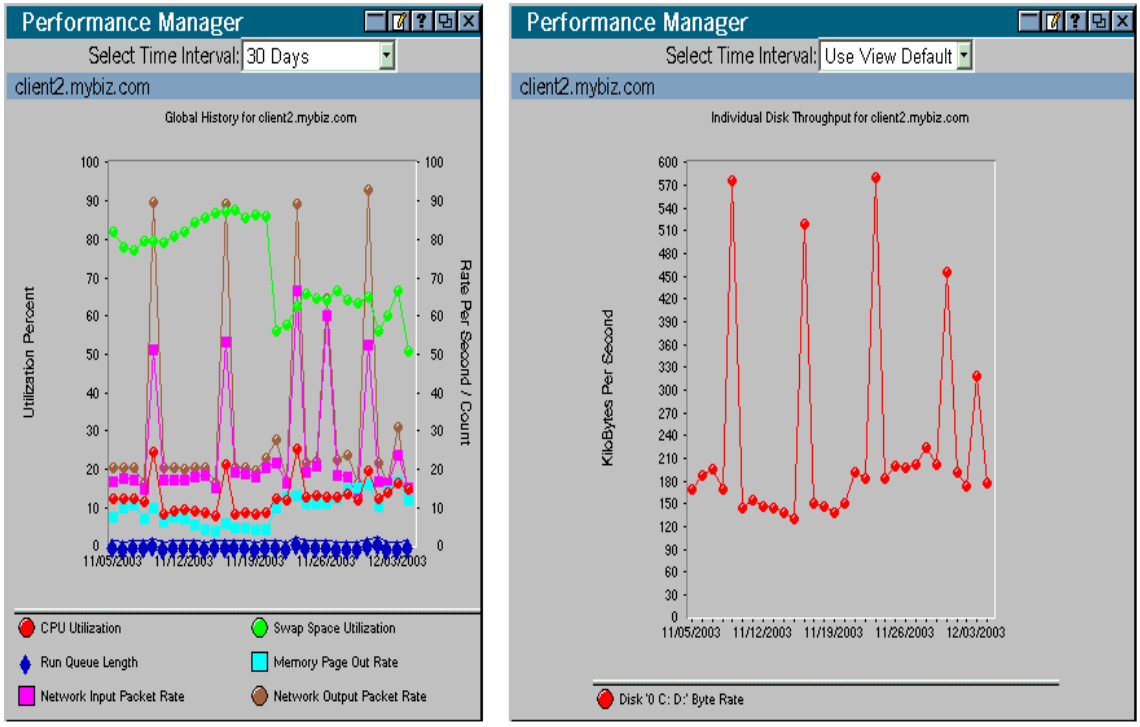
Performance Manager modules are not available in the wireless environment due to their solely graphical nature.

3 The Performance Manager Module

Using the Performance Manager Module

The Performance Manager module shows various pre-configured reports focused on performance metrics. Figure 3-1 shows examples of two instances of the Performance Manager module.

Figure 3-1 The Performance Manager Module



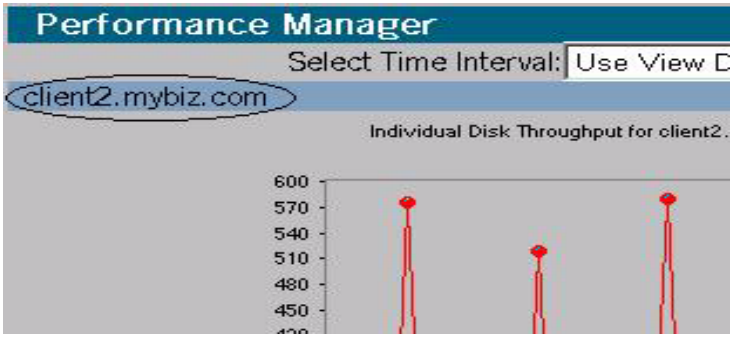
The `Select Time Interval` drop-down list in the title bar of the Performance Manager module lets the user select a different time interval for the current session's display. After logging off and logging back into SIP, the Performance Manager module reverts to the *default* time interval.

For information about how to change the default time interval, see "Editing the Performance Manager Module" on page 27.

Figure 3-2 Change Time Interval

Individual monitored systems are represented by submodules. For each submodule included in an instance of Performance Manager module, a similarly-configured table, graph or gauge will be displayed for a monitored system. The monitored system's name is presented as the submodule title.

Figure 3-3 Submodule title



For information about how to add submodules, see "Editing the Performance Manager Module" on page 27

Adding the Performance Manager Module

To insert the Performance Manager module into a portal view:

1. Access the portal view by logging on to SIP as a user with access to the appropriate role. If this user has access to multiple roles, switch to the appropriate role.

   Your currently assigned SIP role must have `ViewAdmin` editing permissions.

2. Navigate to the appropriate tab.
3. At the bottom of any narrow column or any wide column, either:

   - Select `Performance Manager` from the `Select Module to Add` list box, and click `[Add]`, or
   - Click `[Edit]` to access the `Edit Column` page. Insert the Performance Manager module and place it into the desired location among other modules in the column. Click `[OK]` to save the changes and return to the main portal page.

A copy of the default Performance Manager module is inserted into your *`PortalView`*`.xml` file.

- If you want to modify this module instance, turn to “Editing the Performance Manager Module” on page 27.
- If you want to change the default module, see “Relevant Files” on page 34.

If you have more than one OVPM management station configured to communicate with SIP, the default OVPM management station (as configured for the current SIP Role) is accessed. You can override the default OVPM management station selection, see “Editing the Performance Manager Module” on page 27. (See “Establishing Communication Between OVPM and SIP” on page 16 for information about setting the *default* OVPM management station for a particular SIP Role.)

TIP

If you want to add a module to the list of available modules, see “Relevant Files” on page 34. You can create and add another instance of any module.

Editing the Performance Manager Module

Using the Performance Manager - Edit Page

You can easily modify the Performance Manager module in your portal view:

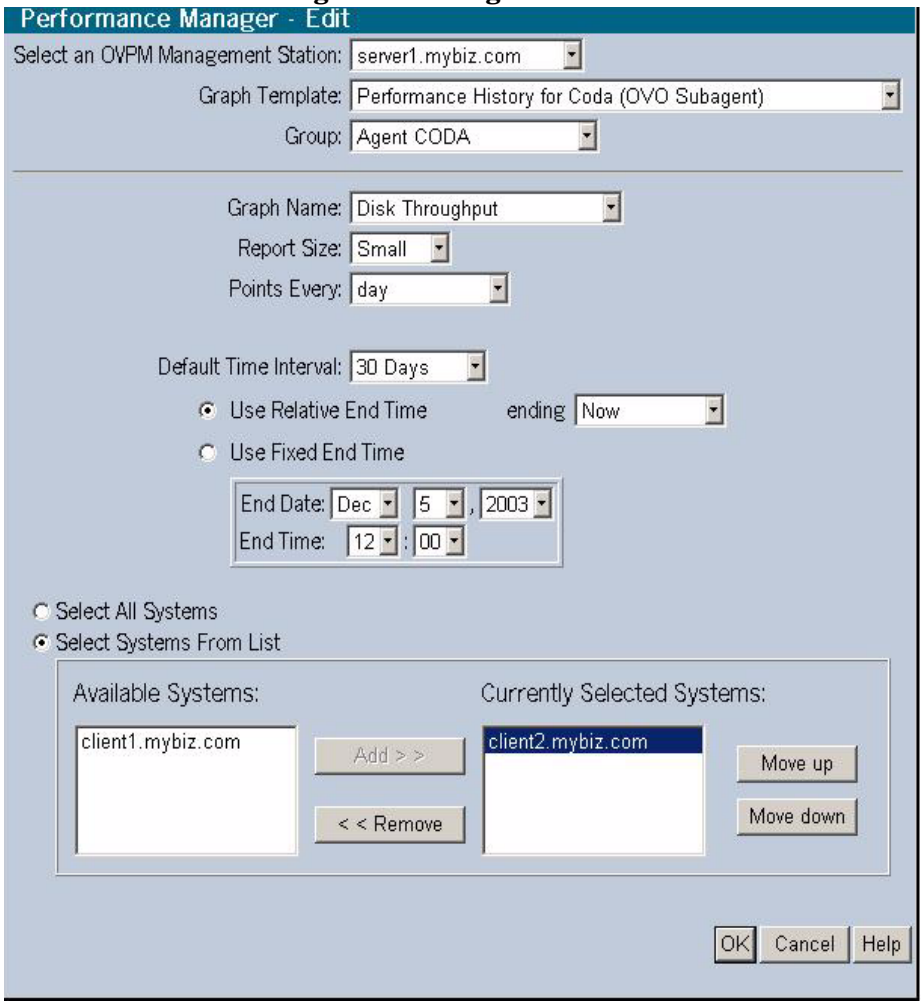
1. Access the portal view by logging on to SIP as a user with access to the appropriate role. If this user has access to multiple roles, switch to the appropriate role.

   Your currently assigned SIP role must have `ViewAdmin` editing permissions.

2. Navigate to the appropriate tab.
3. In the Performance Manager module, click the edit button:

The `Performance Manager - Edit` page appears. Click `[Help]` for specific instructions not covered in this document.

Figure 3-4 Performance Manager - Edit Page



4. To override the default OVPM server, select an available server from the `Select OVPM Management Station` drop down list.

   By default, SIP contacts the OVPM management station specified in the current SIP Role's properties (see "On the SIP Server" on page 16). SIP gathers OVPM data from the selected server.

NOTE

If you override the default OVPM management station, the exact OVPM *customer/password* Role properties associated with the current SIP Role must match configuration settings on the specified OVPM management station. SIP only gathers data from OVPM management stations that return the correct customer/password combination.

5. You can set a `Default Time Interval` and whether the interval should be a “sliding window” relative to the current time or whether the interval’s end point should be a fixed point in time. An example of a “sliding window” would be “the 72 hour period ending 24 hours ago”. An example of a fixed-endpoint period would be “the week ending on December 10th, 2003 at 12 AM”.

   To change the `Default Time Interval`, select an appropriate interval from the drop down list. Unless overridden during a user’s session, all graphs, tables and gauges within this instance of the Performance Manager module will be generated using the specified time interval.

   To change whether the interval is interpreted as a sliding window or a fixed endpoint, select either the `Use Relative End Time` or `Use Fixed End Time` radio button. When `Use Relative End Time` is selected, the value selected in the relative end times drop down list will be applied as the end time. When `Use Fixed End Time` is selected, the values indicated by the `End Date` and `End Time` drop down lists will be utilized to indicate the end time.

   The new default value takes effect as soon as changes are saved and you return to the portal view. This default time is used unless another time interval is temporarily selected from the `Select Time Interval` drop-down list within the Performance Manager module during a viewing session.

   You can add the Performance Manager module multiple times to the same portal view. Each module can have a different default time interval.

6. For report generation and display, you can choose to have reports generated for all available systems or for a selected subset of available systems.

To generate graphs, tables or gauges for all available systems, select the `Select All Systems` radio button.

To generate graphs, tables, or gauges for a selected subset, select the `Select Systems From List` radio button. You must add target systems to the `Currently Selected Systems` list for their reports to be displayed in the portal view. To add target systems, select a target system from the `Available Systems` list, then click `[Add > >]`.Your selection appears in the table. To remove a target system, select one of the systems listed in the `Currently Selected Systems` list, then click `[< < Remove]`. Your selection will now appear in the `Available Systems` list. To reorder target systems, select one of the systems listed in the `Currently Selected Systems` list, then click `[Move Up]` or `[Move Down]`.

NOTE

You can add any number of target systems. You can also add the same target system to more than one module instance and configure different parameters for those instances. Remember, however, that the more systems you choose, the longer the modules will take to display.

7. To save the changes and return to the main portal page, click `[OK]`.
8. Log off of the SIP portal.
9. Log into the SIP portal as the appropriate user to ensure that you see the desired results.

Directly Editing the PortalView.XML Files

TIP

For the following two adjustments, you must edit the XML file directly. For all other editing changes, it is recommended that you use the `Performance Manager - Edit` page.

- Change the displayed title for this module instance.
- Add your own online help to the `[?]` button for this module.

To directly modify the XML code for an Performance Manager module:

1. Make a backup of XML files before you make changes. If you edit the XML file and get incorrect XML syntax, you may want the ability to revert to the previous version of the file.
2. Open your *PortalView*.xml file with an ASCII or XML editor. Portal view files are stored in the following directory or subdirectories below this one:

   Windows: %SIP_HOME%\conf\share\views

   UNIX: /opt/OV/SIP/conf/share/views

   If a portal view file does not yet exist, see the "Customizing Portal Views" section of the *SIP Deployment and Integration Guide* (SIP_Deployment_Integration.pdf) and follow the procedure for creating a portal view.
3. Search for the following string to find your existing module to edit:

   classid="com.hp.ov.portal.modules.OVPM"

   Module instances are wrapped in the ModuleInstance element. The ModuleInstance id must be unique among all module instances in the portal view file. For information about the ModuleInstance element, see the *SIP Deployment and Integration Guide* (SIP_Deployment_Integration.pdf), "PortalView DTD" section.

   For example:

   ```
   <ModuleInstance
      classid="com.hp.ov.portal.modules.ovpm"
      display="yes"
      help="/OvSipDocs/C/help/OVPM/OVPMView.html"
      id="module4"
      rollupState="down"
      title="Performance Manager">
   </ModuleInstance>
   ```
4. Copy the following text into the XML file, between the ModuleInstance starting and closing tags. Alternately, copy the contents from this module's default XML file (see "Relevant Files" on page 34):

   ```
   <OVPM
      graphName="Global History"
      graphSize="small"
      graphTemplate="CODA"
      group="All"
      mgmtStationRef=""
   ```

```
   pointsEvery="day"
   dateRange="all"
   useRelativeEndDate="yes"
   relativeEndDate="Now"
   fixedEndDate="2003:12:4:00:00"
   selectAll="selected"
   targetSystems=""
/>
```

See the comments in the `OVPM.dtd` file for more information about the correct XML syntax:

- *Windows:* `%SIP_HOME%\conf\share\views\OVPM.dtd`
- *UNIX:* `/opt/OV/SIP/conf/share/views/OVPM.dtd`

5. To change the title of this Performance Manager module instance, change the `title` attribute:
   `<ModuleInstance title="new title">`

   To change the title of all Performance Manager modules, change the `title` attribute in the registration file, see "Relevant Files" on page 34.

6. To launch your own help topic from the module's `[?]` button, insert the `help` attribute into the `<ModuleInstance>`:

   `help="/OVSipDocs/C/help/OVPM/`*`topic`*`.html"`

   Replace *`topic`*`.html` with the name of your help file. The `help` attribute allows you to override the default help URL defined in the module registration file. See the *SIP Deployment and Integration Guide* (`SIP_Deployment_Integration.pdf`), "Adding and Customizing Module Help Topics" for more information about writing your own online help.

7. To contact an OVPM management station other than the default server for the current SIP Role, enter the OVPM management station's fully-qualified hostname into the `mgmtStationRef` attribute. You must configure the referenced OVPM management station within the SIP Configuration Editor program (see "Establishing Communication Between OVPM and SIP" on page 16).

NOTE

If you override the default OVPM management station, the exact OVPM *customer/password* Role properties associated the SIP Role must match configuration settings on the specified OVPM server. SIP only gathers data from OVPM management stations that return the correct customer/password combination.

8. To add a new target system (submodule), edit the targetSystems attribute, adding the names of all systems of interest and separating them with the "|" character. Systems will be arranged from top to bottom in the module instance in the same order in which they appear in the targetSystem attribute. For example:

   ```
   targetSystem="client1.mybiz.com|client2.mybiz.com"
   ```

   will result in two submodules displaying reports whose monitored systems are `client1.mybiz.com` and `client2.mybiz.com`, respectively. The submodule for `client1.mybiz.com` will appear above `client2.mybiz.com`.

9. Save the XML file.
10. After you make modifications to XML files, validate the syntax. See “Validating XML Files” on page 57 for more information.
11. Log into the SIP portal as the appropriate user to ensure that you have the desired results.

Relevant Files

The Performance Manager module must follow the rules defined in the following DTD files. See the comments in the DTD files for an explanation of each element used in the XML files:

- `mgmtStations.dtd & OVPMConfig.dtd & mgmtStations.xml`

  This XML file configures communication between OVPM management stations and Service Information Portal servers. Use the SIP Configuration Editor to make changes to this XML file. See the “Establishing Communication Between OVPM and SIP” on page 16.

- `OVModuleRegistraton.dtd & OVRegOVPM.xml`

  This XML file grants access to the Performance Manager module through the SIP framework so that it is available for your use. To add another instance of the Performance Manager module to the SIP module selection list, you copy and rename the `OVRegOVPM.xml` and the `OVDefaultOVPM.xml` files. Then update the `description`, `title`, `classid`, `help`, and `defaultConfigXML` attribute values in the new registration file.

  If you make any changes to a registration file, you must follow the directions in “Restarting the Servlet Engine” on page 52.

- `OVPM.dtd & OVDefaultOVPM.xml`

  This DTD defines the rules for configuring any Performance Manager module. The XML file contains the *default* Performance Manager module. The contents of the default file are inserted into your portal each time you use the `[Add]` button to insert the Performance Manager module.

  You can modify the `OVDefaultOVPM.xml` file to meet your needs. Either:

  — Directly edit the XML code in the `OVDefaultOVPM.xml` file, or

  — Insert a Performance Manager module into any portal. Modify the module to meet your needs. Then, copy the modified XML code for the module from your portal view file, and paste it into the `OVDefaultOVPM.xml` file.

See “Directly Editing the PortalView.XML Files” on page 30 for more information

- `PortalView.dtd & PortalView.xml`

  This DTD provides the rules for formatting the XML code in your portal view files. See the *SIP Deployment and Integration Guide* (`SIP_Deployment_Integration.pdf`), “Customizing Portal Views” section for more information about creating portal view files.

- `/htdocs/C/help/OVPM/*.html`

  This directory contains help topics for this module, and can be accessed by clicking `[?]` on the module title bar. If you want to supply your own customized help files, see the *SIP Deployment and Integration Guide* (`SIP_Deployment_Integration.pdf`), “Adding and Customizing Module Help Topics” section.

Table 3-1 Performance Manager Module Files on the SIP Server

File Name	Windows Location %SIP_HOME%\....	UNIX Location /opt/OV/SIP/....
mgmtStations.dtd	conf\share\stations\	conf/share/stations/
OVPMConfig.dtd	conf\share\stations\	conf/share/stations/
mgmtStations.xml	conf\share\stations\	conf/share/stations/
OVModuleRegistration.dtd	registration\	registration/
OVRegOVPM.xml	registration\	registration/
OVPM.dtd	conf\share\views\	conf/share/views/
OVDefaultOVPM.xml	registration\defaults\	registration/defaults/
PortalView.dtd	conf\share\views\	conf/share/views
PortalView.xml	conf\share\views\	conf/share/views
*.html	htdocs\C\help\OVPM	htdocs/C/help/OVPM

4 Segmenting OVPM Data by Customer

Integrating OVPM Data into Your Customer Model

Two mechanisms for filtering (segmenting) displayed data are provided for the OVPM integration: association with an OVPM customer and application of the SIP Customer Model.

The first level of Performance Manager module filtering is accomplished through the *customer* configuration on the OVPM management station. If customer segmentation of data has not been instituted on the OVPM management station, all resources will be available to all SIP roles.

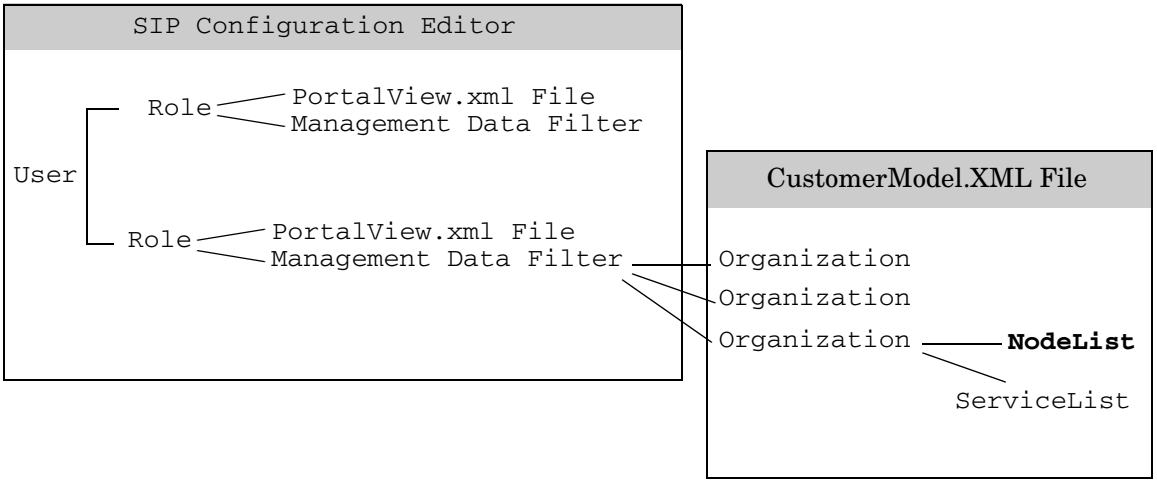
The SIP Role Properties point to a specific OVPM *customer* configuration. The Performance Manager module displays only data assigned to the specified OVPM customer. See “Establishing Communication Between OVPM and SIP” on page 16.

As a second level of Performance Manager module filtering, the SIP Customer Model allows you to associate resources with *Organizations* and filter the available resources based on those associations. Since OVPM is only concerned with monitoring systems, only node resources associated with *Organizations* affect OVPM modules. These *Organizations* are associated with SIP *Roles* so that data is automatically filtered appropriately when a user displays any of the Performance Manager modules. Figure 4-1 illustrates how the SIP Customer Model works. This process is optional to enable additional filtering of the OVPM modules on a role-by-role basis. If no node resources are associated with an Organization, no additional filtering will be performed and all node resources available to the associated OVPM customer will be available within the SIP role.

Before you proceed, decide whether additional filtering is required beyond that which has been configured on the OVPM management station. If yes, then you must decide for which organizations you need to segment data. For example, you may need to provide portals for several divisions within your company: accounting, marketing, R&D, legal, support. You could create node lists of the resources assigned to each of

these organizations. Because of the assigned resource lists, each of these organizations could view the same instance of the OVPM modules, yet see only the data appropriate for them.

Figure 4-1 SIP Customer Model



The remainder of this chapter explains how to create resource lists for use in your <Organization> definitions.

The Performance Manager module responds *only* to <NodeList> elements. The Performance Manager module displays any nodes whose names are included in the node list. In the data returned by queries to OVPM , there are references to SYSTEM elements within GROUP elements. The SIP <NodeList> elements key off of the value attributes of those SYSTEM elements

You must create lists of nodes in XML that conform to the specifications in these DTD files:

Windows:
%SIP_HOME%\conf\share\organizations\SimpleCustomerModel.dtd
%SIP_HOME%\conf\share\roles\UserRole.dtd

UNIX:
/opt/OV/SIP/conf/share/organizations/SimpleCustomerModel.dtd
/opt/OV/SIP/conf/share/roles/UserRole.dtd

Your <NodeList> elements can be defined in one or more XML files or a mix of CGIs, servlets, URLs, and files. These approaches are not mutually exclusive and can be used in combination:

- "Manually Creating NodeList Elements" on page 41
- "Customer-to-Node Mappings" on page 41
- "Registering a Customer Model Source" on page 46

OVPM allows grouping of logically related systems. When configuring module instances via the `Performance Manager - Edit` page, a list of these groups is presented. The group chosen from this list will be used as the basis for the reports generated. Once you have chosen a group, the list of available systems will be populated from the information provided by OVPM. If you wish to present all of the systems displayed in that list, no further action is required. However, if you wish to restrict which systems are displayed as available, you must create a NodeList element and associate it with the appropriate Organization. The data presented in the Groups list on the edit page is available directly from OVPM on the management station (see the OVPM documentation installed on your system to determine exactly where the data resides) or may be retrieved via OVPM's CGI program `Analyzer.exe`.

The lists of GROUP and SYSTEM elements can be retrieved from OVPM directly within a web browser by following this URL:

```
http://ovpmMgmtStation/HPOV_IOPS/cgi-bin/Analyzer.exe?-info
```

where *`ovpmMgmtStation`* is the name of the OVPM management station being used as the server. You will need to extract the `value` attributes from the indicated `SYSTEM` elements to generate the contents of <NodeList> elements .

You an also create your own program (CGI or servlet) to generate your `<NodeList>` elements from an arbitrary data store or provisioning system, and express it in XML that conforms to the `SimpleCustomerModel.dtd`. See the "Developing a Custom Customer Model Source" section in the *SIP Deployment and Integration Guide*, (`SIP_Deployment_Integration.pdf`) for more information.

Manually Creating NodeList Elements

The SIP customer model allows you to associate lists of resources with <Organizations>. This section explains how to create lists of nodes specifically for use with the Performance Manager module. You can create one XML file that contains all the various <NodeList> elements, or you can create multiple XML files containing the various list elements. Your lists can be directly inserted into your <Organization> definitions, or inserted by reference. For example:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SimpleCustomerModel SYSTEM "SimpleCustomerModel.dtd">

<SimpleCustomerModel>
    <Organization name="Marketing">
        <NodeListRef href="Your Choice 1" />
    </Organization>
    <Organization name="Engineering">
        <NodeList name="Your Choice 1" >
            <Node name="entry as specified in OVPM configuration data" />
        </NodeList>
    </Organization>
</SimpleCustomerModel>
```

Customer-to-Node Mappings

To create <NodeList> elements that can be associated with <Organization> elements in your SIP Customer Model, do the following. These <NodeList> elements control which systems are available for display within the Performance Manager module.

NOTE

The SIP modules that communicate with OpenView Network Node Manager (NNM) also are affected by this same node list. See the *NNM Integration with SIP* manual (NNM_Integration.pdf) for more information:

- Alarms module
- Network Device Health module
- Topology module

The SIP report modules that communicate with OpenView Reporter (OVR) also are affected by this same node list. See the *OVR Integration with SIP* manual (`OVR_Integration.pdf`) for more information:

- OVR:NNM Reports module
- OVR:OVO Reports module
- OVR:OV Performance Reports module

If this causes a problem, you can assign multiple roles to a particular user. Optimize one role's node list for the Performance Manager module, another role's node list for the NNM modules, and another role's node list for the reports modules.

Determining Which Nodes to Add to the SIP Customer Model

If you do not already know the hostnames of the nodes you want to use in your `<NodeList>` elements, do the following to gather that information:

in a web browser, enter the URL

`http://ovpmMgmtStation/HPOV_IOPS/cgi-bin/Analyzer.exe?-info`

where *ovpmMgmtStation* is the name of the OVPM management station.

The resulting XML will contain lists of `GROUP` elements that contain `SYSTEM` elements. The `value` attributes associated with the `SYSTEM` elements are candidates for Node elements in your NodeLists. For example, the following XML would yield `Node` names of `mdcClient1.co.com`, `codaClient1.co.com`, and `mwaClient1.co.com` that could be associated with a Role using the Group "All":

```
<LISTOF_GROUPS>
    <GROUP DisplayName="All" Reporter="0">
        <SYSTEM value="mdcClient1.co.com">
            <DataSource DisplayName="MDC" />
        </SYSTEM>
        <SYSTEM value="mwaClient1.co.com">
            <DataSource DisplayName="MWA" />
        </SYSTEM>
        <SYSTEM value="codaClient1.co.com">
            <DataSource DisplayName="CODA" />
        </SYSTEM>
    </GROUP>
</LISTOF_GROUPS>
```

Adding NodeLists to the SIP Customer Model

You are now ready to create <NodeList> elements. For example:

```
<NodeList name="your choice" >
    <Node name="entry as specified in OVPM configuration data"
/>
</NodeList>
```

On the SIP server:

1. Make a backup of the *CustomerModel*.xml configuration files before making changes. If you edit the file and get incorrect XML syntax, you may want the ability to revert to the previous version of the file.

   Using an ASCII or XML editor, either edit one of your existing *CustomerModel*.xml files or create an XML file based upon the SimpleCustomerModel.dtd. These files are located in the following directory:

   Windows:
   %SIP_HOME%\conf\share\organizations\

   UNIX:
   /opt/OV/SIP/conf/share/organizations/

2. Save your new XML file in the /conf/share/organizations directory. If you place your XML file in any other location, update the path information when you get to step 8 and step 12.

3. Create a <NodeList> element for each group of nodes:

   ```
   <NodeList>
   </NodeList>
   ```

4. *Optional:* Give each node list a name that you can reference later when you are assigning node lists to specific <Organization> definitions:

   ```
   <NodeList name="yourChoice" >
   </NodeList>
   ```

5. *Required:* for each <Node> in this <NodeList> element, enter a hostname that matches an entry found in one of OVPM's configuration files:

   ```
   <NodeList name="yourChoice" >
       <Node name="entry as specified in OVPM configuration
   data" />
   </NodeList>
   ```

See the documentation provided with OVPM to determine the location of monitored systems configuration data, or request this information from the OVPM administrator.

6. *Optional:* add the `type` attribute to each node specification. This field is not used by the Performance Manager module. It is, however, displayed through the Managed Resources module:

```
<Node name="hostname" type="xx" />
```

For information about the Managed Resources module, see "Configuring the Managed Resources Module" in the *SIP Deployment and Integration Guide* (`SIP_Deployment_Integration.pdf`).

7. *Optional:* add the `DisplayString` element to each node specification. This field is not used by the Performance Manager module, so disregard this element.

8. Ensure that the following lines are at the top of each XML file that you create:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SimpleCustomerModel SYSTEM "SimpleCustomerModel.dtd">

<SimpleCustomerModel>
```

The path to the `SimpleCustomerModel.dtd` in the `DOCTYPE` statement *must* correctly reference the location of the `SimpleCustomerModel.dtd` file in the `/conf/share/organizations` directory on the SIP server. If you place your XML file in any other location, use the `DOCTYPE` statement in the second example below.

- Example of DTD reference in XML file located in the `organizations` directory:

```
<!DOCTYPE SimpleCustomerModel SYSTEM "SimpleCustomerModel.dtd">
```

- Example of DTD reference in XML file located other than the `organizations` directory (change *`SIPserver.co.com`* to your SIP server's fully-qualified hostname):

```
<!DOCTYPE SimpleCustomerModel PUBLIC "SimpleCustomerModel"
"http://SIPserver.co.com/ovportal/servlet/DTDServer/conf/share/organizations/
SimpleCustomerModel.dtd\">
```

9. Ensure that the following line is at the end of each XML file that you create:

```
</SimpleCustomerModel>
```

10. Save the XML file. For example, the following shows two node lists that contain all the desired nodes:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SimpleCustomerModel SYSTEM "SimpleCustomerModel.dtd">

<SimpleCustomerModel>

        <NodeList name="Accounting">
            <Node name="host1.acme.com"    />
            <Node name="server1.acme.com" />
            <Node name="router1.acme.com" />
            <Node name="host2.acme.com"    />
            <Node name="server2.acme.com" />
            <Node name="router2.acme.com" />
        </NodeList>

        <NodeList name="Manufacturing">
            <Node name="host3.acme.com"     />
            <Node name="server3.acme.com"   />
            <Node name="router3.acme.com"   />
            <Node name="host4.acme.com"     />
            <Node name="server4.acme.com"   />
            <Node name="router4.acme.com"   />
        </NodeList>

</SimpleCustomerModel>
```

11. After you make modifications to XML files, validate the syntax. See “Validating XML Files” on page 57 for more information.

12. Register the new source of customer model data with SIP. For detailed instructions, see “Registering SIP Customer Model Sources” on page 46.

13. You are now ready to associate these `<NodeList>` elements with `<Organization>` elements in your Customer Model, as appropriate. See the “Mapping Organizations to Their Resources” section in the *SIP Deployment and Integration Guide*, (`SIP_Deployment_Integration.pdf`) for more information.

    See example on page 41.

Registering SIP Customer Model Sources

You need to register with SIP the name and location of the sources of the customer model data. This is done through the `SIP Administration Pages` that are accessed in the SIP portal through a special `SIP Administrator` role.

Registering a Customer Model Source

Customer model sources can be defined in one or more files on the SIP server or can be programmatically generated by CGI programs and servlets. Most likely, the sources to your fully-integrated customer model are a mix of files and programs.

1. Go to the `SIP Administration Pages` by logging in as a user who can access the special `SIP Administrator` role. Switch to the `SIP Administrator` role.
2. Click the `Customer Model` tab.
3. In the `Customer Model Configuration` segment, go to `Customer Model Sources`.
4. In the `New customer model source URL` field, type a relative file name (relative to the `conf/share/organizations` directory), an absolute file name, or a URL. See examples below:

   - Examples of a Relative File Name

     ```
     CustomerModel.xml
     ../uniqueFilename.xml
     ```

     If you specify a relative file path (e.g., "`../CustomerModel.xml`"), it is interpreted relative to the `conf/share/organizations` directory. If the `/organizations` directory is actually remote (that is, the `SIP_CONF_SHARE_DIR` in `SIPPath.properties` is remote), the same syntax is used to specify location relative to the `organizations` directory.

   - Example of an Absolute File Name

     `c:/temp/`*`CustomerModel`*`.xml`

   - Examples of URLs

```
http://othermachine/CustomerModel.xml
http://SIPhostname/ovportal/NNMSimpleCustomerModel
```

5. Click [Add] to add the name of the customer model source to the Customer Model Sources list. The customer model is refreshed automatically, so you do not need to force a refresh by clicking [Refresh].
6. *Optional:* To periodically update the customer model according to a schedule (in addition to each time that SIP's tomcat service is restarted), set the Refresh Rates.
7. Click [Help] for more information.

NOTE

After registering your customer model sources, you can create management data filters that reference one or more <Organization> elements in the customer model. See the *SIP Deployment and Integration Guide* (SIP_Deployment_Integration.pdf) "Defining/Modifying Management Data Filters".

After you have created the management data filters, you can associate a filter with each role. See the *SIP Deployment and Integration Guide* (SIP_Deployment_Integration.pdf), "Assigning a Management Data Filter to a Role." At that point you can display segmented management data through SIP modules.

Unregistering a Customer Model Source

1. Go to the SIP Administration Pages by logging in as a user who can access the special Administrator role. Switch to the Administrator role.
2. Click the Customer Model tab.
3. In the Customer Model Configuration segment, go to Customer Model Sources.
4. In the Customer Model Sources list, select a customer model source and click [Delete].

5 Display Filtering for OVPM

Introduction to Display Filtering

Some SIP modules support display filters that allow a subset of the assigned *customer* data to be visible in a particular module instance.

The Performance Manager module does not support display filtering. All filtering is accomplished through the assigned *customer* configuration on the OVPM management station and through addition of resource lists to the *customer model* (Chapter 4, “Segmenting OVPM Data by Customer,” on page 37)

A Restarting Tomcat

Restarting the Servlet Engine

After making certain configuration changes, you must restart the servlet engine before changes take effect:

- After adding or changing a module registration file.
- After making changes to the authentication provider configuration.
- In other situations where you are specifically instructed to do so.

To Restart the Servlet Engine from the SIP Administration Pages

Be aware that you and all other SIP users will be logged out when you restart the servlet engine.

1. Log in as a user who has access to a special SIP Administrator role. For more information, see "Understanding Special SIP Administrator Roles" in the *SIP Deployment and Integration Guide* (`SIP_Deployment_Integration.pdf`).
2. Switch to the `SIP Administrator` role, if it is not already displayed.
3. Click the `SIP General Admin` tab.
4. In the `Servlet Engine Control` segment, click `[Restart]`.

To Restart the Servlet Engine from Outside of SIP

Windows:
From the `Control Panel`, select `Services`. Stop and then restart `Tomcat`. Alternatively, you can use the command line: **`net stop tomcat`** and **`net start tomcat`** or use the batch command **`%SIP_HOME/bin/restart_tomcat.bat`**.

UNIX:
As `root`, stop and restart the web server and servlet engine by running the following. (The `DISPLAY` variable must be configured prior to restarting the web server and servlet engine, unless `DISPLAY` is set in `/etc/rc.config.d/ovsip`.)

Stop on HP-UX: `/sbin/init.d/ovsip stop`
Start on HP-UX: `/sbin/init.d/ovsip start`

Stop on Solaris: `/etc/init.d/ovsip stop`
Start on Solaris: `/etc/init.d/ovsip start`

B Working with XML

Rules for Direct Editing of XML Files

- Make a backup before modifying XML files.
- Understand editing permissions on XML files.
- Validate the XML after you modify it.
- Be careful not to lose changes made through the GUI. This can happen when you edit through the XML file and edit through the GUI at the same time.

Backing Up XML Files

Make a backup of XML configuration files before you customize them. If you edit the file and get incorrect XML syntax, you may want the ability to revert to the previous version of the file.

Understanding Editing Permission on XML Files

When using the editing windows within the SIP portal, the web server needs to have read/write permissions to the underlying files in order to save your changes. By default, the apache web server and SIP run as:

Solaris: user `"nobody"`

HP-UX: user `"www"`

The default user names for Solaris and HP-UX can be changed during installation.

At runtime, `umask` is set by tomcat to 022, so files are created mode 0644 and directories created mode 0755.

Therefore, at install time, SIP sets permissions and ownership for files to `mode 0644` and directories to `mode 0755`. If you add or change anything, make sure directories are owned by the appropriate user specified above, files set to `mode 0644`, and directories set to `mode 0755`.

For `tomcat` to operate properly, the following directories and all files underneath them need to have the correct permissions set (user as specified above, files set to mode 0644, and directories are set to mode 0755):

- `/opt/OV/SIP/tomcat`
  (directory only, so tomcat can create the work directory when needed)
- `/opt/OV/SIP/tomcat/conf`
  (directory only)
- `/opt/OV/SIP/tomcat/logs`
  (directory, all subdirectories, and all files)
- `/opt/OV/SIP/tomcat/webapps`
  (directory, all subdirectories, and all files)
- `/opt/OV/SIP/tomcat/work`
  (directory, all subdirectories, and all files)

For SIP to operate properly, these directories and all `.xml` files (not `.dtd` files) underneath them need to have the correct permissions set (`user` set to anyone with editing permissions, files set to mode 0644, and directories are set to mode 0755):

- `/opt/OV/SIP/conf/share/organizations`
  (directory, all subdirectories, and all .xml files)
- `/opt/OV/SIP/conf/share/users`
  (directory, all subdirectories, and all .xml files)
- `/opt/OV/SIP/conf/share/modules`
  (directory, all subdirectories, and all .xml files)
- `/opt/OV/SIP/conf/share/roles`
  (directory, all subdirectories, and all .xml files)
- `/opt/OV/SIP/conf/share/views`
  (directory, all subdirectories, and all .xml files)

Validating XML Files

The Service Information Portal will detect and report an invalid XML configuration file. However, after you make modifications to XML files, you may want to validate your XML syntax.

Provided with SIP is the command `xmlvalidate`, which checks whether the XML file is both well-formed and valid. This command uses the same XML parser as SIP, so if the file passes `xmlvalidate`, it will work with SIP.

For the command to work from outside the `bin` directory, add the following to your PATH variable:

Windows: `%SIP_HOME\bin`
UNIX: `/opt/OV/SIP/bin`

The correct usage of the `xmlvalidate` command is:

`xmlvalidate -v <xml filename>`

An XML file is “well-formed” if it conforms to a minimal set of rules defined for all XML documents. It is “valid” if it conforms to the DTD listed at the beginning of the XML file.

Sometimes an error reported by xmlvalidate may not clearly indicate how to fix the problem. For example, a message like “Attribute ‘name’ must be declared for element type ‘XYZ’, is an indication that the attribute ‘name’ may have been misspelled.

As an alternative to xmlvalidate, you can find an XML validation tool for Windows NT at `www.xmlspy.com`.

Avoiding Loss of Changes

If you are using the portal interface to change a configuration and directly editing the XML configuration file at the same time, be careful not to lose the changes made through the interface by writing out the file over the interface changes.

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