

# HP Operations Smart Plug-in for Oracle Application Server

for HP Operations Manager for UNIX®

Software Version: 6.00

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## Configuration Guide

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# 1 Oracle AS SPI Concepts

The HP Operations Smart Plug-in for Oracle Application Server (Oracle AS SPI) enables you to manage Oracle Application Servers from an HP Operations Manager for UNIX (HPOM) console. Oracle AS SPI adds monitoring capabilities otherwise unavailable to HPOM. For more information on HPOM, see *HP Operations Manager for UNIX Concepts Guide*.

## Introducing the Oracle AS SPI

The Oracle AS SPI, used in conjunction with HPOM, offers centralized applications that help you monitor and manage systems using Oracle Application Server. From the HPOM console, you can monitor the availability, use, and performance of Oracle Application Servers running on HPOM managed nodes. You can set threshold values for Oracle AS SPI metrics. When these thresholds are crossed Oracle AS SPI generates an alarm and message. The metrics can also be consolidated into reports and graphs which help you analyze trends in server usage, availability, and performance. You can integrate Oracle AS SPI with HP Reporter and HP Performance Manager to get additional reporting and graphing flexibility and capabilities. For details on integrating Oracle AS SPI with other HP products, see [Chapter 5, Integrating HPOM Reporting and Graphing Products with the Oracle AS SPI](#).

### Smart Plug-in Data

The Oracle AS SPI has several server-related metrics that gather data about the following:

- Server availability
- Server performance
- JVM memory usage
- EJB client and method wrapper active threads, execution times, and calls processed
- Servlet execution times and threads
- JSP service time and active requests
- Java message service connections and messages
- JDBC connection status
- Web application processing and open sessions
- HTTP server active connections and processed data

## Smart Plug-in Uses and Customizations

As a Oracle AS SPI administrator, you can choose the metrics most crucial for the operation of Oracle Application Server by modifying Oracle AS SPI templates. These templates contain settings that enable incoming data to be measured against predefined rules. These rules generate useful information in the form of messages. These message have color-coding to indicate the severity level. You can review these messages for problem analysis and resolution. There are several pre-defined corrective actions for specific events or threshold violations. These corrective actions can be automatically triggered or operator-initiated. When you double-click a message, corrective actions appear under the Instructions tab and automatically generated metric reports appear under the Annotations tab.

## Functions of the Oracle AS SPI

Oracle AS SPI messaging, reporting, and action-executing capabilities are based on the HPOM concept of templates. For more information, see *HP Operations Manager for UNIX Concepts Guide*. The settings within these templates define various conditions that can occur within the Oracle Application Server and enable information to be sent back to the HPOM management server. This helps you to proactively address potential or existing problems and avoid serious disruptions to web transaction processing. Oracle AS SPI performs the following functions described in the following sections:

### Collecting and Interpreting Server Performance and Availability Information

After you configure the Oracle AS SPI, and the templates are deployed to the managed nodes, the SPI starts gathering server performance and availability data. This data is compared with the settings within the deployed templates. The templates define conditions that can occur within the Oracle AS Server, such as queue throughput rates, cache use percentages, timeout rates, and average transaction times. The templates monitor these conditions against default thresholds (set within the templates) and trigger messages when a threshold has been exceeded.

### Displaying Information

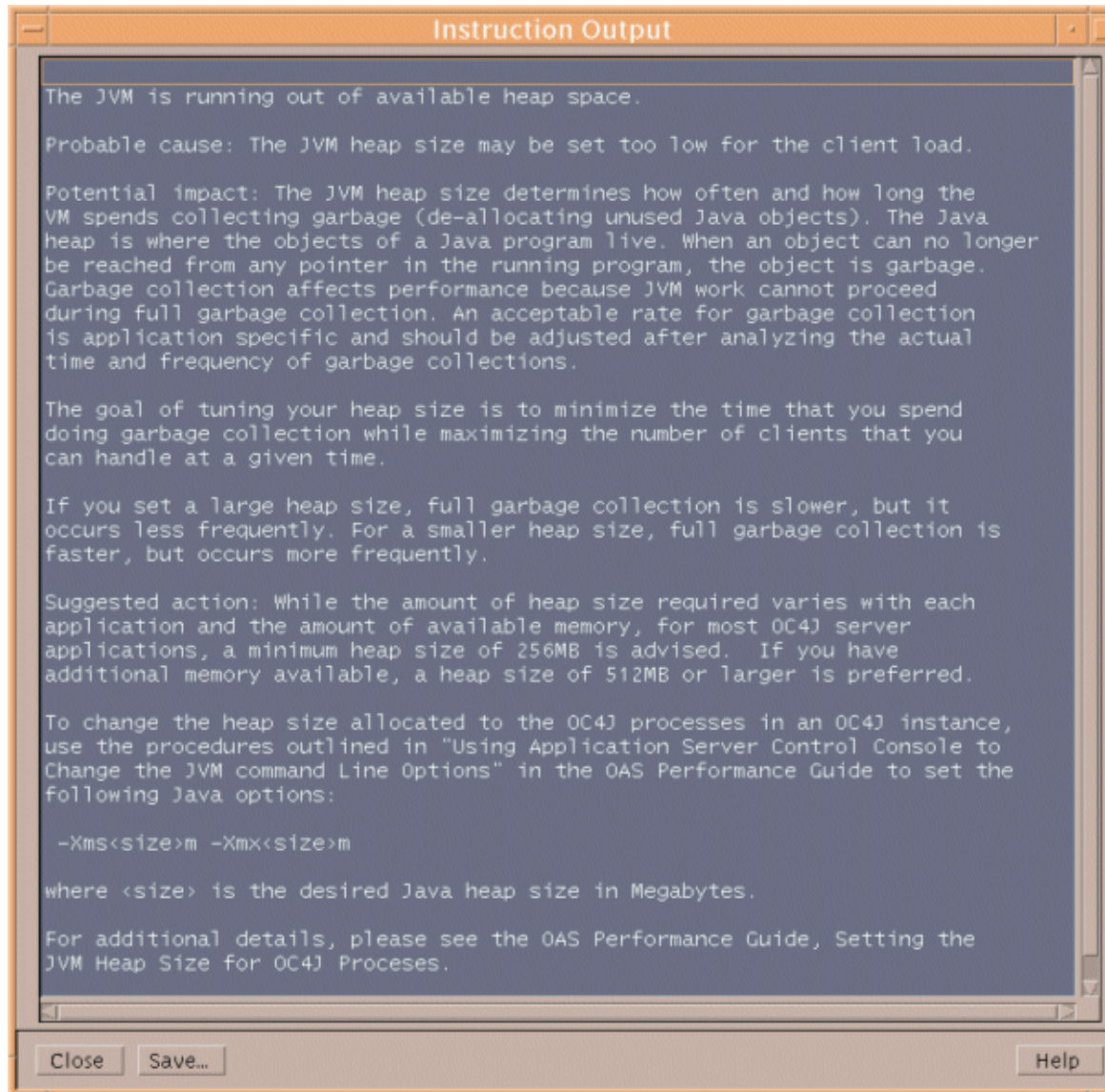
The Oracle AS SPI templates generate messages when a threshold is exceeded. These messages can appear as:

**Messages in the Message Browser** – HP Operations agent software compares the values gathered for Oracle AS Server performance and availability against the monitor template settings related to those specific areas. The agent software then forwards appropriate messages to the HPOM console. These messages appear with color-coded severity levels in the HPOM message browser.

Sev. Dup.	SUIAONE	Date	Time	Node	Application	MsgGroup	Object	Message Text
Norm	-X	09/29/08	15:40:25	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:42:29	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:42:32	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:42:35	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:42:38	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:44:52	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:44:54	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:45:25	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Crit	-X	09/29/08	15:47:43	wasspis2.i	HP OpenView	OpC	opcctlm	Number of 63839 messages in history-message-table reached limit !
Norm	-X	09/29/08	15:49:04	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:49:09	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:53:36	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:53:37	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:55:05	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:56:34	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:58:09	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:58:11	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	15:58:11	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	16:13:02	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80
Norm	-X	09/29/08	16:13:05	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cannot generate message 10 of set 80

2 Active Messages

**Instruction Text** – Messages generated by the Oracle AS SPI programs contain instruction text to help analyze and solve problems. You can manually perform corrective actions preassigned to events or they can be triggered automatically. Instruction text is usually present in the message details. Instruction text is also available in the *HP Operations Smart Plug-in for Oracle Application Server Reference Guide*.



**ASCII-Text Reports** - In addition to the instruction text, some messages cause automatic action reports to be generated. These reports display conditions of a specific Oracle OC4J/OHS server instance. If a report is available, you can find it within the Annotations area of the Message Details.

## Generating Reports Using HP Reporter

You can integrate the Oracle AS SPI with HP Reporter to provide you with management-ready, web-based reports. The Oracle AS SPI Report package includes the templates for generating these reports. You can install the Report package on the Reporter Windows system.

After you install the product and complete basic configuration, Reporter generates reports of summarized, consolidated data every night. With the help of these reports you can assess how the Oracle OC4J/OHS server is performing over a period of time.



## Graphing Data with HP Performance Manager

Metrics collected by the Oracle AS SPI can be graphed. The values can then be viewed for trend analysis.

You can integrate the Oracle AS SPI with HP Performance Manager to generate and view graphs (use the **View Graphs** application from the OASSPI Admin applications group to view graphs). These graphs display the values of the metrics collected by the Oracle AS SPI. You can click **Perform Action** to view graphed data from almost all the Oracle AS SPI alarm messages. **Perform Action** is present in the message browser and in the message details (you can access details by either double-clicking the message or clicking **Details...** in the message browser) in the message browser. The action launches your web browser, where you can choose a graph that displays values for the metric which generated the message as well as other related metrics

## Customizing Templates and Metrics

You can use Oracle AS SPI templates without customization, or you can modify them to suit the needs of your environment. Some of the modifications and customizations that you can do are the following:

- Modify the default templates– Within a template, you can change the default settings for:
  - Collection interval
  - Threshold
  - Message text
  - Duration
  - Severity level of the condition
  - Actions assigned to the condition (operator-initiated or automatic)
- Create custom template groups– You can create custom template groups, using default templates as base. For more information, see [Chapter 4, Customizing the Oracle AS SPI Templates](#).
- Create custom metrics– You can define your own metrics or User Defined Metrics (UDMs) to expand the monitoring capabilities of the Oracle AS SPI. For more information about UDMs see the *HP Operations Smart Plug-in User Defined Metrics User Guide*.

## Components of the Oracle AS SPI

The Oracle AS SPI has two main components:

- Applications (including reports)
- Templates

You can use the applications and templates to configure and receive data in the form of messages, annotations, and metric reports. These messages (available in the message browser), annotations (available through message properties), and metric reports (available through applications or message details) provide information about the conditions present in the servers running on specific managed nodes.

The Oracle AS SPI configuration applications let you configure the management server's connection to selected server instances on specific managed nodes. After you configure the connection, you can assign templates to the nodes. With HP Operations agent software running on the managed nodes, you can use the Oracle AS SPI reporting applications to generate metric reports. In addition, you can generate graphs which show the Oracle AS SPI data (available through message properties).

## Applications

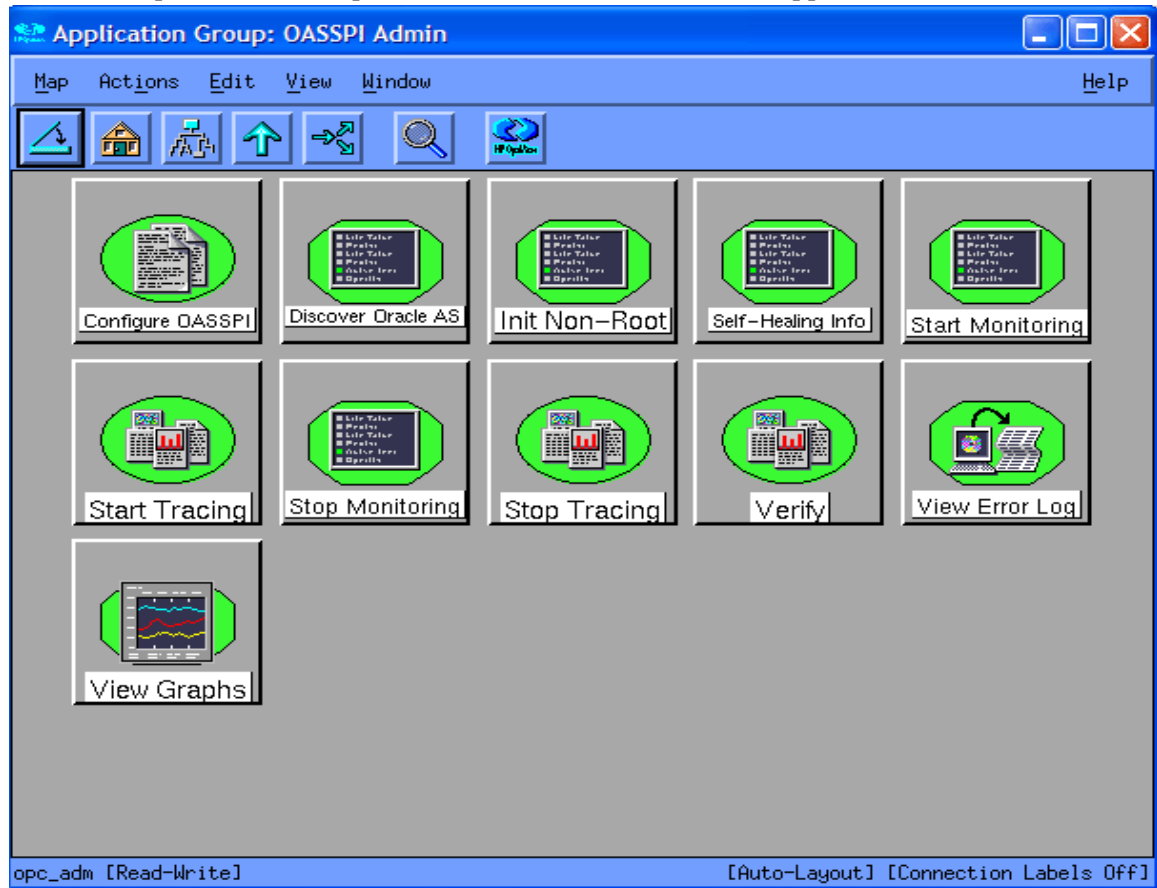
The Oracle AS SPI applications include configuration, troubleshooting, and report-generating utilities.

Oracle AS SPI version 6.10 uses JMX standards to discover and monitor Oracle Application Server 10gR3. The metrics, templates, and reports for Oracle AS, therefore, are now divided in two groups. For example, the OASSPI Reports is divided into OASSPI Reports group and OASSPI Reports (JMX) group. These groups are explained in detail in the following sections.

- [OASSPI Admin Applications Group](#)
- [Oracle AS SPI Applications Group](#)
- [OASSPI Reports Group](#)
- [OASSPI Reports \(JMX\) Group](#)
- [JMX Metric Builder Applications](#): This application group is available *only if* you install the SPIJMB software.

## OASSPI Admin Applications Group

OASSPI Admin applications enable you to configure, control, and troubleshoot the Oracle AS SPI. You require **root** user permission to run OASSPI Admin applications.



The group contains the following applications:

- **Configure OASSPI**– Launches the configuration editor and maintains the Oracle AS SPI configuration.
- **Discover Oracle AS**– Sets basic configuration properties needed for discovery.
- **Init Non-Root**– Simplifies the configuration of a non-root HTTPS agent on a UNIX managed node (OVO 8.x only). For all the steps necessary to configure a non-root HTTPS agent on a UNIX managed node, see [Configuring a Non-Root HTTPS Agent on a UNIX Managed Node \(OVO 8.x Only\)](#) on page 50.
- **Self-Healing Info**– Collects data to be sent to your HP Support representative.
- **Start Monitoring**– Starts the collection of metrics for one or more OC4J/OHS servers on a managed node.

Launch the Verify application to determine if monitoring is started or stopped. By default, monitoring is on.

- **Stop Monitoring**– Stops the collection of metrics for one or more OC4J/OHS servers on a managed node.
- **Start Tracing**– Starts the tracing of the collection of metrics into a file. Run this application only when instructed by your HP support representative.

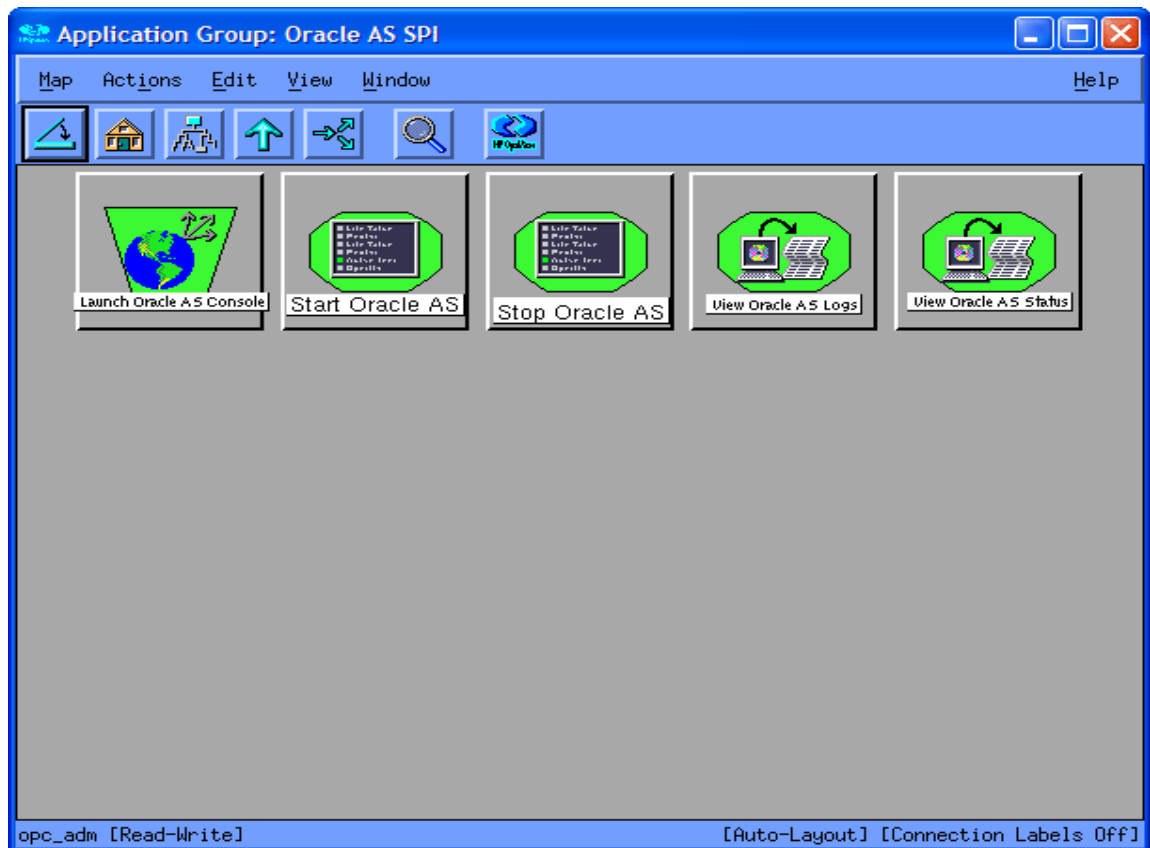
- **Stop Tracing**– Stops the tracing of the collection of metrics into a file. Run this application only when instructed by your HP support representative.
- **Verify**– Verifies that the Oracle AS SPI is properly installed on the server or managed node.
- **View Error Log**– Enables you to view the contents of the Oracle AS SPI error log file.
- **View Graphs**– Enables you to view Oracle AS SPI graphs, generated by HP Performance Manager, in a web browser. This requires additional setup. For more information, see [Task 1: Configure the Management Server to Launch Your Web Browser](#) on page 35.

For more information about each of the above applications, see [Appendix C, Applications](#).

## Oracle AS SPI Applications Group

You can manage the Oracle Application Server functions by using the applications in the Oracle AS SPI applications group.

To access the applications in the Oracle AS SPI group double-click **OASSPI** → **Oracle AS** in the Application Bank window.



The Oracle AS SPI applications group contains the following applications:

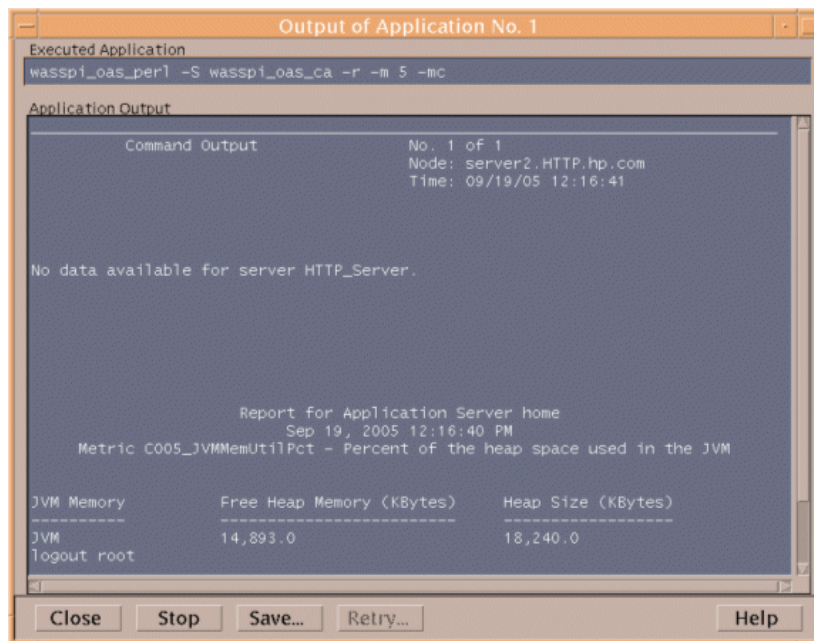
- **Launch Oracle AS Console**– Launches the Oracle Application Server Control Console, launch the AggreSPY servlet, or the Oracle Enterprise Manager Database Control (requires setup).
- **Start Oracle AS**– Enables you to start the Oracle Application Server (requires setup).
- **Stop Oracle AS**– Enables you to stop the Oracle Application Server (requires setup).

- **View OAS Logs**– Enables you to view the Oracle Application Server log files.
- **View Status**– Does an interactive status check of the Oracle Application Server.

## OASSPI Reports Group

OASSPI Reports group contains reports that show information about the condition of the Oracle Application Server.

You can generate these reports manually by dragging a managed node to a report in the Application Bank window. Each report reflects shows the condition of all configured server instances on the managed node in relation to the metric for which the report is generated. The following is a sample Oracle AS SPI Application Bank Report.



### Application Bank Reports Generated from Alarms

An alarm condition can generate a report. These reports are generated automatically and are context sensitive, relating only to a single server on the managed node. These reports appear within the Annotations section of a message.

If you configure the message browser to display the **SUIAONE** columns, a flag appears under the **S** column (adjacent to the message) when a report is generated.

## OASSPI Reports (JMX) Group

Oracle AS SPI Reports (JMX) group contains ASCII metric reports that display information about the condition of the Oracle Application Server 10gR3 using JMX standards.

### JMX Metric Builder Applications

The JMX Metric Builder Applications group contains the following applications:

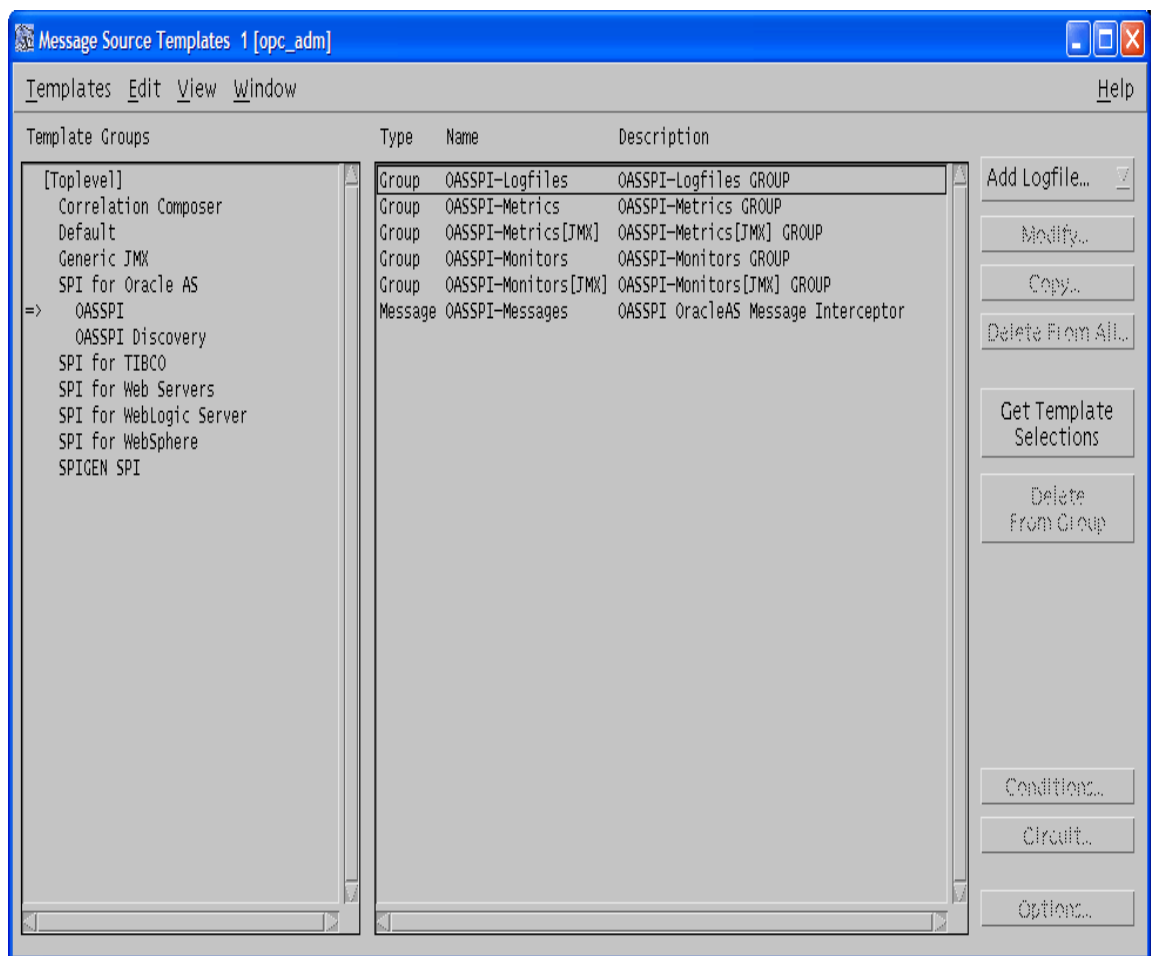
- **Deploy UDM**– Deploys the UDM file.

- **Gather MBean Data**—Collects MBean information that is used with the JMX Metric Builder.
- **JMX Metric Builder**— Launches the JMX Metric Builder application that is used to create UDMs and browse MBeans.
- **UDM Graph Enable/Disable**— Starts/stops data collection for UDM graphs. Also starts/stops the HP Operations subagent.

For more information about the JMX Metric Builder Applications group and steps to install the SPIJMB software, see the *HP Operations Smart Plug-in for User Defined Metrics User Guide*.

## Oracle AS SPI Template Groups and Templates

Oracle AS SPI templates are organized in groups and sub-groups.



The SPI for Oracle AS template group contains:

- **OASSPI:** This group contains the following sub-groups:
  - **OASSPI-Logfiles** – Contains templates that generate messages based on log file and error text detected in both the Oracle Application Server log files and the Oracle AS SPI log files. The information captured from these log files includes errors that occur in the operation of the Oracle Application Server or the Oracle AS SPI and changes made to Oracle Application Server configuration.

- **OASSPI-Metrics** – Contains metric templates that monitor the performance levels and availability of Oracle OC4J/OHS servers.

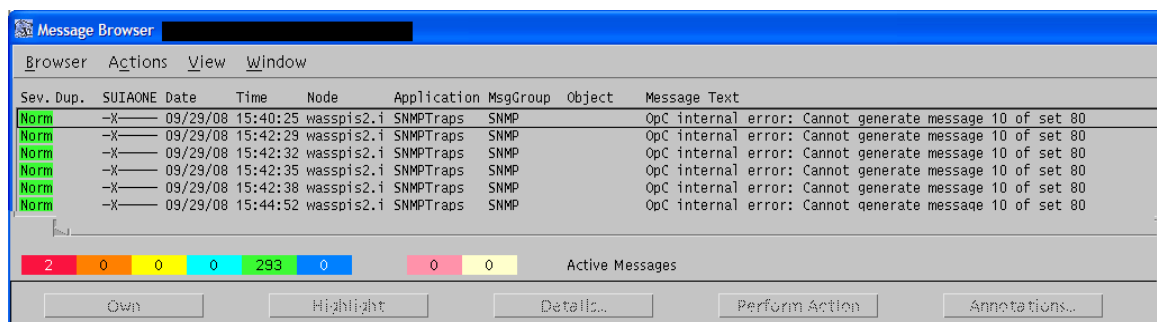
Each metric template determines the threshold conditions for the monitored metric, the message text that is sent to the HPOM message browser when the threshold is exceeded, the actions to start, and instructions that appear.

- **OASSPI-Metrics [JMX]** – Contains metric templates that monitor the performance levels and availability of Oracle OC4J/OHS servers. These metric templates are available only for Oracle Application Server version 10gR3.
- **OASSPI-Monitors** – Contains collector templates that specify the collection interval of the metric templates. Within the name of each collector template is its collection interval. For example, the collection interval of the template OASSPI-10-OHS-15min is 15 minutes (where 15min represents 15 minutes). Each collector template is assigned a collection interval of 5 minutes, 15 minutes, or one hour.

When you open a collector template, you can see the metrics collected within the interval (listed by number, following the `-m` option of the collector/analyzer command `wasspi_oas_ca`).

Each collector template controls which metrics are collected when. Specifically, the collector template does the following:

- Runs the collector/analyzer at each collection interval
  - Specifies which metrics are collected
- **OASSPI-Monitors [JMX]** – Contains JMX collector templates that specify the collection interval of the JMX metric templates. These templates are only for Oracle AS version 10gR3.
  - **OASSPI-Messages** – This is a single template. It intercepts Oracle AS SPI messages for the HPOM message browser.
- **OASSPI Discovery:**
    - **OASSPI-Messages** – This is a single template. It intercepts Oracle AS SPI messages for the HPOM message browser.
    - **OASSPI Service Discovery:** This is a single template. It updates the configuration on the HPOM management server and managed nodes.



In the message browser shown above, all the messages are generated by Oracle AS SPI templates that belong to the Oracle AS and OASSPI Message Groups (see the column titled `MsgGroup`), indicating their origins. The Oracle AS messages indicate conditions occurring in Oracle OC4J/OHS servers while the OASSPI message indicates a condition occurring in the Oracle AS SPI.

For Oracle AS SPI version 6.10, you will also see another policy group called **Generic JMX**. This group can be expanded into the following sub groups :

- **JMX-Metrics**
- **JMX-Monitors**



## 2 Installing, Upgrading, and Removing the Oracle AS SPI

### Installing the Oracle AS SPI

For a complete list of software requirements, see the *HP Operations Smart Plug-in for Oracle Application Server Release Notes*.

The instructions that follow show the command line usage of `swinstall`. For HP-UX systems, you can also use the graphical user interface (GUI), but the GUI method is not covered.



It is not necessary to stop HPOM sessions before beginning the Oracle AS SPI installation.

For an HP-UX 11.23 and 11.31 (PA and IA) management server, type:

```
swinstall -s /cdrom/OV_DEPOT/11.0HPUX.depot OASSPI
```

On a Solaris management server the packages are supported in both depot and solaris native format.

For a Solaris management server in depot format, type:

```
swinstall -s /cdrom/OV_DEPOT/SOLARIS.depot OASSPI
```

For a Solaris management server in native format, perform the following steps:

- 1 Before installing the SPI software on the Solaris management server, set `PKG_NONABI_SYMLINKS` to `true` to avoid breakage of existing links during the installation. Type:

```
PKG_NONABI_SYMLINKS=TRUE
```

```
export PKG_NONABI_SYMLINKS
```

- 2 The SPIs have dependencies on “DSI2DDF” and “SPI-SVCDISC-OVO”. These two packages are not available in the native format of solaris. Hence, install “DSI2DDF” and “SPI-SVCDISC-OVO” from SOLARIS.depot before installing from the HPOMSpiDVD-8.1.sparc package.

- 3 To install from the HPOMSpiDVD-8.1.sparc, type:

```
pkgadd -d /cdrom/OV_DEPOT/HPOMSpiDVD-8.1.sparc
```

- 4 Select the following SPIs for installation:

- HPOvSpiOas
- HPOvSpiJmx
- HPOvSpiShs

# Upgrading the Oracle AS SPI

When you upgrade from a previous installation, all your configuration entries are preserved.

To upgrade Oracle AS SPI, complete these tasks:

- Task 1: Remove Oracle AS SPI Software from the Management Server
- Task 2: Delete Oracle AS SPI Templates
- Task 3: Delete Oracle AS SPI Applications
- Task 4: Upgrade the Management Server
- Task 5: Assign Operator Responsibilities for `opc_adm`
- Task 6: Assign Templates to the Management Server
- Task 7: Distribute Templates to the Management Server
- Task 8: Customize Templates
- Task 9: Move Nodes to New Node Group (Verify)
- Task 10: Delete Oracle Application Server Node Group
- Task 11: Distribute Actions, Monitors, Commands, and Templates
- Task 12: Launch the Discover Oracle AS Application
- Task 13: Install the New Report Package (Optional)
- Task 14: Install the New Graph Package (Optional)

## Task 1: Remove Oracle AS SPI Software from the Management Server

- 1 Open a terminal window and log on as `root`.
- 2 In the terminal window:
  - For an HP-UX 11.23 and 11.31 (PA and IA) management server, type:

```
/usr/sbin/swremove OASSPI
/usr/sbin/swremove SPIOracleASAll
/usr/sbin/swremove OASSPI-GRAPHS
```
  - For a Solaris management server, type:

```
/usr/sbin/pkgrm HPOvSpiOas
/usr/sbin/swremove DSI2DDF/
/usr/sbin/swremove SPI-SVCDISC-OVO
```
- 3 Run the following command to delete all the SPI files in the `/opt/OV/wasspi/oas/bin/` directory

```
cd /opt/OV/wasspi/oas/bin
find . -name "wasspi_oas*" -exec rm {} \;
```

This deletes all files that begin with `wasspi_oas`.

## Task 2: Delete Oracle AS SPI Templates

Delete all Oracle AS SPI templates and template groups that appear under the SPI for Oracle AS template group and then delete the SPI for Oracle AS template group. If you customize any of the default templates, note these changes (the customizations are not saved). Follow these steps:

- 1 From the windows menu select **Message Source Templates** and select the **SPI for Oracle AS** template group.
- 2 Double-click **SPI for Oracle AS**. All the template groups and individual templates in the group appear.
- 3 Click **OASSPI- Logfiles** to open the individual templates in that group. Press **Ctrl** and click to select all the templates.
- 4 Click **Delete From All...** The following message appears:  
Do you really want to delete the template(s)?
- 5 Click **Yes**.
- 6 Go up a level and open the next group. Repeat steps 2 through 5 until you delete all Oracle AS SPI individual and group templates in the Message Source Template window.

## Task 3: Delete Oracle AS SPI Applications

- 1 Open the Application Bank.
- 2 Right-click the OASSPI application group and click **Delete**. The following message appears:  
Do you really want to delete the application group?
- 3 Click **Yes**.

## Task 4: Upgrade the Management Server

The Oracle AS SPI software is available on the *HP Operations Smart Plug-ins DVD*.



The instructions that follow show the command line usage of `swinstall`. For HP-UX systems, you can also use the graphical user interface (GUI).

For an HP-UX 11.23 and 11.31 (PA and IA) management server, type:

```
swinstall -s /cdrom/OV_DEPOT/11.0HPUX.depot OASSPI
```

On a Solaris management server the packages are supported in both depot and solaris native format.

For a Solaris management server in depot format, type:

```
swinstall -s /cdrom/OV_DEPOT/SOLARIS.depot OASSPI
```

For a Solaris management server in native format, perform the following steps:

- 1 Before upgrading the SPI software on the Solaris management server, set **PKG\_NONABI\_SYMLINKS** to **true** to avoid breakage of existing links during the installation. Type:

```
PKG_NONABI_SYMLINKS=TRUE
```

```
export PKG_NONABI_SYMLINKS
```

- 2 The SPIs have dependencies on “DSI2DDF” and “SPI-SVCDISC-OVO”. These two packages are not available in the native format of solaris. Hence, install “DSI2DDF” and “SPI-SVCDISC-OVO” from SOLARIS.depot before installing from the HPOMSpiDVD-8.1.sparc package.
- 3 To install from the HPOMSpiDVD-8.1.sparc, type:  

```
pkgadd -d /cdrom/OV_DEPOT/HPOMSpiDVD-8.1.sparc
```
- 4 Select the following SPIs for upgrading:
  - HPOvSpiOas
  - HPOvSpiJmx
  - HPOvSpiShs

## Task 5: Assign Operator Responsibilities for `opc_adm`

- 1 Log on to HPOM as administrator (`opc_adm`).
- 2 Open the User Bank window, right-click the `opc_adm` user, and click **Modify**.
- 3 In the Modify User:opc\_adm user window, click **Responsibilities**.
- 4 For OASSPI and Oracle AS Message Groups, ensure that all check boxes are selected.
- 5 Assign the OASSPI Node or Message Groups to some other appropriate operators.
- 6 Click **Close**.

## Task 6: Assign Templates to the Management Server

- 1 Open the Node Bank window and select the management server.
- 2 From the Actions menu, select **Agents** → **Assign Templates**. The Define Configuration window opens.
- 3 Click **Add**. The Add Configuration window opens.
- 4 Click **Open Template Window**. The Message Source Templates window opens.
- 5 In the Template Groups pane, select the **SPI for Oracle Server** template group.
- 6 From the Message Source Templates window, in the right pane, select the **OASSPI-Discovery** template and **OASSPI-Messages** template.
- 7 From the Add Configuration window, click **Get Template Selections**. The OASSPI-Messages and OASSPI-Discovery templates appear in the right pane.
- 8 From the Add Configuration window, click **OK**.

## Task 7: Distribute Templates to the Management Server

- 1 Open the Node Bank window and select the management server.
- 2 From the Actions menu, select **Agents** → **Install/Update SW & Config**.
- 3 In the Target Nodes section, select **Nodes in List Requiring Update**.
- 4 In the Install/Update Software and Configuration window select the **Templates** check box.

- 5 Select **Force Update**.
- 6 Click **OK**.

The following message appears in the message browser:

```
The following configuration information was successfully distributed:  
Templates
```

## Task 8: Customize Templates

- 1 Copy the default templates.
- 2 Apply the customizations made to the previous version of templates to the copy of the current version.

## Task 9: Move Nodes to New Node Group (Verify)

Move all managed nodes (running supported versions of the Oracle Application Server) in the Oracle AS node group to the new Oracle AS node group. Follow these steps:

- 1 Open the Node Bank and double-click **Oracle AS** node group.
- 2 Note the managed nodes in it.
- 3 Go back to the top level of the node bank (where the Oracle AS node group is displayed)
- 4 Drag and drop, or copy and paste, the nodes (noted in step 2) from the IP submap to the Oracle AS node group.

## Task 10: Delete Oracle Application Server Node Group

- 1 Open the Node Bank and select **Oracle AS** node group.
- 2 From the Edit menu, click **Delete**. The following message appears:  
Do you really want to delete the node group?
- 3 Click **Yes**.

## Task 11: Distribute Actions, Monitors, Commands, and Templates

- 1 From the Node Bank window, select the nodes or node groups on which you want to install the Oracle AS SPI.
- 2 From the Actions menu select **Agents** → **Install/Update SW & Config**.
- 3 In the Install/Update HPOM Software and Configuration window, select the following component check boxes:
  - Templates
  - Actions
  - Monitors
  - Commands

Using this dialog, deploy updated components on the managed nodes.

- 4 Select the **Force Update** check box.
- 5 Select the **Nodes in list** option button. Upon completion, the following message appears in the message browser for each managed node:

The following configuration information was successfully distributed:  
Actions Commands Monitors Templates.

▶ You might see some Oracle AS SPI errors in the message browser. These errors are the result of the transition to the updated programs and you can ignore them. Oracle AS SPI templates and programs are updated on the Management Server and selected managed nodes. These errors are resolved when the upgrade is complete.

## Task 12: Launch the Discover Oracle AS Application

You must launch the Discover Oracle AS application. You are not required to re-enter any of the Oracle AS SPI configuration data because all configuration data is saved. To re-deploy the file, you can drag and drop multiple nodes, node groups, or single nodes. When you re-deploy the file, relevant information is updated, transmitted, and stored on the node. Follow these steps:

- 1 From the HPOM console, select the node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window, select **OASSPI** → **OASSPI Admin** → **Discover Oracle AS**. (If the above does not appear as described, select **Map** → **Reload**). The Introduction window opens.
- 4 Click **Next**. A second Introduction window opens. Information about the properties required for the discovery process to work are given in this window
- 5 Read this information and click **Next**. The configuration editor opens.
- 6 Make the necessary changes using the configuration editor.
  - ▶ When setting the configuration using configuration editor, note the following:
    - GRAPH\_SERVER property is no longer supported in the Oracle AS SPI. Instead, set the GRAPH\_URL property.
    - After you consolidate the UDMs on the management server, delete the old UDM files from the managed nodes and distribute the new UDM file to the managed nodes using the Deploy UDM application.
- 7 Click **Next** to save any changes and exit the editor. The Confirm Operation window opens.
- 8 Click **OK**.

If you click **Cancel**, all the changes made to the configuration will remain in the configuration on the management server. To make the changes to the selected managed nodes' configuration, you must select those nodes in the Node Bank window, launch the Discovery application, click **Next** in the configuration editor, and then click **OK** in the Confirm Operation window.

▶ Do not close the Discover application window until the discovery process is complete. The discovery process might take several minutes to complete.

## Task 13: Install the New Report Package (Optional)

Remove older versions of the Oracle AS SPI report package from your Windows system running HP Reporter and install the new Oracle AS SPI report package. To install the new report package, follow these steps:

- 1 On the Windows system running HP Reporter, go to **Settings** → **Control Panel** → **Add/Remove Programs**.
- 2 Select the Oracle AS SPI report package and click **Remove**.
- 3 To install the Oracle AS SPI report package, follow the steps in [Integrating with HP Reporter](#) on page 70.

## Task 14: Install the New Graph Package (Optional)

- If HP Performance Manager is running on a Windows system, remove older versions of Oracle AS SPI graph package and install the new Oracle AS SPI graph package. To install the new graph package, follow these steps:
    - a Go to **Settings** → **Control Panel** → **Add/Remove Programs**.
    - b Select the Oracle AS SPI graph package (HP Operations Manager SPI for Oracle AS - Graphing Component Integration) and click **Remove**.
    - c To install the Oracle AS SPI graph package, follow the steps in [Integrating with HP Performance Manager](#) on page 72.
  - If HP Performance Manager is running on a HP-UX system (not the HPOM management server), follow these steps:
    - ▶ If HP Performance Manager is installed on the HPOM management server, the files are automatically updated when you install the SPI software.
      - a Run `swlist | grep OASSPI-GRAPHS` to verify that the graph package is installed.
      - b Run `swremove OASSPI-GRAPHS` if the graph package is installed.
      - c To install the Oracle AS SPI graph package, follow the steps in [Integrating with HP Performance Manager](#) on page 72.
  - If HP Performance Manager is running on a Solaris system (not the HPOM management server), follow these steps:
    - ▶ If HP Performance Manager is installed on the HPOM management server, the files are automatically updated when you install the SPI software.
      - a Run `/usr/bin/pkginfo HPOvSpiOasGc` to verify that the graph package is installed.
      - b Run `/usr/sbin/pkgrm HPOvSpiOasGc` if the graph package is installed.
- To install the Oracle AS SPI graph package, follow the steps in [Integrating with HP Performance Manager](#) on page 72.

# Removing the Oracle AS SPI

The complete removal of the Oracle AS SPI installation deletes all Oracle AS SPI components.

Complete the following tasks:

- Task 1: Remove Oracle AS SPI Software from the Management Server
- Task 2: Remove Oracle AS SPI Software from the Node Group and Managed Nodes
- Task 3: Delete Oracle AS SPI Templates and Template Groups
- Task 4: Delete Oracle AS SPI Applications
- Task 5: Delete the Oracle AS SPI Message and Node groups
- Task 6: Remove the Report Package (Optional)
- Task 7: Remove the Graph Package (Optional)

## Task 1: Remove Oracle AS SPI Software from the Management Server

- 1 Open a terminal window and log on as root.
- 2 In the terminal window:
  - For an HP-UX 11.23 and 11.31 (PA and IA) management server, type:  

```
/usr/sbin/swremove OASSPI  
/usr/sbin/swremove OASSPI-GRAPHS
```
  - For a Solaris management server in depot format, type:  

```
/usr/sbin/swremove OASSPI/  
/usr/sbin/swremove OASSPI-GRAPHS
```
  - For a Solaris management server in native format, type:  

```
/usr/sbin/pkgrm HPOvSpiOas
```

The `swremove` and `pkgrm` command removes the files from the file system only. The Oracle AS SPI templates are still in the HPOM data repository and must be deleted manually. Before the templates can be deleted, they (and the Oracle AS SPI software) must be de-assigned from the managed nodes.

## Task 2: Remove Oracle AS SPI Software from the Node Group and Managed Nodes

- 1 Open the Node Bank and, from the Actions menu, select **Agents → Assign Templates**.
- 2 Select the Oracle AS node group and all managed nodes to which Oracle AS templates are assigned.
- 3 Click **Remove nodes/groups**.
- 4 Open the Node Group Bank and select the Oracle AS node group.
- 5 From the Action menu, select **Install/Update SW & Config** and check the following check boxes:
  - Templates
  - Actions



- Monitors
  - Commands
- 6 Select the **Nodes in List** option button.
  - 7 Select the **Force Update** option button.
  - 8 Click **OK** to remove the Templates, Actions, Commands and Monitors from the managed node(s). The following message is displayed in the Message Browser:

```
The following configuration information was successfully distributed:
Templates Actions Commands Monitors
```


### Task 3: Delete Oracle AS SPI Templates and Template Groups

Starting from the SPI for Oracle AS template group, delete all templates and template groups. After these templates and template groups are deleted, delete the SPI for Oracle AS template group.

- 1 Open the Message Source Templates window and double-click the SPI for Oracle AS template group.
- 2 Press **SHIFT** and click to select all templates and template groups in the SPI for Oracle AS template group.
- 3 Click **Delete from All....** The following message appears:

```
Do you really want to delete the template(s)?
```

- 4 Click **YES**.
- 5 If additional Oracle AS SPI templates or template groups are in the SPI for Oracle AS template group, repeat steps 2 through 4 until you delete all Oracle AS SPI templates and template groups from the SPI for Oracle AS template group.
- 6 Go up one level and delete the SPI for Oracle AS template group.

 If customized templates (copies of Oracle AS SPI default templates) are residing in other HPOM template groups, remove them as well.

### Task 4: Delete Oracle AS SPI Applications

Unlike templates, applications can all be removed in a single step.

- 1 Open the Application Bank.
- 2 Right-click the OASSPI application group and click **Delete**.
- 3 Click **Yes** in response to the following message:

```
Do you really want to delete the application group?
```

## Task 5: Delete the Oracle AS SPI Message and Node groups

- 1 From the Window menu, select **Message Group Bank**.
- 2 In the Message Group Bank window, right-click the **OASSPI** group and select **Delete**.
- 3 Repeat for the **Oracle AS** group.
- 4 From the Window menu, select **Node Group Bank**.
- 5 In the Node Group Bank window, right-click each OASSPI and Oracle AS group and select **Delete**.

## Task 6: Remove the Report Package (Optional)

If you installed the Oracle AS SPI report package (on your Windows system running Reporter), remove it:

- 1 On the Windows system running Reporter, from the Control Panel, double-click the **Add/Remove Programs** icon.
- 2 Select the Oracle AS SPI report package and click **Remove**.

## Task 7: Remove the Graph Package (Optional)

If you installed the Oracle AS SPI graph packages (on the system running HP Performance Manager), remove them.

On a Windows system running HP Performance Manager, follow these steps:

- 1 From the Control Panel, double-click the **Add/Remove Programs** icon.
- 2 Select the Oracle AS SPI graph package (HP OpenView SPI for Oracle Application Server - Graphic Component Integration) and click **Remove**.

On an HP-UX system running HP Performance Manager that is not the HPOM management server, follow these steps (if HP Performance Manager is installed on the HPOM management server, the files are removed in [Task 1: Remove Oracle AS SPI Software from the Management Server](#) on page 32):

- 1 Verify that the graph package is installed. Type  
`swlist | grep OASSPI-GRAPHS`
- 2 Type `swremove OASSPI-GRAPHS`

On a Solaris system running HP Performance Manager that is not the HPOM management server, follow these steps (if HP Performance Manager is installed on the HPOM management server, the files are removed in [Task 1: Remove Oracle AS SPI Software from the Management Server](#) on page 32):

- 1 Verify that the graph package is installed. Type  
`/usr/bin/pkginfo HPOvSpiOasGc`
- 2 Type `/usr/sbin/pkgrm HPOvSpiOasGc`

# 3 Configuring the Oracle AS SPI

To successfully configure the Oracle AS SPI, you must complete all configuration prerequisites, complete Oracle AS SPI configuration (for managed nodes and the management server), and complete additional configuration based on your environment.

## Configuration Prerequisites


Complete the following tasks before configuring the Oracle AS SPI:

- [Task 1: Configure the Management Server to Launch Your Web Browser](#)
- [Task 2: Assign Operator Responsibilities for opc\\_adm](#)
- [Task 3: Assign Templates to the Management Server](#)
- [Task 4: Distribute Templates to the Management Server](#)

### Task 1: Configure the Management Server to Launch Your Web Browser

Oracle AS SPI uses the `ovweb` utility to start your web browser for running several Oracle AS SPI applications including Start Console (launch the Oracle Application Server Control Console), AggreSPY (launch the Oracle servlet that reports performance metrics), Repository (launch the Oracle Enterprise Manager Database Control used to manage the Oracle AS Metadata Repository database), and View Graphs (display graphed metrics, which requires HP Performance Manager). If you do not want to use these applications, skip this task.

- 1 Enter the browser invocation command in the `ovweb.conf` file. If no browser invocation command is included in the `ovweb.conf` file, `ovweb` tries to start the default web browser.

 The `ovweb.conf` file must be located in the directory specified by the environment variable `$OV_CONF` (used by HPOM). To find the HPOM directory structure on your management server, open the `/opt/OV/bin/ov.envvars.sh` file and look for the `$OV_CONF` definition.

The browser invocation command must contain a `%s` to enable Oracle AS SPI to pass a URL to the browser. Open the file and insert the command according to the entry syntax and example as follows:

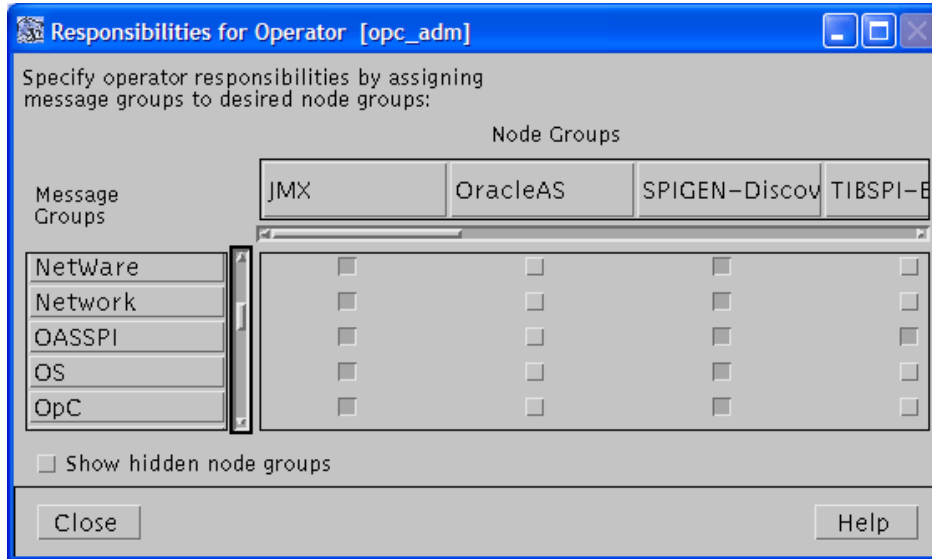
Syntax: `Browser: <browser command> %s`

- 2 Check the web browser setting. To display the Oracle AS SPI graphs, ensure that your browser is JavaScript enabled. Check the setting within the browser's Preferences.
- 3 In [Task 4: Launch Discover Oracle AS](#) on page 45, set the following conditional property:
  - If you are using HP Performance Manager, set the `GRAPH_URL` property.

For more information about launching a browser in HPOM, consult the man pages for `ovweb`, `ovweb.conf`, and `ov.envvars`. To access instructions for enabling graph displays, at a command prompt enter: `man ovweb`

## Task 2: Assign Operator Responsibilities for `opc_adm`

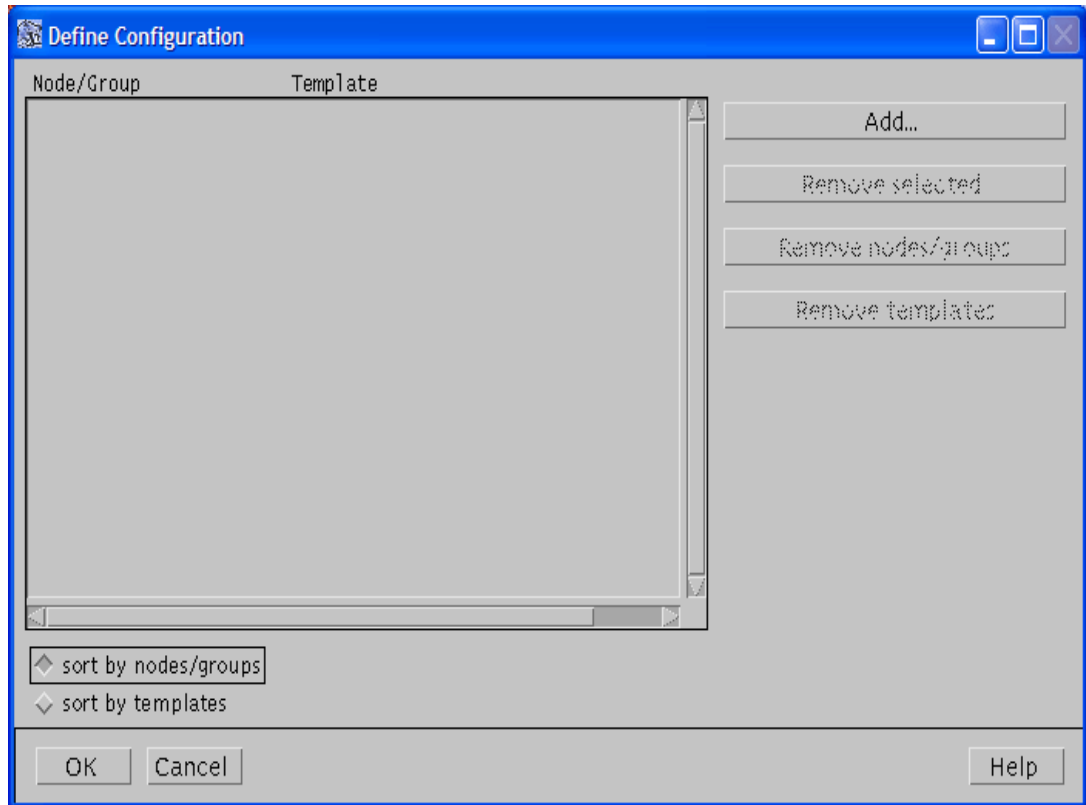
- 1 Log on to HPOM as the administrator (`opc_adm`).
- 2 Open the User Bank window, right-click the `opc_adm` user, and choose **Modify**.
- 3 In the Modify User:`opc_adm` user window, click **Responsibilities**.
- 4 For OASSPI and Oracle AS Message Groups, ensure that all boxes are checked.



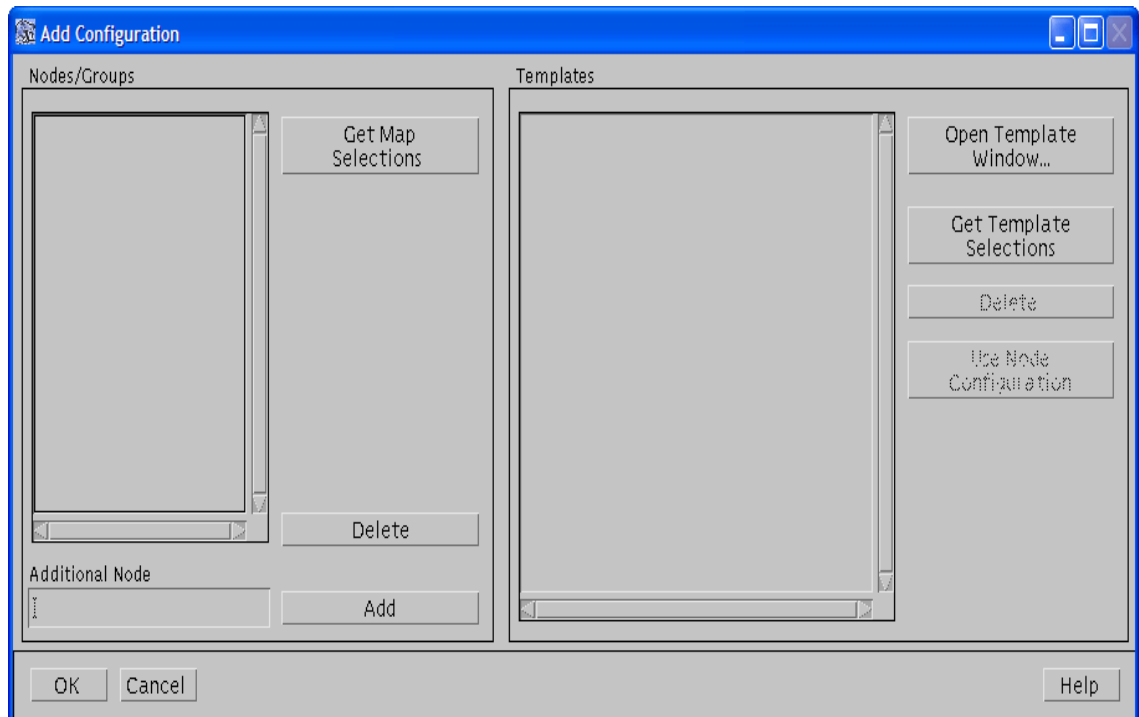
- 5 Assign the OASSPI Node or Message Groups to any other appropriate operators.
- 6 Click **Close**.

## Task 3: Assign Templates to the Management Server

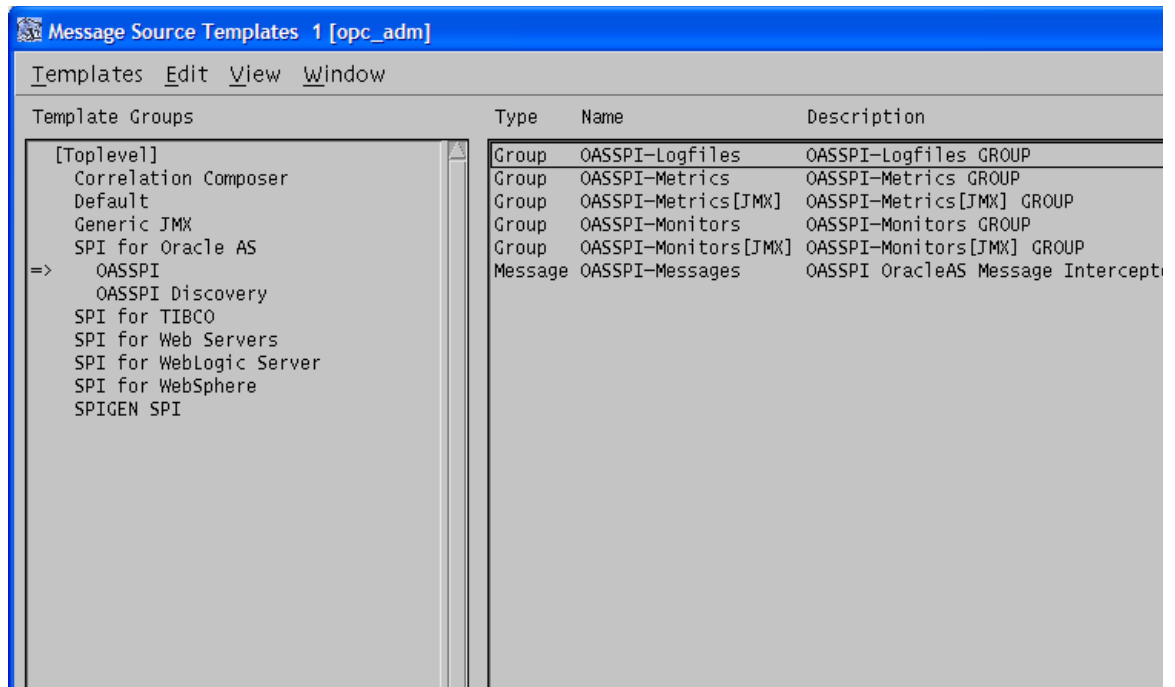
- 1 Open the Node Bank window and select the management server.
- 2 From the Actions menu, select **Agents → Assign Templates**. The Define Configuration window opens.



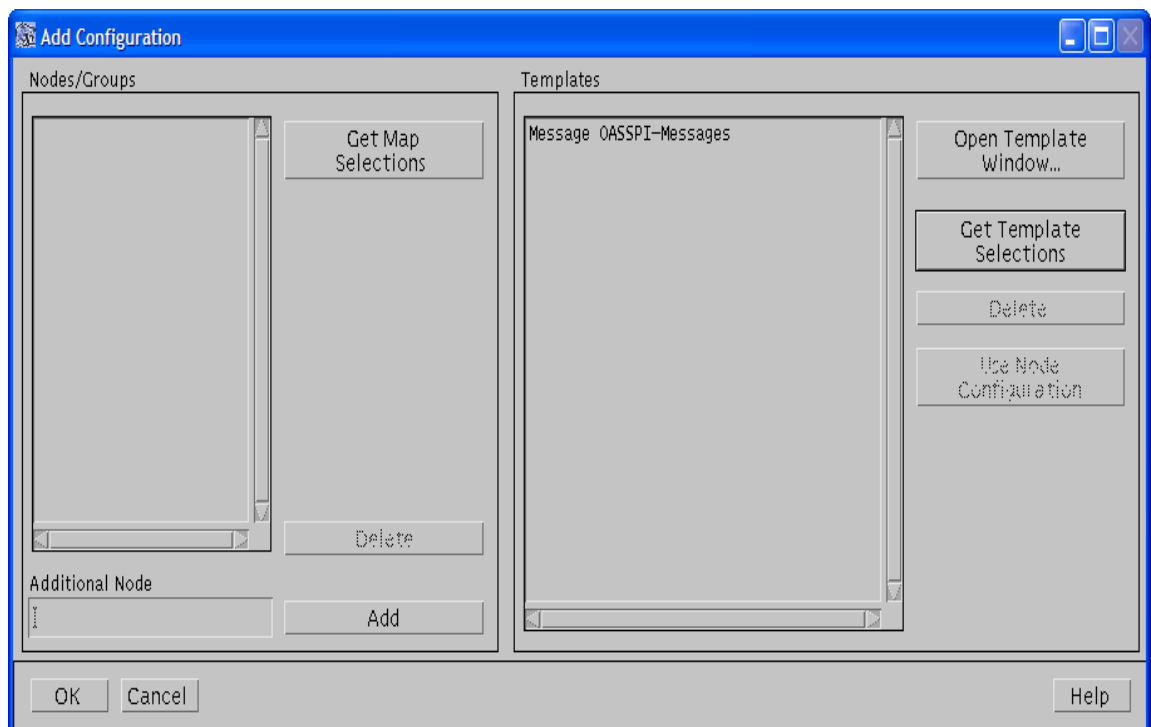
3 Click **Add**. The Add Configuration window opens.



4 Click **Open Template Window**. The Message Source Templates window opens.



- 5 From the Message Source Templates window, in the Template Groups pane, select the SPI for Oracle AS template group.
- 6 From the Message Source Templates window, in the right pane, select the OASSPI-Discovery and OASSPI-Messages templates.
- 7 From the Add Configuration window, click **Get Template Selections**. The OASSPI-Discovery and OASSPI-Messages templates appear in the right pane.



- 8 From the Add Configuration window, click **OK**.

## Task 4: Distribute Templates to the Management Server

- 1 Open the Node Bank window and select the management server.
- 2 From the Actions menu, select **Agents → Install/Update SW & Config**.
- 3 In the Target Nodes section, select **Nodes in List Requiring Update**.
- 4 In the Install/Update Software and Configuration window, check the **Templates** check box.
- 5 Select **Force Update**.
- 6 Click **OK**.

The following message is displayed in the Message Browser:

```
The following configuration information was successfully distributed:  
Templates
```

The OASSPI-Discovery and OASSPI-Messages templates are distributed to the management server.

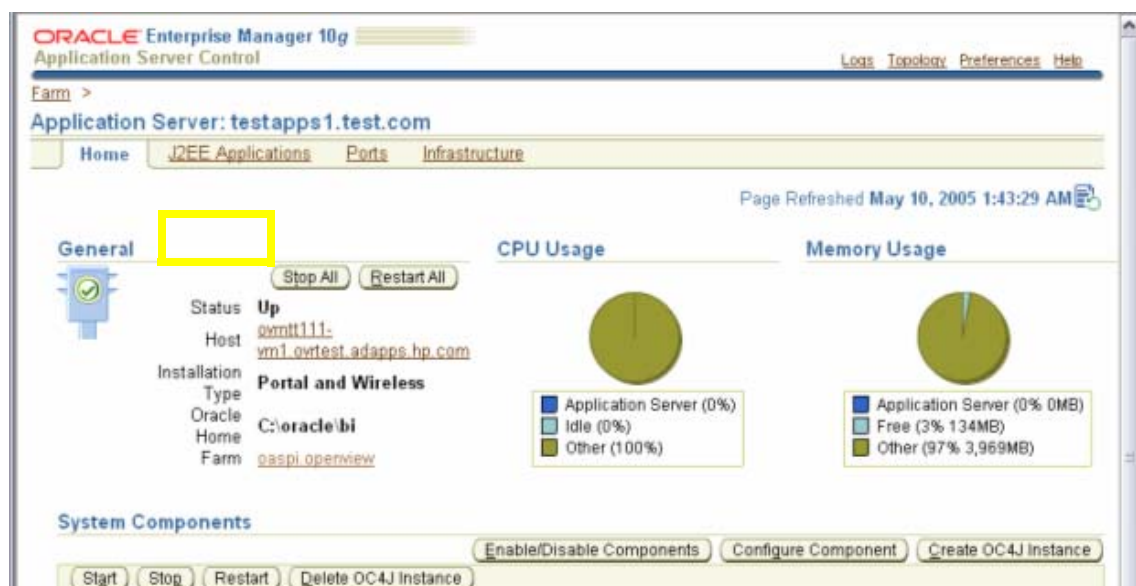
# Oracle AS SPI Configuration on Managed Nodes

Complete the following tasks for each managed node:

- Task1: Verify the Application Server Status
- Task2: Configure a Oracle AS Server User

## Task1: Verify the Application Server Status

For each managed node, verify that the application servers are running by checking a server's status from the Oracle Application Server Control Console.



## Task2: Configure a Oracle AS Server User

If security is enabled on the Oracle AS servers, collect the Oracle AS login and password for each OC4J/OHS server. If you do not want to use the existing login and password, create a new login and password. The Oracle AS SPI discovery process uses the login and password to gather basic configuration information, and the Oracle AS SPI data collector uses the login and password to collect metrics.



To simplify the Oracle AS SPI configuration, keep the login and password for both OC4J and OHS servers similar.

This feature is enabled only for Oracle AS SPI version 6.10. You can use the username and password for users/groups assigned to the administrator or operator role.



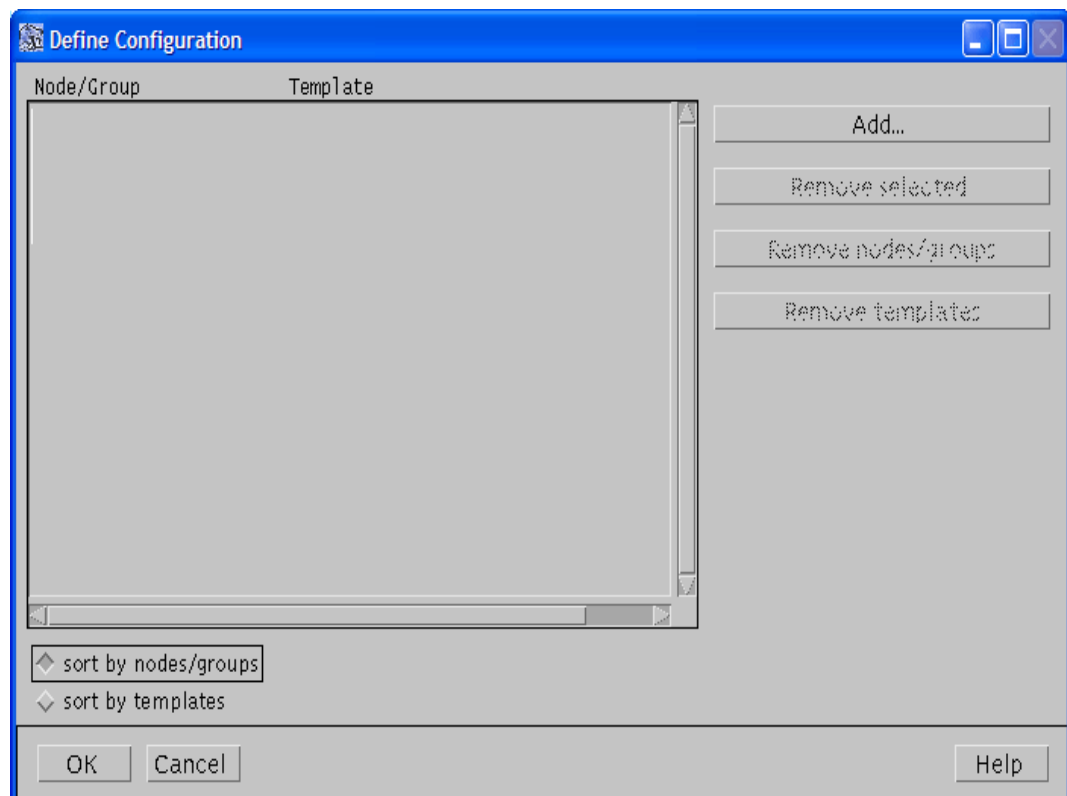
# Oracle AS SPI Configuration from the Management Server

To configure Oracle AS SPI, complete the following tasks (from the management server):

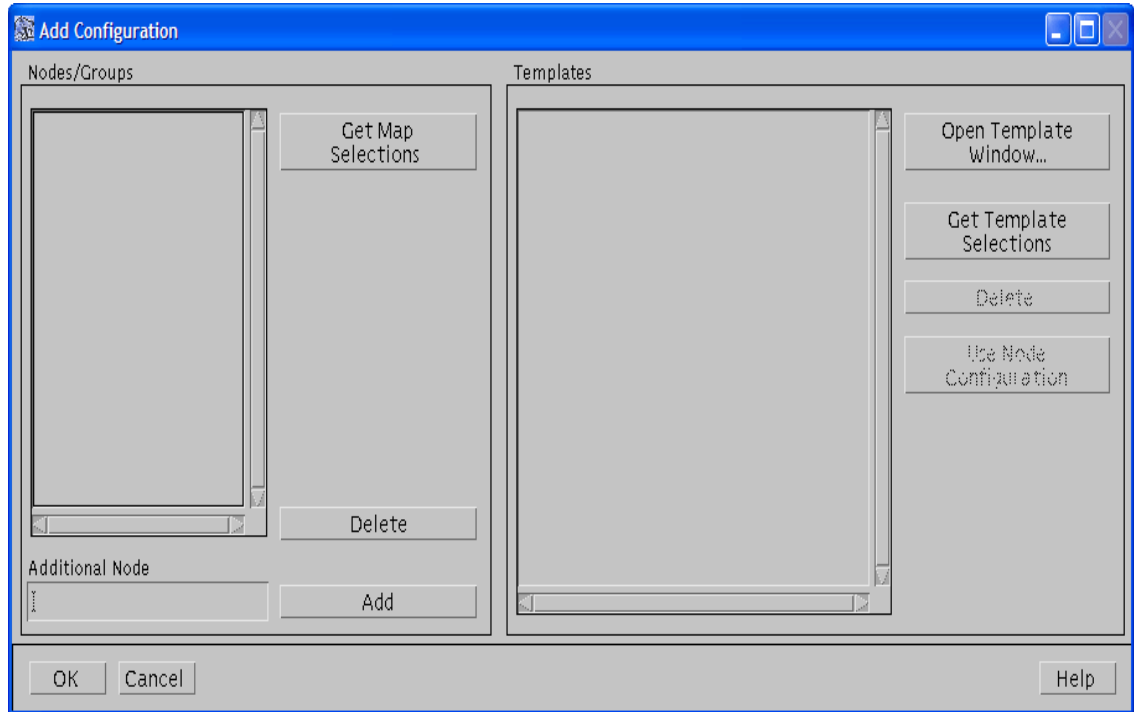
- Task 1: Assign the OASSPI-Messages Template
- Task 2: Distribute Templates, Actions, Monitors, Commands
- Task 3: Add Nodes to the Oracle AS Node Group
- Task 4: Launch Discover Oracle AS
- Task 5: Verify the Discovery Process
- Task 6: Distribute Oracle AS SPI Templates to the Managed Nodes
- Task 7: Completing Configuration
- Task 8: Verify Oracle AS SPI Configuration

## Task 1: Assign the OASSPI-Messages Template

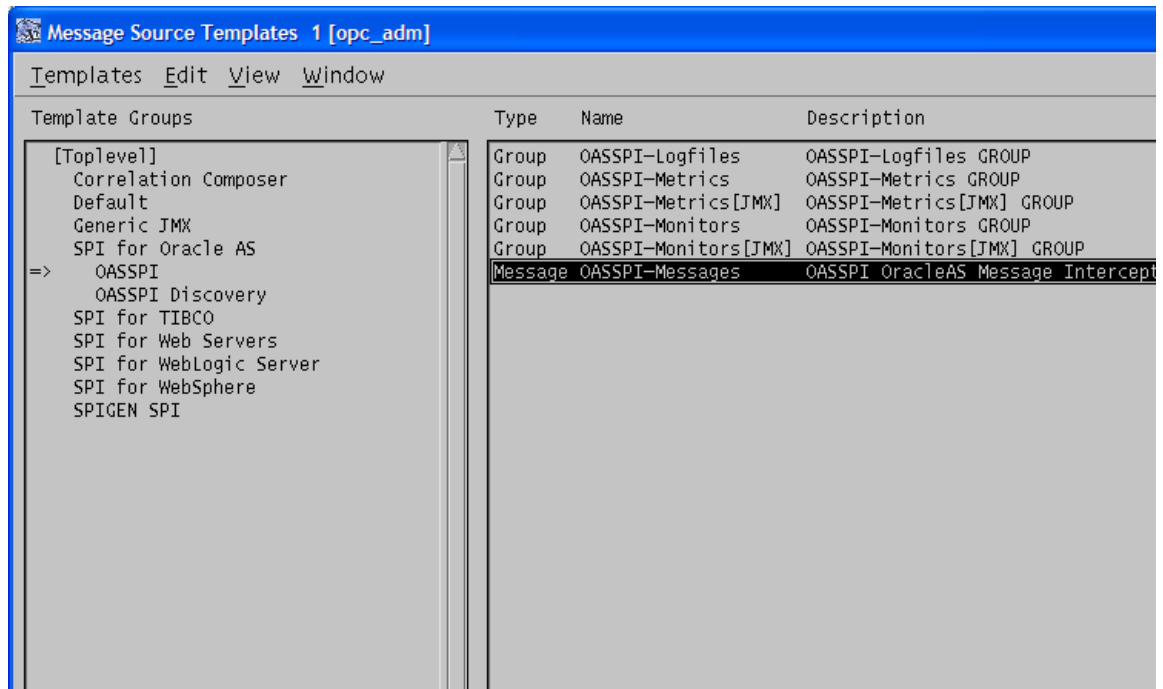
- 1 Open the Node Bank window and select the managed nodes.
- 2 From the Actions menu, select **Agents → Assign Templates**. The Define Configuration window opens.



- 3 Click **Add**. The Add Configuration window opens.

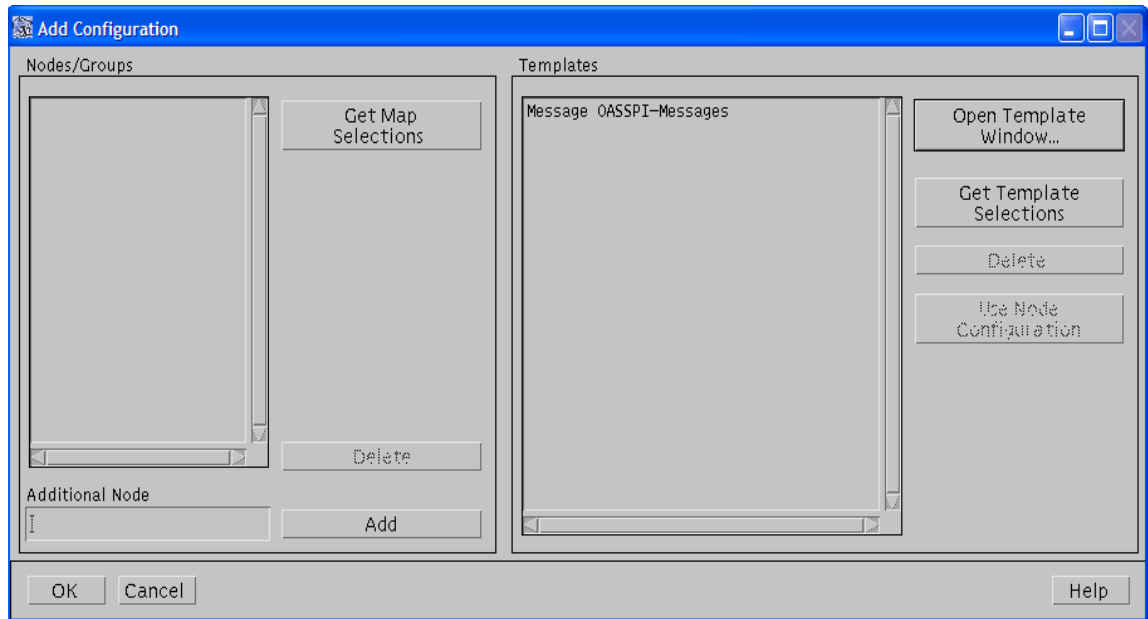


- 4 Click **Open Template Window**. The Message Source Templates window opens.



- 5 Select the SPI for Oracle AS template group.
- 6 In the right pane, select the OASSPI-Messages template.

- 7 In the Add Configuration window, click **Get Template Selections**. The OASSPI-Messages template appears in the right pane.

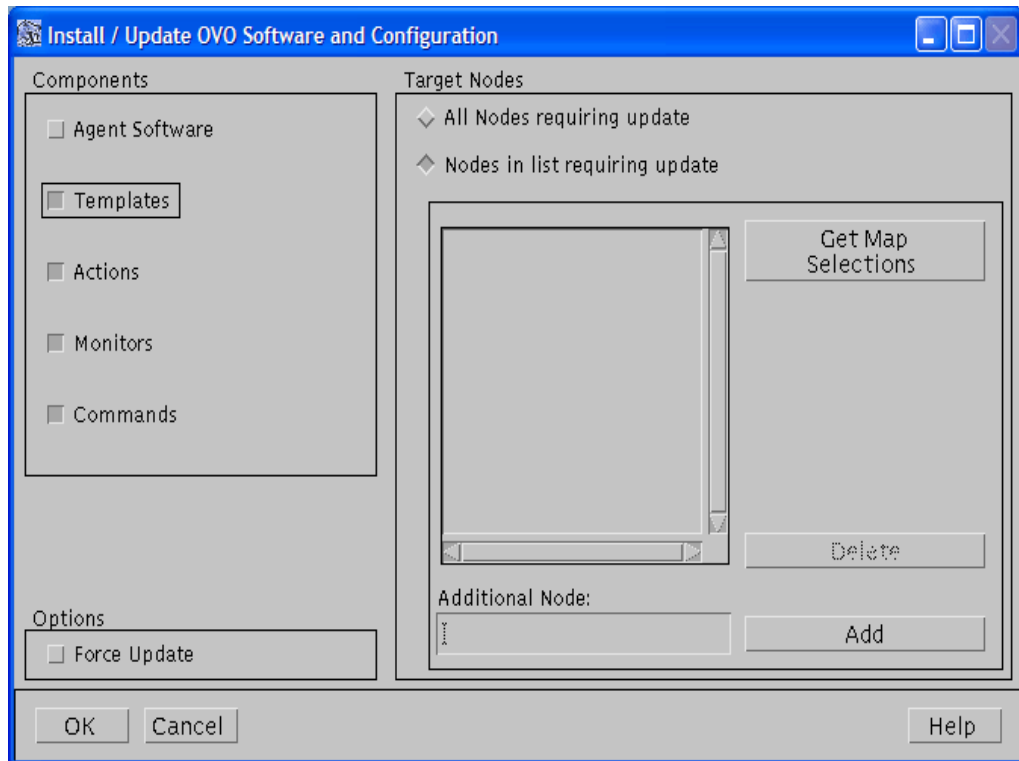


- 8 Click **OK**.

## Task 2: Distribute Templates, Actions, Monitors, Commands

- 1 Select the node(s) on which to install the Oracle AS SPI.
- 2 From the Node Bank's Actions menu select **Agents** → **Install/Update SW & Config**.
- 3 In the Install/Update HPOM Software and Configuration window, select the following component check boxes:
  - Templates
  - Actions
  - Monitors
  - Commands

Using this dialog, deploy program components to the managed nodes.



- 4 Select the **Force Update** check box.
- 5 Select the **Nodes in list** option button. Click **OK**.  
Upon completion, the following message appears in the Message Browser for each managed node:

```
The following configuration information was successfully distributed:  
Templates Actions Commands Monitors
```

The Oracle AS SPI is now installed on the selected managed node(s).

### Task 3: Add Nodes to the Oracle AS Node Group

Oracle AS SPI automatically creates a single node group (Oracle AS) with appropriate template groups already assigned. Place any nodes running Oracle OC4J/OHS servers in this node group.

- 1 From the HPOM console, open both the Node Group Bank and the Node Bank to display (side-by-side) the Oracle AS node group and the managed nodes.
- 2 Drag and drop managed nodes running Oracle OC4J/OHS servers into the Oracle AS node group.

## Task 4: Launch Discover Oracle AS

Launch the Discovery application on one managed node at a time. You must run the Discover Oracle AS tool to set the basic configuration properties required for the Oracle AS SPI to discover instances of the Oracle Application Server, deploy the Oracle AS SPI discovery templates, and update the service map.



If an instance of Oracle AS has a server login name and password different from the default login and password, before launching the discovery tool you must explicitly configure the login details for that server using the configuration editor.

Follow these steps:

- 1 At the HPOM console, double-click OVO Node Bank. The OVO Node Bank window opens.
- 2 From the Window menu, select **Application Bank**. The OVO Application Bank opens in a new window.
- 3 Double-click **OASSPI**. The Application Group: OASSPI window opens.
- 4 Double-click **OASSPI Admin**. The Application Group: OASSPI Admin window opens. All the OASSPI Admin applications appear in this window.
- 5 Select a node from the OVO Node Bank window and double-click **Discover Oracle AS** (If the above does not appear as described, select **Map** → **Reload**.) The Introduction window opens. This window contains brief information about the Discovery application.
- 6 Click **Next**. A second Introduction window opens. This window displays information about the properties that might be required for the discovery process to work.
- 7 Click **Next**. If you already set the LOGIN and PASSWORD properties, the configuration editor opens.

If you did not set the LOGIN and PASSWORD properties, the Set Access Info for Default Properties window opens.

- 8 Set the same LOGIN and PASSWORD properties as configured in the Oracle AS login and password in [Task2: Configure a Oracle AS Server User](#) on page 40.



The LOGIN and PASSWORD properties set in this window are used as the default Oracle AS login and password (they are set at the global properties level). That is, if no NODE level or server-specific LOGIN and PASSWORD properties are set, this Oracle AS login and password are used by the Oracle AS SPI to access all Oracle AS servers. For more information about the configuration structure, see [Structure](#) on page 129.

- 9 Click **Next**. The configuration editor opens.
- 10 From the configuration editor, set the configuration properties. For more information about using the configuration editor, see [Appendix B, The Configuration](#).
- 11 Click **Next** to save any changes and exit the editor.
- 12 The Confirm Operation window opens. Verify the nodes on which the operation is to be performed. Click **OK**.



If you click **Cancel** and made changes to the configuration, those changes remain in the configuration on the management server. To make the changes to the selected managed nodes' configuration, you must select those nodes in the Node Bank window, start the Discover Oracle AS application, click **Next** from the configuration editor, and then click **OK**.

## JMX Discovery for Oracle AS

Oracle AS SPI now supports JMX discovery for Oracle Application Server version 10gR3.

In your environment you may have different versions of Oracle Application Servers, for example, version 10gR3 or older, installed on the same node. In such a scenario, you may have to select whether you want to run classic discovery or the JMX discovery.

- ▶ For the older versions of Oracle Application Servers, Oracle AS SPI uses DMS tool for Discovery. This is referred to as *classic discovery* in this document.

There can be three scenarios:

Scenario 1: If only Oracle Application Server version 10gR3 is installed on the node.

By default, the JMX Discovery runs.

Scenario 2: If Oracle Application Server versions older than 10gR3 (for example 10gR1 and 10gR2) are installed on the node.

By default, the classic system of discovery runs.

Scenario 3: If different versions of Oracle Application Server (10gR3 along with 10gR1 or 10gR2) are installed on the node.

You can choose the method of discovery.

In the `SPIConfig` file, set the value of the **JMX\_DISCOVERY** flag to `true` or `false`. By default, the value is `true`.

- If **JMX\_DISCOVERY**=`true`, the JMX Discovery runs for Oracle AS 10gR3 version only and all the older versions are not discovered.
- If **JMX\_DISCOVERY**=`false`, the classic system of discovery is used for all the versions including 10gR3.

- ▶ If you set the **JMX\_DISCOVERY** flag to `false`, the collection of JMX Metrics (belonging to the OASSPI-Metrics (JMX) template group) fails. All metrics belonging to the OASSPI Metrics group is collected with the exception of OASSPI\_0001, OASSPI\_0002, OASSPI\_0005, and OASSPI\_0245.

## Discovering HTTP (OHS) Server

- ▶ The new JMX discovery discovers the HTTP server *only* if it is a part of a cluster.

There can be two discovery scenarios for HTTP (OHS) servers:

Scenario 1: HTTP (OHS) and OC4J servers are on the same system and have a common Oracle HOME.

The HTTP server is automatically discovered.

Scenario 2: HTTP (OHS) and OC4J servers are on different systems and /or have different Oracle HOME.

Follow these steps:

- 1 In the cluster, identify the OC4J instance that is connected to the OHS server.

- 2 In the Configuration Editor (see [Using the Configuration Editor](#) on page 131 for more information about the configuration editor) right-click the node on which the OC4J server is installed and select **Add OC4J/OHS Server**. The OASSPI Discover Tool: Add App Server window opens.
- 3 Select the **HTTP Server** checkbox and click **OK**. The HTTP Server is added below the OC4J server.
- 4 Select the HTTP Server. In the Properties for OC4J/OHS Server: HTTP Server pane, the **NAME** and **TYPE** properties appear by default.
- 5 Clear the **Auto Discovery** checkbox and set the following properties—to set a property select the property from the Select a Property to Set dropdown menu and click **Set Property**. Double-click the empty space next to the property after the property appears in the list.:
  - **HOME**: Similar to the value set for the OC4J server.  
For example: **E: /product/10.1.3.1/OracleAS\_1**
  - **JAVA\_HOME**: Similar to the value set for the OC4J server.  
For example: **E: /product/10.1.3.1/OracleAS\_1/jdk**
  - **LOGIN**: Similar to the value set for the OC4J server.
  - **PASSWORD**: Similar to the value set for the OC4J server.
  - **MAP\_KEY\_PREFIX**: Any unique HTTP instance name
  - **URL\_PATH**: Similar to the value set for the OC4J server. However, you must replace `/home` at the end of the URL with `/cluster`.  
For example: **/optmn://testsystem.com:6004/cluster**  
  
To get the port no. in the URL, type the following command from the command prompt: `<directory> /product/10.1.3/OracleAS_1/opmn/bin> opmnctl status -port.`
  - **VERSION**: 10.1 3  
**Note** that there is a single space between 10.1 and 3 in the version.
- 6 Click **Next**. The OASSPI Discover Tool: Confirm Operation Window opens.
- 7 Click **OK**.



There are two limitations in this scenario:

- 1 You must manually enter the information the SPI requires to monitor the HTTP server.
- 2 The information about the HTTP Server does not appear in the service map because this information was manually entered and not discovered.

## Task 5: Verify the Discovery Process

Depending on the number of managed nodes in your environment, verification takes several minutes to complete.

- 1 Verify that the following messages appear in the Discover Oracle AS application window (the Discover Oracle AS application completed successfully):

```
Discovery started on node: <node>
Finished running the Discovery application
```

If the Discover Oracle AS application does not complete successfully, the following message appears in the application window:

```
Failed to run discovery on node <node>
```

See [Troubleshooting the Discovery Process](#) on page 90 for information on how to troubleshoot the discovery process.

- 2 Verify that the following message appears in the message browser for each managed node:

```
WASSPI-602 - Updating the OASSPI configuration data with discovered information
```

Depending on the number of managed nodes in your environment, it might take several minutes for these messages to display for all managed nodes.

- 3 If Service Navigator is already running, select **File** → **Reload Configurations**. In the Services tree, open the Application node and look for the Oracle service.
- 4 Run the Configure OASSPI application to verify the properties set by the discovery process. For more information about the configuration editor, see [Configure OASSPI](#) on page 150.

## Task 6: Distribute Oracle AS SPI Templates to the Managed Nodes

- 1 Open the Node Group Bank window and select the Oracle AS node group.
- 2 From the Actions menu, select **Agents** → **Install/Update SW & Config**.
- 3 In the Target Nodes section select the **Nodes in List Requiring Update** option button.
- 4 In the Install/Update Software and Configuration window check the **Templates** check box.
- 5 Select **Force Update**.
- 6 Click **OK**.

The following message is displayed in the Message Browser:

```
The following configuration information was successfully distributed:  
Templates
```

The Oracle AS SPI templates are now distributed to the Oracle AS node group. Oracle AS SPI monitors can now begin running according to their specific collection interval.



If you use HP Reporter, see [Chapter 5, Integrating HPOM Reporting and Graphing Products with the Oracle AS SPI](#), for information on integrating Oracle AS SPI with Reporter. Use Reporter to generate Oracle Application Server reports that show more consolidated information.

## Task 7: Completing Configuration

Before configuration is complete, the configuration information on the management server and managed nodes must be updated. You can either:

- Run the Configure OASSPI application (which updates the configuration information on the management server and managed nodes). For more information, see [Configure OASSPI](#) on page 150. This method is recommended.

Or

- Wait at least 10 minutes for the automatic configuration template to run.



## Task 8: Verify Oracle AS SPI Configuration

Run the Verify application to verify that Oracle AS SPI is properly installed and configured. For more information about this application, see [Verify](#) on page 156.

- 1 At the HPOM console, select the Oracle AS node group in the Node Group Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **OASSPI Admin** and double-click **Verify**.

## Additional Oracle AS SPI Configuration

Based on your Oracle Application Server configuration and application needs, you must finish Oracle AS SPI configuration by setting additional configuration properties and/or installing and configuring additional components. Setting additional properties and configuring additional components depends on your environment.

### Conditional Properties

Based on your Oracle Application Server configuration and application needs, you might need to set one or more conditional properties. If you meet a condition, set the properties listed to the right of the condition (these properties are not automatically discovered by the discovery process). For more information about the properties, see [Configuration Properties](#) on page 139.

**Table 1 Conditional Properties**

Condition	Property to Set
Start or stop an Oracle Application Server using the Start/Stop Oracle AS application from the HPOM console.	START_CMD, STOP_CMD, and USER
Use the View Graphs application from the HPOM console (Performance Manager must be installed).	GRAPH_URL

### Setting Conditional Properties

- 1 At the HPOM console, select the node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **OASSPI Admin** → **Configure OASSPI**. (If the above does not appear as described, select **Map** → **Reload**.)  
  
The Introduction window opens. This window contains brief information about the Discover Oracle AS application.
- 4 Click **Next**. The configuration editor opens.
- 5 From the configuration editor, set the properties. For more information about using the configuration editor, see [Appendix B, The Configuration](#).
- 6 Click **Next** to save any changes and exit the editor. The Confirm Operation window opens.

- 7 Click **OK**.

▶ If you click **Cancel** and make changes to the configuration, those changes remain in the configuration on the management server. To make the changes to the selected managed nodes' configuration, you must select those nodes in the Node Bank window, start the Configure OASSPI application, click **Next** from the configuration editor, and then click **OK**.

## Configuring a Non-Root HTTPS Agent on a UNIX Managed Node (OVO 8.x Only)

If you are running or planning to run a non-root HTTPS agent on a UNIX managed node (OVO 8.x only), follow these steps:

▶ You must install the OS-dependent Sudo software package on the UNIX managed node. Sudo is free software available from <http://www.sudo.ws>. The OS-dependent software packages are located at the bottom of the download page (<http://www.sudo.ws/sudo/download.html>). See the release notes for more installation information.

- 1 Switch the HTTPS agent to a non-root user. For more information, see the *HP Operations Manager HTTPS Agent Concepts and Configuration Guide*. This document is available at [http://ovweb.external.hp.com/lpe/doc\\_serv/](http://ovweb.external.hp.com/lpe/doc_serv/) under the product Operations for UNIX, version 8.x.
- 2 Add the agent user account to the local Oracle Application Server user group on the managed node. This enables the HP Operations agent user access to the files in the Oracle Application Server installation directories. Use the system administration tool or modify the `/etc/group` file to add the user.
- 3 On the managed node, set the `OV_SUDO` variable. As root or with HP Operations agent user privileges, follow these steps:
  - a Stop all HP Operations agents. Run the following command:  

```
opcagt -kill
```
  - b Set the `OV_SUDO` variable. Run the following command:  

```
ovconfchg -ns ctrl.sudo -set OV_SUDO <sudo_program>
```

where `<sudo_program>` is the location (including the absolute pathname) where `sudo` is installed (for example, `/usr/local/bin/sudo`).
  - c Start the HP Operations agents. Run the following command:  

```
opcagt -start
```
  - d Verify `OV_SUDO` is set. Run the following command:  

```
ovdeploy -cmd set | grep SUDO
```

The following displayed:  

```
OV_SUDO=<sudo_program>
```
- 4 Configure the managed node. These steps **MUST** be completed to successfully run the SPI in a non-root HTTPS agent environment.
  - a From the HPOM management server, deploy actions, commands, and monitors to the managed node.
  - b Select the node in the Node Bank window.

- c From the Application Bank window, select **OASSPI** → **OASSPI Admin** → **Init Non-Root**.
- 5 Edit the `/etc/sudoers` file using the visudo editor (installed with sudo):
- a On the managed node, log in as root.
  - b Open the `/<SPI_Config_DIR>/wasspi_oas_sudoers` file  
 where `<SPI_Config_DIR>` is the location of the SPI's configuration files on a managed node. For more information, see [Managed Node File Locations](#) on page 127.
- 6 In a separate window, run the visudo command (for example, type: `/usr/local/sbin/visudo`).

- c From the `wasspi_oas_sudoers` file, copy and append the following lines to the sudoers file:

```

Cmd_Alias OASSPI_ADMN = /opt/OV/nonOV/perl/a/bin/perl -S \
wasspi_oas_admin *
Cmd_Alias OASSPI_COLL = /opt/OV/nonOV/perl/a/bin/perl -S \
wasspi_oas_ca *
Cmd_Alias OASSPI_DISC = /opt/OV/nonOV/perl/a/bin/perl \
wasspi_oas_discovery.pl
Cmd_Alias OASSPI_LFEN = /opt/OV/nonOV/perl/a/bin/perl -S \
wasspi_oas_le *
Cmd_Alias OASSPI_SHSC = /opt/OV/nonOV/perl/a/bin/perl -S \
shs_collector.pl *

Cmd_Alias OASSPI_ADMNP = /opt/OV/nonOV/perl/a/bin/perl -S \
/var/opt/OV/bin/instrumentation/wasspi_oas_admin *
Cmd_Alias OASSPI_COLLP = /opt/OV/nonOV/perl/a/bin/perl -S \
/var/opt/OV/bin/instrumentation/wasspi_oas_ca *
Cmd_Alias OASSPI_DISCP = /opt/OV/nonOV/perl/a/bin/perl \
/var/opt/OV/bin/instrumentation/wasspi_oas_discovery.pl
Cmd_Alias OASSPI_LFENP = /opt/OV/nonOV/perl/a/bin/perl -S \
/var/opt/OV/bin/instrumentation/wasspi_oas_le *
Cmd_Alias OASSPI_SHSCP = /opt/OV/nonOV/perl/a/bin/perl -S \
/var/opt/OV/bin/instrumentation/shs_collector.pl *
<OV_Agent_username> <nodename> = NOPASSWD: OASSPI_ADMN, \
OASSPI_COLL, OASSPI_DISC, OASSPI_LFEN, OASSPI_SHSC, \
OASSPI_ADMNP, OASSPI_COLLP, OASSPI_DISCP, OASSPI_LFENP, \
OASSPI_SHSCP

```

In this instance, `<OV_Agent_username>` is the HP Operations agent user account and `<nodename>` is the name of the managed node.

- d Save the file and exit the visudo editor. Type `:wq`



Steps 3 and 4 must be performed every time the agent user is switched.



## 4 Customizing the Oracle AS SPI Templates

As you become familiar with the Oracle AS SPI, you can determine which templates are most useful to you and which you might want to change. This chapter provides more detail on the templates and how to make those changes.

### Basic Template Customizations

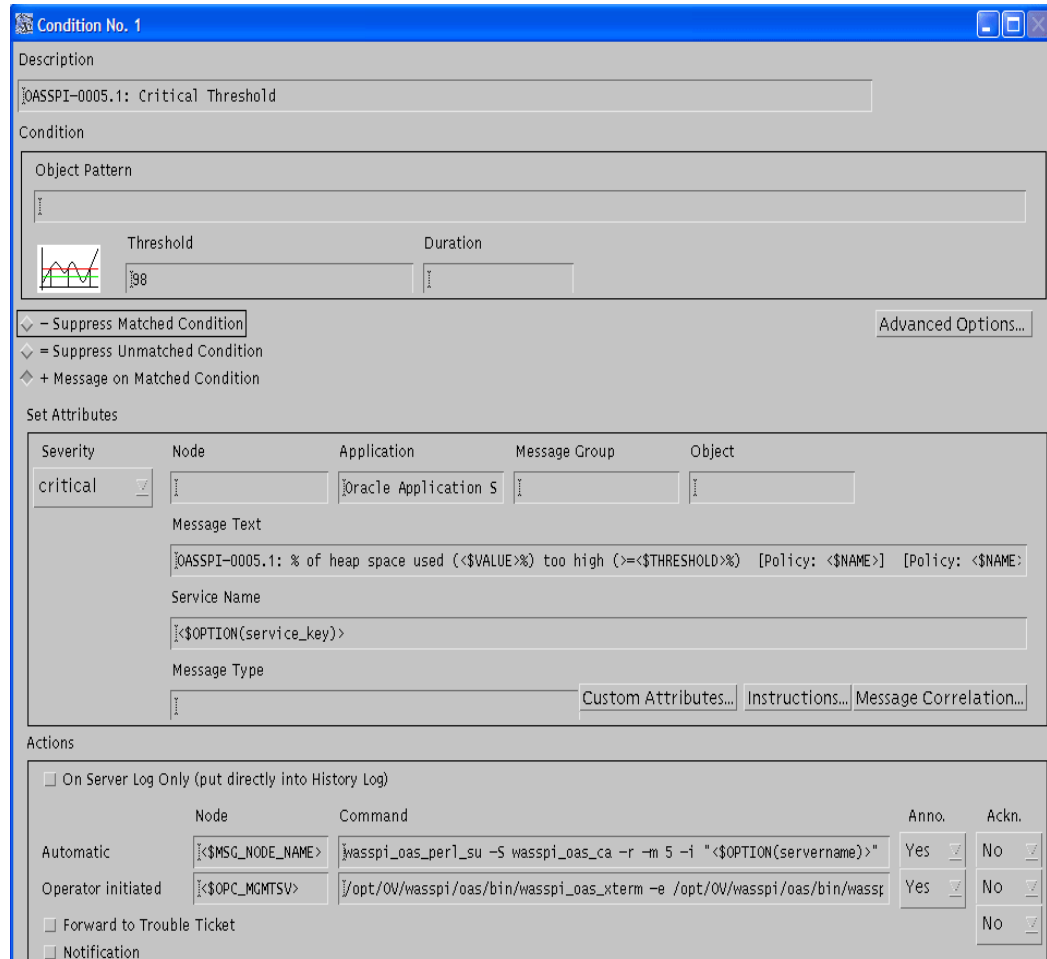
After you begin using the Oracle AS SPI, you might decide that specific Oracle AS SPI templates need some modification. Basic customizations, such as changing a threshold (by modifying a metrics template) or modifying alarm generation, are covered in this section.

- ▶ Make copies of the default templates so that they remain intact. Otherwise, your customizations are overwritten when you upgrade to the next version.

### Modifying Metrics Templates

Many metric attributes can be modified for all monitored instances of Oracle OC4J/OHS servers by following these steps:

- 1 Open the **Message Source Templates** window.
- 2 Open the **SPI for Oracle AS** template group.
- 3 Open the **OASSPI-Metrics** template group.
- 4 Double-click the desired metric which opens the Message and Suppress Conditions window.
- 5 Double-click the desired condition to modify (there can be more than one). The Condition window opens.

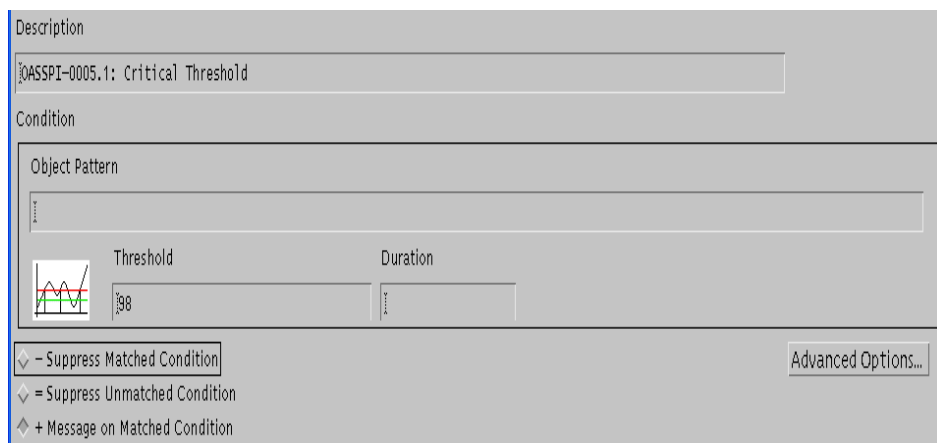


You can modify the following attributes through this window:

- **Threshold.** Enter a value for the metric data that, when exceeded, would signify a problem either about to occur or already occurring.
- **Duration.** The length of time that the established threshold can be exceeded by the incoming data values for a metric before an alarm is generated.
- **Severity.** The level assigned by the HPOM administrator to a message, based on its importance in a given operator's environment. Click **Severity** to select the desired severity setting.
- **Message Text.** Structured, readable piece of information about the status of a managed object, an event related to a managed object, or a problem with a managed object. Be careful not to modify any of the parameters—surrounded by <> brackets, beginning with \$—in a message.
- **Actions.** Response to a message that is assigned by a message source template or condition. This response can be automatic or operator-initiated. This section provides the ability to generate Performance Manager graphs or reports, or to add custom programs.

- **Automatic action.** Action triggered by an incoming event or message. No operator intervention is involved. The automatic action delivered with the Oracle AS SPI generates a snapshot report that shows the data values at the time the action was triggered from an exceeded threshold. You can view the report in the message Annotations.
- **Operator-initiated action.** Action used to take corrective or preventive actions in response to a given message. Unlike automatic actions, these actions are triggered only when an operator clicks a button. The operator-initiated action delivered with the Oracle AS SPI enables you to view a graph of the metric whose exceeded threshold generated the message along with other related metric values (click **Perform Action** within a message's details window).

The following illustration of the Condition window shows a threshold setting of 95 for metric OASSPI-0005. This metric monitors the percentage of heap space used in the JVM. A value of more than 95 (but less than 98) for 20 minutes would generate an alarm (a message of the severity major).



- 6 Click **OK**.
- 7 Re-distribute the modified template as described in [Task 6: Distribute Oracle AS SPI Templates to the Managed Nodes](#) on page 48.

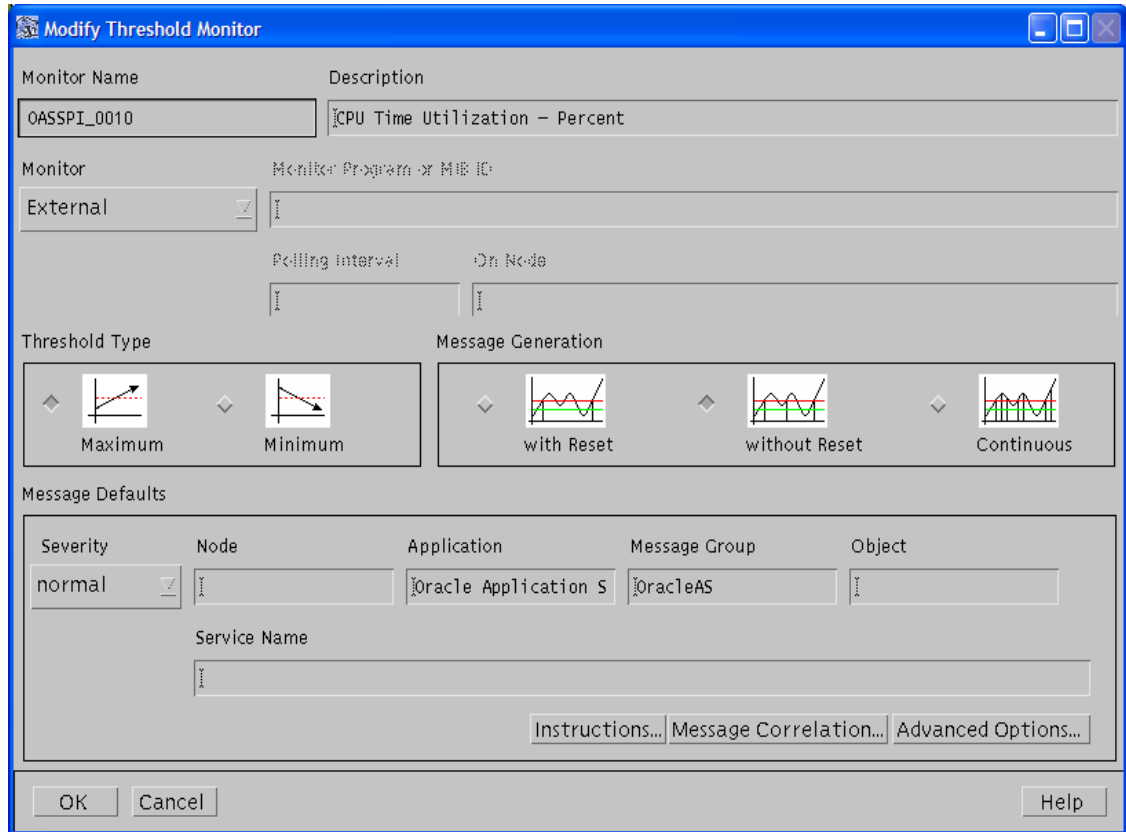
## Modifying Alarm Generation

An alarm can be generated once or multiple times, depending on its Message Generation setting in the Modify Threshold Monitor window.

To change the Message Generation, follow these steps:

- 1 Open the **Message Source Templates** window.
- 2 Open the **SPI for Oracle AS** template group.
- 3 Open the **OASSPI-Metrics** template group.
- 4 Select the template.

5 Click **Modify**. The Modify Threshold Monitor window opens.



6 Modify the Message Generation:

- **With Reset:** Alarms are generated once when the threshold value is exceeded. At the same time a reset threshold value is activated. The original threshold value becomes active again only when the reset threshold value is exceeded. Then when the threshold value is again exceeded, another alarm is generated and the process starts all over again.
- **Without Reset.** Alarms are generated once when the monitoring threshold value is exceeded. Alarms reset automatically when metric values are no longer in violation of the thresholds and are generated again when the threshold is exceeded.
- **Continuously.** Messages are sent/alerts generated each time the metric values are collected and the threshold is exceeded.

7 Click **OK**.

8 Re-distribute the modified templates as described in [Task 6: Distribute Oracle AS SPI Templates to the Managed Nodes](#) on page 48.

## Advanced Template Customizations

The template changes suggested here range from making copies of default template groups in order to customize a few settings, to deleting whole groups of metrics within a template's command line. This section is considered advanced because all changes described here, whether simple or complex, require some advanced knowledge of the Oracle AS SPI metrics.



## Choosing Metrics To Customize

Determine which metrics you want to customize and what templates within the group you want to use. Then, follow these steps:

- 1 Open the **Message Source Template** window.
- 2 Select the group you want to use and click **Copy...**
- 3 Rename and save the group.
- 4 Within the renamed template group, copy each original template and rename it.
- 5 Delete the originals within the renamed template group.
- 6 Customize the renamed templates within the group as necessary.

Creating a new template group enables you to keep custom templates separate from the original default templates, which you copy and place within the new group.

## Using the Oracle AS SPI Collector/Analyzer Command with Parameters

The `wasspi_oas_ca` command is used in every collector template, named according to its collection interval. You can view the default command line parameters within each collector template in the Command box in the Modify Scheduled Action window.

## Using the Collector Command Parameters

Oracle AS SPI data collections are started with the `wasspi_oas_ca` command, to which you can add other parameters, as identified in the following table.

Parameter	Function	Syntax with Example
<code>-e</code>	(exclude) Enables you to exclude specific servers. This option must not be used with the <code>-i</code> option.	<code>-e &lt;server_name&gt;</code> Example: <code>-e server2,server4</code>
<code>-i</code>	(include) Enables you to list specific servers to monitor. This option must not be used with the <code>-e</code> option.	<code>-i &lt;server_name&gt;</code> Example: <code>-i server1,server3</code>
<code>-m</code>	(metric) Specifies the metric numbers or number ranges on which to collect data.	<code>-m &lt;metric_number   metric_number_range&gt;</code> Example: <code>-m 1,3-5,9-11,15</code>
<code>-matchver</code>	(match version) Specifies the specific Oracle OC4J/OHS server version to monitor. This option must not be used with the <code>-minver</code> nor <code>-maxver</code> options. If no matching versions are found, the command does not start.	<code>-matchver &lt;version_number&gt;</code> Example: <code>-matchver 10.1.2</code>

Parameter	Function	Syntax with Example
-maxver	(maximum version) Specifies the highest Oracle OC4J/OHS server version to monitor. Use with -minver to specify a range of versions. If no versions are found, the command does not start.	-maxver <version_number> Example: -maxver 10.1.2
-minver	(minimum version) Specifies the lowest Oracle OC4J/OHS server version to monitor. Use with -maxver to specify a range of versions. If no versions are found, the command does not start.	-minver <version_number> Example: -minver 10.1.2
-r	(report) Generates an ASCII report for the specified metric(s).	-r
-t	(tag) Creates a new template group by adding a prefix to an existing collector template and specifying the metric number(s).	-t <prefix>- Example: wasspi_oas_ca -m 220-223 -t DEV-
-x	Enables you to specify a property/value as follows:	-x <property>=<property_value>
	<b>alarm:</b> When off, overrides any alarming condition as set up in the metric monitor template.	-x alarm=off
	<b>prefix:</b> Default: JMXUDM_. Specifies the prefix of the metric ID.	-x prefix=SALES_
	<b>print:</b> When on, prints the metric name, instance name, and metric value to STDOUT in addition to any configured alarming or logging.	-x print=on
	<b>log:</b> When off, prevents graphing or reporting functions.	-x log=off

### Syntax Examples

- To collect specific data on all configured servers:  
wasspi\_oas\_ca -m 1,2,10,11 -minver 10.0
- To collect data from specific servers only:  
wasspi\_oas\_ca -m 1,2,10,11 -minver 10.0 -i server1,server2

- To not collect data from specific servers:

```
wasspi_oas_ca -m 1,2,10,11 -minver 10.0 -e server1,server2
```

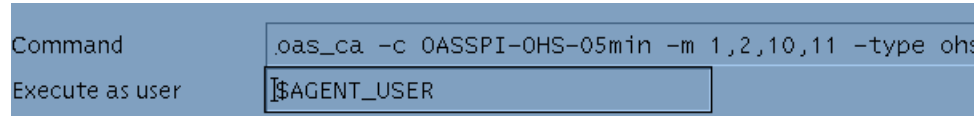
## Changing the Collection Interval for All Metrics

To change the collection interval for all scheduled metrics, change the Polling Interval in the appropriate collector template. For example, to change the collection of default metrics from 5 minutes to 10 minutes for the OASSPI-10-OHS-05min collector template, follow these steps:

- 1 Select the **Message Source Templates** window.
- 2 Select the template group **SPI for Oracle AS** and open **OASSPI-Schedule**.
- 3 Select the collector template **OASSPI-OHS-05min**.
- 4 Click **Modify...** and change the Scheduled Action Name to **OASSPI-OHS-10min**.
- 5 Change the polling interval from 5 minutes to 10 minutes. For example, 0, 10, 20....
- 6 Distribute the new templates (described in [Task 6: Distribute Oracle AS SPI Templates to the Managed Nodes](#) on page 48).

## Changing the Collection Interval for Selected Metrics

To change the collection interval for selected metrics, copy the appropriate collector template and rename with a name reflecting the new interval, deleting all but the metrics you are changing. Set the new interval. Edit the original template to remove the changing metrics. For example, to change the collection interval to 10 minutes for metrics 10 and 11, you would follow these steps:



- 1 Open the **Message Source Templates** window.
- 2 Select the template group **SPI for Oracle AS** and open **OASSPI-Schedule**.
- 3 Select the schedule template **OASSPI-OHS-05min**.
- 4 Click **Copy...** and change the name of the schedule template to **OASSPI-OHS-10min**.
- 5 In the Command box, delete all metrics after -m except 10 and 11.
- 6 Change the polling interval to 10 minutes.
- 7 Click **OK**.
- 8 Select the **OASSPI-OHS-05min** template.
- 9 Delete 10, 11 from the Command box.
- 10 Re-distribute the modified templates as described in [Task 6: Distribute Oracle AS SPI Templates to the Managed Nodes](#) on page 48.

## Customize the Threshold for Different Servers

Customize the threshold as needed. For example, you might want to set the threshold to 90 for SERVER\_1 for metric 0220 and leave the threshold at 100 for all other servers. To do so, copy the existing condition and modify it to serve as the exception. Follow these steps:

- 1 Double-click to open the metric for customization (for example, OASSPI-0220).  
The Message and Suppress Conditions window is displayed.
- 2 Select the desired condition and click **Copy...** to make a copy of the condition.
- 3 Name the condition OASSPI-0220.2.
- 4 In the Object Pattern field, enter the following details:  
`<ServerName>:<ServerPort>:<NodeName>:<*>:<*>:<*>`  
For Example: If you want to set threshold for the application server SERVER1, enter the following:  
`SERVER1 : <*> : <*> : <*> : <*> : <*>`
- 5 Click the **Test Pattern Matching...** to test the pattern and verify pattern matching (you must set up a match file first).
- 6 Change the value in the Threshold field from 100 to 90.

## Creating Custom, Tagged Templates

Another advanced customization option is to use the tag option (-t on the command line), which enables the collector/analyzer to recognize customized templates that have a tag attached to the name. This option provides you with the flexibility of using more than a single set of templates to define conditions pertaining to specific installations of Oracle Application Server.

When multiple nodes are managed by a number of groups, this option enables you to create specially tagged templates that are obviously separate from your original setup. In such a case, you would make copies of the templates, rename them with the tag and re-work the collector template to pick up the tagged names, and then assign them to the various groups.

For example, you can create a group of templates and change each template name to include CLIENT01 in it. A metric monitor template can be named CLIENT01-OASSPI\_0001 (retaining the metric number, which must be used). The collector template name would be named FIRST\_CLIENT-OHS-05min. You could then set up another group for SECOND\_CLIENT and change all those templates to include the CLIENT02 in the name.

To create the new template group, follow these steps:

- 1 Copy the original template group. In the Message Source Templates window select the group and click **Copy...**
- 2 Name the new group according to how you plan to identify the new schedule and collector templates. For example, if you are including CLIENT01 in the template names, include it within the new template group name.
- 3 In the Message Source Template window, expand the new template group to show all templates and select each template you plan to use, click **Copy...**, and rename it according to your naming scheme.

- The names you give the new metric monitor templates in the group would contain the new name followed by the original metric number. For example, a copy of OASSPI-0001 could be called CLIENT01-OASSPI\_0001.
- The name you give the new collector monitor template would also contain the identifying name. You would also modify the scheduled collection for the new group by inserting the `-t` property on the command line. For example:

```
wasspi_oas_ca -m 1 -t CLIENT01-
```

- 4 Delete all original templates from the new group.

## Template Variables

The following variables are used by the Oracle AS SPI templates. If you are creating your own templates, you can use these variables.

Name	Description
instancename	The instance for which the metric is being reported for multi-instance metrics. <b>Example:</b> /oc4j/Petstore/EJBs/shoppingcartEjb.jar/TheCart/ejbActivate
node	The node on which the OC4J/OHS server is running. <b>Example:</b> mool.hp.com
servername	The OC4J/OHS server name. Corresponds to the <code>NAME</code> configuration property. <b>Example:</b> my server
service_key	The service ID used to light up the nodes in the service map.

## Re-install the Oracle AS SPI Templates

When Oracle AS SPI templates are installed in HPOM, the following commands automatically upload them when `swinstall` is run. Any customized template settings you did for the previous installation are overwritten.

To restore the default SPI for Oracle AS template group you had originally installed, delete all current templates first, then run the command:

```
/opt/OV/bin/OpC/opccfgupld -silent -replace  
-subentity /var/opt/OV/share/tmp/OpC_appl/wasspi/oas/oas_set
```

Alternatively, you can use the `-verbose` option instead of the `-silent` option.

## Use Templates/Applications to View Annotation Reports and Graphs

Some templates have actions defined with threshold violations or error conditions that automatically cause reports to appear in the message Annotations. These reports are snapshots of data values collected from the server around the time that the alarm occurred.

Other templates have operator actions associated with them that enable you to generate a graph.



The reports discussed in this section should not be confused with those generated by HP Reporter, which show more consolidated, historical data generated as web pages in management-ready presentation format.

You can access the data as follows:

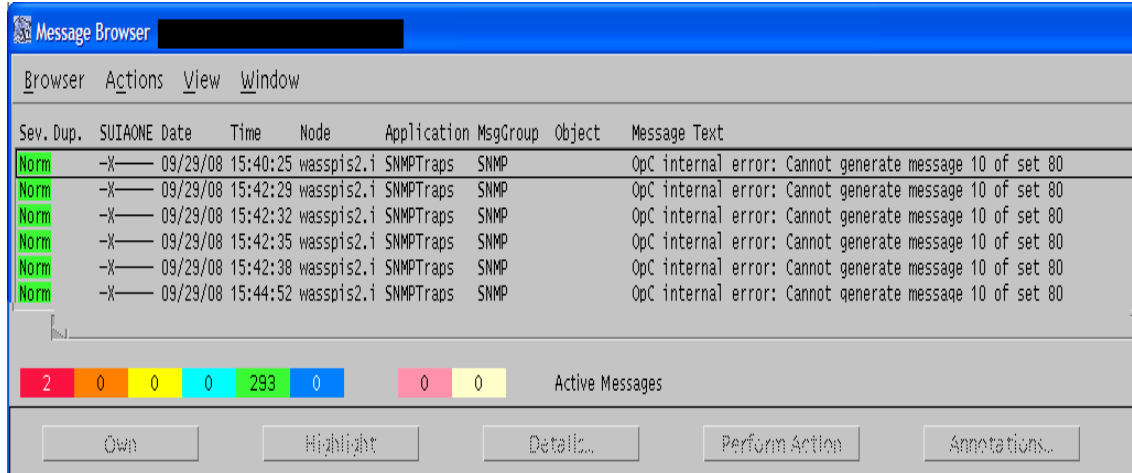
- To view the Message Details, double-click a message in the HPOM message browser, or just select the message and click Annotations. You can easily access Annotations by clicking **Annotations**. Reports are available there, showing data values on a single server.
- To view reports, open both the Node Bank and Application Bank windows. Continue to open application windows **OASSPI** → **OASSPI Admin** → **Reports**. Select a node and drag it onto the OASSPI metric report you need. These reports show all server data on a node.
- To view graphs, open both the Node Bank and Application Bank windows. Continue to open application windows **OASSPI** → **OASSPI Admin**. Drag a node onto the View Graphs application to launch your web browser, which opens the graphing feature available in HP Performance Manager (which must be purchased separately).

### Automatic Action Reports

Many metrics generate Automatic Action Reports. These reports are generated as soon as an alarm is triggered in HPOM. Automatic Action reports show the state of the system moments after the alarm occurred.

## Viewing an Automatic Action Report

When an Automatic Action Report is run from HPOM, the server is queried for additional data. If your message browser is set to display the SUIAONE columns, You will see an **S** under the **A** column (see illustration), which indicates that a generated report is available in the Annotations area of the Message Details.

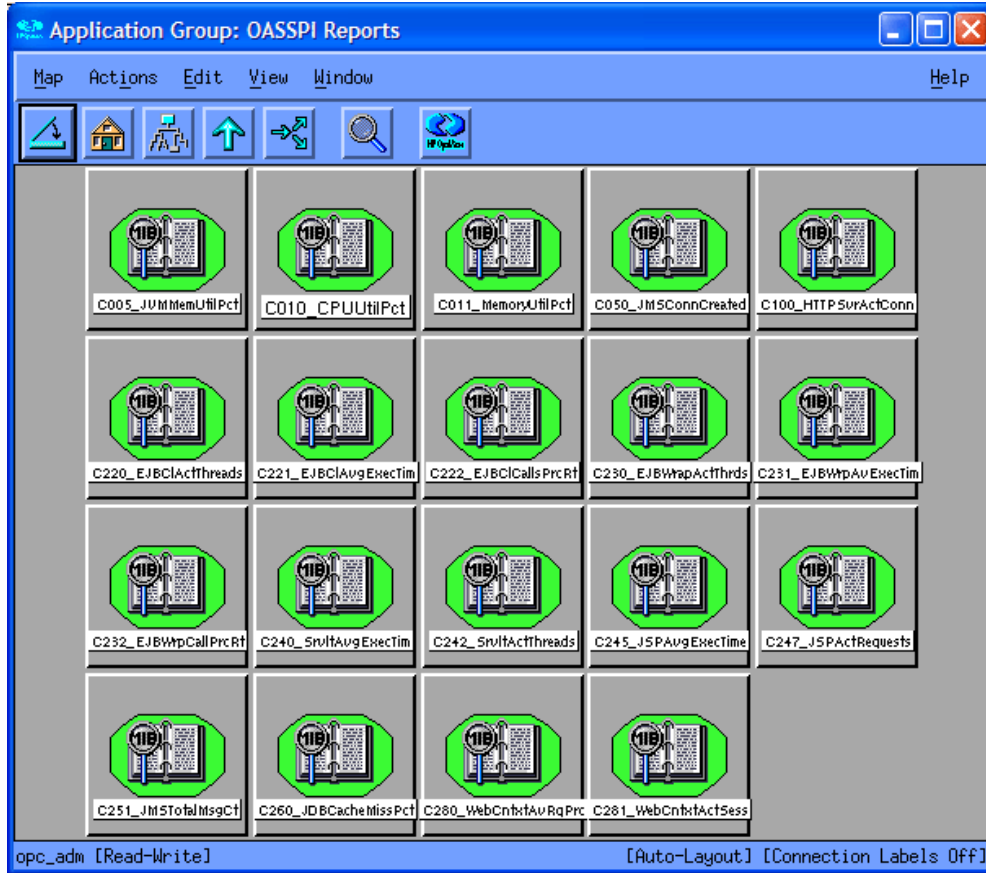


To view the report, click **Annotations...** in the Message Browser. Column descriptions provide further clarification.

## Application Bank Reports

You can use Application Bank Reports to manually generate a report similar to an Automatic Action report.

Application Bank reports run for all Oracle OC4J/OHS server instances configured on the managed node, in contrast to Automatic Action Reports which are generated for a single Oracle OC4J/OHS server instance. The reports generated from the Application Bank reflect the current state of Oracle OC4J/OHS server on the managed node.



To generate a report in HPOM, simply drag the managed node from the Node Bank window to the desired report in the Application Bank window.



The following report appears in the Annotations area of the message details.

The screenshot shows a window titled "Annotations" with a scrollable text area containing three annotations and a performance report. On the right side of the window, there are three buttons: "Add...", "Modify...", and "Delete". At the bottom of the window, there are two buttons: "Close" and "Help".

Annotation No. 1 Author: OpC  
Date/Time: 09/29/05 15:35:32

automatic action started at 15:35:32, 09/29/05.  
Node : oasserver2000.hp.com  
Action : wasspi\_oas\_per1 -S wasspi\_oas\_ca -r -m 280 -f "OC4J\_Portal" -o

Annotation No. 2 Author: OpC  
Date/Time: 09/29/05 15:35:32

Performed Message Correlation

Message Key Relation : ^OASSPI\_0280:oasserver2000.hp.com:OC4J\_Portal:/oc  
This message automatically acknowledged the following message:  
eb3cc5a8-312f-71da-0d61-0f0899e60000

Annotation No. 3 Author: OpC  
Date/Time: 09/29/05 15:36:02

automatic action finished at 15:36:00, 09/29/05.  
Result : 0

Output :

Report for Application Server OC4J\_Portal  
Sep 29, 2005 3:35:58 PM  
Metric C280\_WebCntxtAvRqPrc

Web Context Request	Active Service Threads	Ave
/oc4j/UltrasearchAdmin/WEBS/admin	0	2,5

Web Context Session	Active Sessions	Total Act
/oc4j/UltrasearchAdmin/WEBS/admin	2	500,656,61

# Sample Report

The following example shows the format of a Oracle AS SPI report. This report is automatically generated (automatic action report) for metric C280.

Report for Application Server OC4J_SECURITY			
Sep 29, 2005 5:23:49 PM			
Metric C280_WebCntxtAvRqPrc			
Web Context Request	Active Service Threads	Average Service Time (msec)	
-----	-----	-----	
/oc4j/default/WEBS/dms	1	5.55	
/oc4j/sso/WEBS/web	0	1.93	
Web Context Session	Active Sessions	Total Active Time (msecs)	Com
-----	-----	-----	-----
/oc4j/default/WEBS/dms	0	0	0
/oc4j/sso/WEBS/web	0	0	0
No data available for server HTTP_Server+appsrv.ovrsunr2.rose.hp.com.			
Report for Application Server OC4J_Portal			
Sep 29, 2005 5:23:54 PM			
Metric C280_WebCntxtAvRqPrc			
Web Context Request	Active Service Threads	Average Service	
-----	-----	-----	
/oc4j/default/WEBS/dms	1	8.15	
/oc4j/UltrasearchAdmin/WEBS/admin	0	356.77	
/oc4j/portal/WEBS/portal	0	18.94	
Web Context Session	Active Sessions	Total Active Time (mse	
-----	-----	-----	
/oc4j/default/WEBS/dms	0	0	
/oc4j/UltrasearchAdmin/WEBS/admin	2	179,932,834	
/oc4j/portal/WEBS/portal	0	0	

## Check Oracle AS SPI Nodes for License Count

You can use an HPOM reporting utility to check the number of templates you installed on your managed nodes. In reviewing the number of templates per managed node, you can see if you consistently installed templates across your managed systems. In addition, by running this report, you can also ensure that the number of licenses you purchased is in compliance with the report results.

To run the report:

- 1 At the HPOM console, select the node or node group that you want to check.
- 2 From the Actions menu select **Utilities → Reports...**
- 3 In the Reports window, among the reports listed, select **OASSPI License Check**.
- 4 Select an output destination and click **OK**.



# 5 Integrating HPOM Reporting and Graphing Products with the Oracle AS SPI

The Oracle AS SPI can be integrated with the following HP reporting and graphing products. These products must be purchased separately.

- **HP Reporter.** Reporter produces management-ready, web page reports, showing historical and trending information. This is *not* the version of Reporter that is included with HP Operations Manager.

Working in conjunction with Reporter, the Oracle AS SPI produces a variety of reports showing consolidated information on the Oracle Application Server.

For more information on how to integrate Oracle AS SPI with HP Reporter, see [Integrating with HP Reporter](#) on page 70. After integrating Oracle AS SPI with Reporter, every night, Reporter generates reports that show the performance and availability of an Oracle Application Server on configured managed nodes.

- **HP Performance Agent.** HP Performance Agent collects, summarizes, time stamps, and detects alarm conditions on current and historical resource data across your system. It provides performance, resource, and end-to-end transaction response time measurements, and supports network and database measurement information. For more information about HP Performance Agent, see the *HP Performance Agent for UNIX User's Manual*.
- **HP Performance Manager.** HP Performance Manager provides graphing capability of Oracle AS SPI metrics.

For more information on how to integrate Oracle AS SPI with HP Performance Manager, see [Integrating with HP Performance Manager](#) on page 72. After integrating Oracle AS SPI with HP Performance Manager, graphs are available the following day.

## Integrating with CODA

The Oracle AS SPI can detect if you are using HP Performance Agent. If you are, the Oracle AS SPI installation automatically uses it.

If you want to use the HP Operations subagent (CODA) included with OVO for UNIX 8.28, 8.29, and 8.30, you must configure the managed nodes to do so. Note that there are no advantages to using CODA instead of HP Performance Agent.

To use CODA, set up an empty file named `nocoda.opt` and store it on the managed node:

- 1 On the managed node, create a `nocoda.opt` file in the following directory:

Operating System	File Location
HP-UX, Linux, Solaris	<code>/var/opt/OV/conf/dsi2ddf/</code>
AIX	<code>/usr/lpp/OV/conf/dsi2ddf/</code>
Windows	<code>\usr\ov\conf\dsi2ddf\</code>

- If the directory `dsi2ddf` does not exist, create it.
- 2 Save the empty file.

## Integrating with HP Reporter

The Oracle AS SPI must be configured (see [Chapter 3, Configuring the Oracle AS SPI](#)) before it can be integrated with Reporter.

The Oracle AS SPI report package must be installed on the Windows system running Reporter:

- 1 On the Windows client system, insert the Smart Plug-ins DVD-ROM (that contains the reporting packages) into the DVD-ROM drive, and in Windows Explorer, double-click:  
`\OV_REPORTER\OracleAS_SPI_06.00.000\OASSPI-Reporter-06.00.000.msi`
- 2 Follow the instructions as they appear.
- 3 Check the Reporter status pane (see the illustration that follows) to note changes to the Reporter configuration.

► For Windows 2000 managed nodes, during the installation an error message might appear that indicates the installer has detected an older version of the installer on your system. You can safely ignore the message and continue.

The status pane (at the bottom of the Reporter window) shows you information on the programs running and any errors occurring. You can check the status pane to see that Reporter has been updated with the Oracle AS SPI reports.

You can find instructions in the Reporter Help for assigning Oracle AS SPI reports to the targeted nodes. To access Help, select Reports or Discovered Systems in the left panel of the Reporter main window and right-click. Select Report Help or Discovered Systems Help from the submenu that appears. See the topic “To assign a report definition to a Discovered Systems Group.”

- 4 Add group and single system reports by assigning reports as desired. (See the Reporter Help and the online Concepts Guide for complete information.)

► Group and single system Oracle AS SPI reports require that you identify systems by their full name. For example, `abc.xyz.com` is acceptable while `abc` is not.

## Oracle AS SPI Reports

The reports available through the integration of HP Reporter and Oracle AS SPI show consolidated data on server performance and availability on Oracle Application Server systems. These reports are available the day following your installation of the Oracle AS SPI report package on the Reporter Windows system. (See [Integrating with HP Reporter](#) on page 70 if you did not complete the report package installation.)

The tables that follow show all pre-defined reports for groups (one or more managed nodes on which an Oracle Application Server is installed) and single systems.

**Table 2 Group Reports**

<b>Title</b>	<b>Description</b>	<b>Oracle AS Version</b>	<b>Metric</b>
Availability	The percentage of up time of all Oracle Application Servers by day	9.04, 10.1.2, 10.1.3	2
EJB Method Calls Process Rate - Top 20	The number of all EJB method calls processed per minute for the top 20 OC4J servers	9.04, 10.1.2, 10.1.3	22
Servlet Active Threads - Top 20	The number of servlet active threads for the top 20 OC4J servers	9.04, 10.1.2, 10.1.3	42
Servlet Average Execution Time - Top 20	The servlet average execution time for the top 20 OC4J servers	9.04, 10.1.2, 10.1.3	240

**Table 3 Single System Reports**

<b>Title</b>	<b>Description</b>	<b>Oracle AS Version</b>	<b>Metric</b>
HTTP Server and OC4J Availability Details	The percentage of hourly up time per day during the reporting period	9.04, 10.1.2, 10.1.3	2
HTTP Server and OC4J System Resource Utilization	The hourly average of the percentage of CPU utilization and the percentage of system memory utilization per day during the reporting period	9.04, 10.1.2, 10.1.3	10, 11
HTTP Server Connections	The average number of HTTP server connections per day for each application server on the selected system	9.04, 10.1.2, 10.1.3	100
DB Connection Cache Utilization	The hourly average of the percentage of database connection cache utilization per day during the reporting period	9.04, 10.1.2, 10.1.3	260
OC4J WebContext Sessions	The average number of WebContext sessions per day for each OC4J instance	9.04, 10.1.2, 10.1.3	281

# Integrating with HP Performance Manager

To integrate Oracle AS SPI with HP Performance Manager, follow these steps:

- 1 Install and configure the Oracle AS SPI. Verify that you completed [Task 1: Configure the Management Server to Launch Your Web Browser](#) on page 35. Also, verify that you set the GRAPH\_URL property. For more information about the GRAPH\_URL property, see [Property Definitions](#) on page 141.
- 2 If you are upgrading the Oracle AS SPI graph package, remove the old version before installing the new version. For information on removing the Oracle AS SPI graph package see [Task 14: Install the New Graph Package \(Optional\)](#) on page 31.
- 3 Install the graph package.

On a Windows system running HP Performance Manager, follow these steps:

- a Insert the Smart Plug-ins DVD-ROM (that contains the reporting packages) into the DVD-ROM drive, and in Windows Explorer, double-click:  
`OV_PM\OracleAS_SPI_06.00.000\WINDOWS\HPOvSpiOasGc-06.00.000.msi`
- b Follow the instructions as they appear.

On an HP-UX system running HP Performance Manager that is not the HPOM management server, follow these steps (if HP Performance Manager is installed on the HPOM management server, the files are already installed using the `swinstall` command):

- a Mount the Smart Plug-ins DVD-ROM (that contains the reporting packages) and type:

```
swinstall -s <mount_point>/OV_PM/OracleAS_SPI_06.00.000/HPUX/  
HPOvSpiOasGc-06.00.000.depot OASSPI-GRAPHS
```

On a Solaris system running HP Performance Manager that is not the HPOM management server, follow these steps (if HP Performance Manager is installed on the HPOM management server, the files are already installed):

- a Mount the Smart Plug-ins DVD-ROM (that contains the reporting packages) and type:

```
/usr/sbin/pkgadd -d <mount_point>/OV_PM/OracleAS_SPI_06.00.000/  
SOLARIS/HPOvSpiOasGc-06.00.000.sparc all
```

- 4 To graph any Oracle Application Server metric, use the data source name  
`OASSPI_METRICS`

See the HP Performance Manager documentation for information on how to view the graphs. Graphs are available the day following integration.

Allow sufficient collection intervals to occur before attempting to view graphs (using HP Performance Manager).

## Data Source Description

Metrics collected by the Oracle AS SPI are stored in the data sources named `OASSPI_METRICS` and `OASSPI_RPT_METRICS`. The values can be viewed for trend analysis.

Class	<code>OASSPI_METRICS</code>
-------	-----------------------------



<b>Column</b>	<b>Attribute</b>
1	C005_JVMMEMUTILPCT
2	C010_CPUUTILPCT
3	C011_MEMORYUTILPCT
4	C012_CPUUTILPCTHTTP (for OAS version 10gR3 only)
5	C014_THREADPOOLUTIL (for OAS version 10gR3 only)
6	C015_THRDPOOLWAITCNT (for OAS version 10gR3 only)
7	C100_HTTPSVRACTCONN
8	C108_HTTPAVGRESPSZRQ
9	C109_HTTPVHAVRSPSZRQ
10	C020_EJBCLACTTHREADS
11	C021_EJBCLAVGEXECTIM
12	C022_EJBCLCALLSPRCRT
13	C030_EJBWRAPACTTHRDS
14	C031_EJBWRPAVEXECTIM
15	C032_EJBWRPCALLPRCRT
16	J233_STLESSSNBNPLUTL (for OAS version 10gR3 only)
17	J234_STFULSSNBNPLUTL (for OAS version 10gR3 only)
18	J235_ENTITYBNPLUTL (for OAS version 10gR3 only)
19	C042_SRVLACTTHREADS
20	C047_JSPACTREQUESTS
21	C050_JMSCONNCREATED
22	C280_WEBCNTXTAVRQPRC
23	C281_WEBCNTXTACTSESS

Class OASSPI\_RPT\_METRICS

<b>Column</b>	<b>Attribute</b>
1	METRICID
2	VALUE
3	SERVERNAME
4	OBJECTNAME
5	INSTALLATION
6	APPLICATION

## Viewing Graphs that Show Alarm Conditions

For graphing purposes, the Oracle AS SPI organizes metrics according to type. When a message is generated for any metric (listed in [Table 4](#) on page 74), you can view a chart of its and other metric values.

To view a graph associated with an alarm condition (Operator-initiated action has been defined with the Oracle AS SPI monitor template), follow these steps:

- 1 In the HPOM Message Browser double-click the message.
- 2 In the Message Details window, click **Perform Action**.

The resulting action displays the metric's Oracle AS SPI graph, which charts its values along with the values of other metrics in the same group.

## Viewing Graphs that Show Past/Current Conditions

You can also generate any of the graphs manually by using the View Graphs application.

To manually generate a graph, follow these steps:

- 1 At the HPOM console open both the Node Bank and the Application Bank windows.
- 2 In the Node Bank window, select the node for which you want the graph generated.
- 3 In the Application Bank window double-click OASSPI and in the next window double-click OASSPI Admin.
- 4 Drag and drop the node onto the **View Graphs** application.

## Oracle AS SPI Metrics Available for Graphs

The tables that follow show the graphs available for mapping collected metric values. If you are interested in viewing any one of the metrics included in any of these tables, you can use the View Graphs application to launch the graph, which appears in your web browser.

**Table 4 Metrics for Graphs**

<b>Title</b>	<b>Description</b>	<b>Oracle AS Version</b>	<b>Metric</b>
JVM Memory Utilization	JVM heap memory utilization	9.04, 10.1.2, 10.1.3	5
CPU and Memory Utilization	Percentage of server CPU time utilization and server memory size utilization	9.04, 10.1.2, 10.1.3	11
CPU Utilization	Percentage of server CPU time utilization	9.04, 10.1.2	10
HTTP Server Active Connections	Number of active connections to the HTTP server	9.04, 10.1.2, 10.1.3	100

**Table 4 Metrics for Graphs**

<b>Title</b>	<b>Description</b>	<b>Oracle AS Version</b>	<b>Metric</b>
HTTP Server Response Data	HTTP server average response data size processed and HTTP server average response data size processed for the virtual host	9.04, 10.1.2, 10.1.3	108, 109
HTTP Server CPU Utilization	Percentage of the CPU time utilized by HTTP server over the collection interval	10.1.3	12
OC4J EJB Threads	EJB method client and EJB method wrappers active threads count	9.04, 10.1.2, 10.1.3	20, 30
OC4J EJB Execution Time	Average execution time of the EJB method client and EJB method wrappers	9.04, 10.1.2, 10.1.3	21, 31
OC4J EJB Calls Process Rate	EJB method client calls and EJB method wrappers calls process rate for the interval	9.04, 10.1.2, 10.1.3	22, 32
Servlet Threads	Total number of threads servicing all servlets	9.04, 10.1.2	42
JSP Requests	Number of active JSP requests	9.04, 10.1.2, 10.1.3	47
JMS Metrics	Number of JMX connections (local and remote) created by the JMS server during the interval and number of messages in the destination store	9.04, 10.1.2, 10.1.3	50, 51
JDBC Connection Pool	Percentage of JDBC connection pool utilization	9.04, 10.1.2, 10.1.3	260
OC4J Web Context Requests	OC4J web context average request processing time and number of active sessions	9.04, 10.1.2, 10.1.3	280, 281
Thread pool Utilization	Percentage utilization of available connections in thread pool	10.1.3	14
Thread pool Wait Count	Number of task(s) waiting in the queue for a thread to become available	10.1.3	15
Stateless Session Bean pool Utilization	Stateless Session Bean pool utilization	10.1.3	233
Stateful Session Bean pool Utilization	Stateful Session Bean pool utilization	10.1.3	234
Entity Bean pool Utilization	Entity Bean pool utilization	10.1.3	235

## Launching the Web Page Display with an Operator Action that Generates Graphs

Performance Manager graphs can be generated from most Oracle AS SPI alarm messages by pressing **Perform Action** from the message details, Properties, or the Message Browser. The operator action launches your web browser, which displays a graph of the metric that generated the message, as well as other related metrics.

## Specifying a Date Range

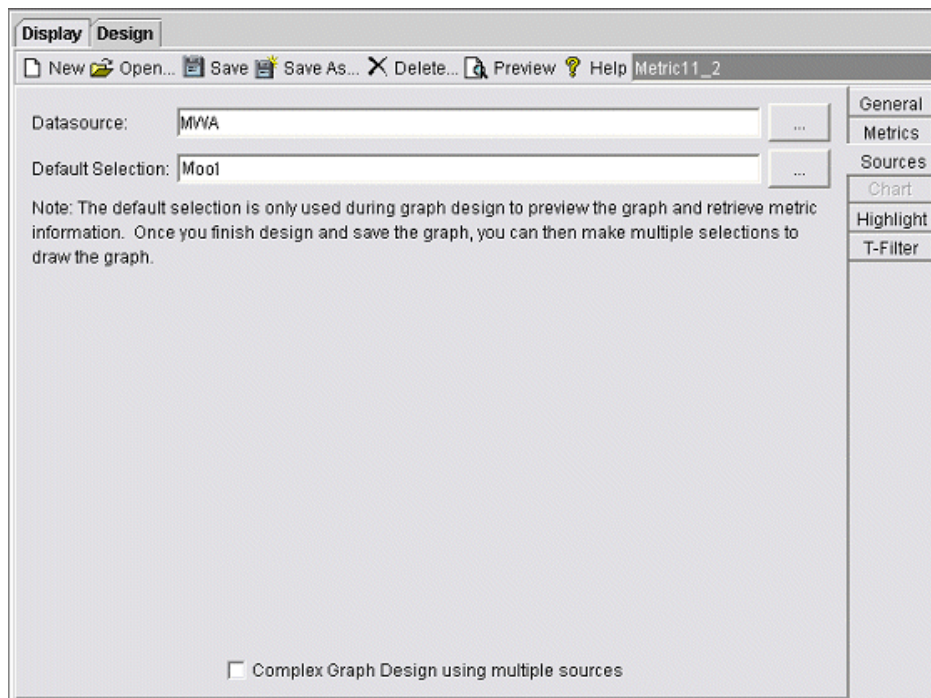
Within the web page display, you can specify a date range of one day, one week, one month, or one year. See the online Help for instructions on changing display settings.

## Example Integration

The following is an example of how to graph multi-instance data stored in a data source by reporting each OBJECTNAME for the METRICID for each SERVERNAME. The result is all data for all instances are reported in one graph. The data for each SERVERNAME can also be displayed in a separate graph.

This example also uses the Java interface option of HP Performance Manager.

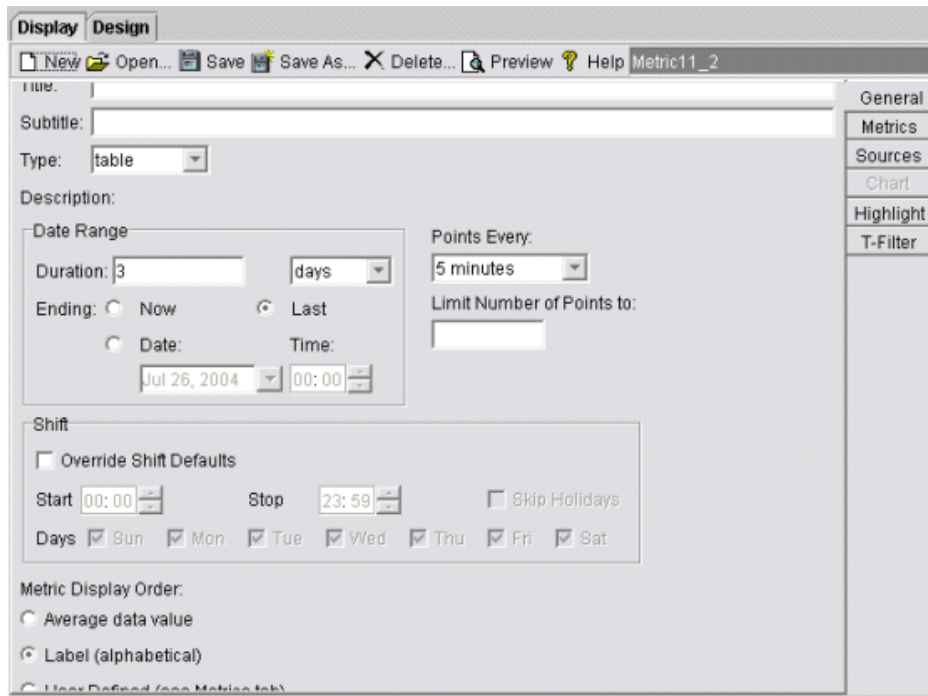
- 1 Start the Java Interface option of HP Performance Manager. The Performance Manager Java Interface window opens.



- 2 From the Performance Manager Java Interface window,
  - a Click the **Display** tab at the top of the window, and then the **Sources** tab at the right of the window.
  - b Click  next to the Datasource text box and select a data source (OASSPI\_RPT\_METRICS).

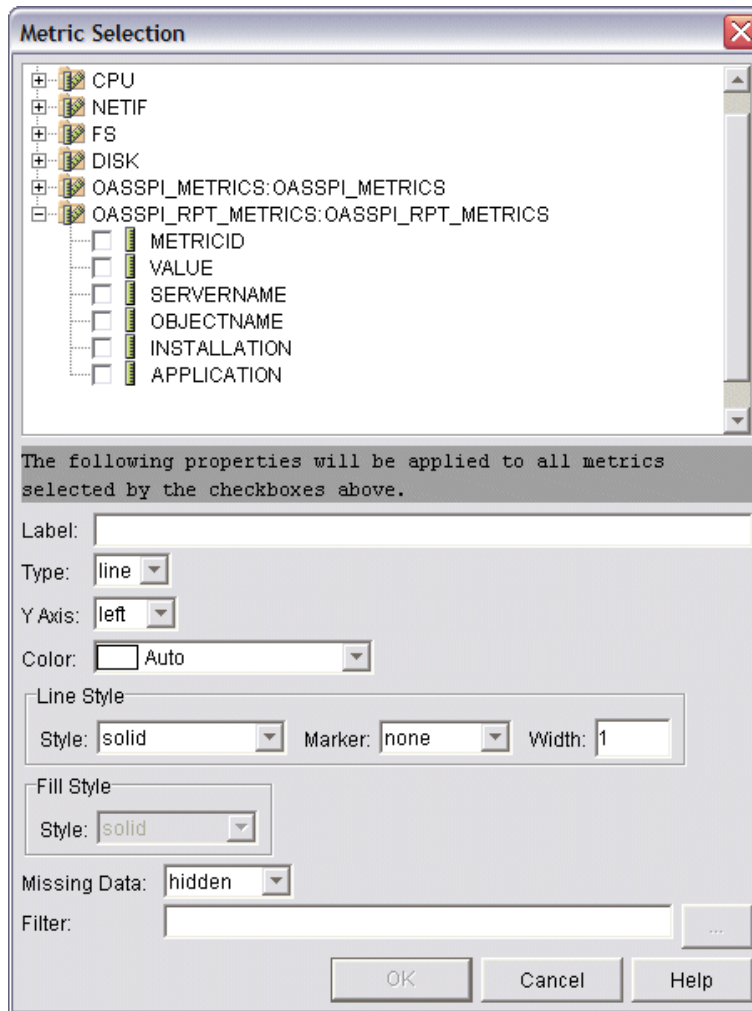
- c Click  next to the Default Selection text box and select the node on which the data source resides.

3 Click the **General** tab at the right of the window.



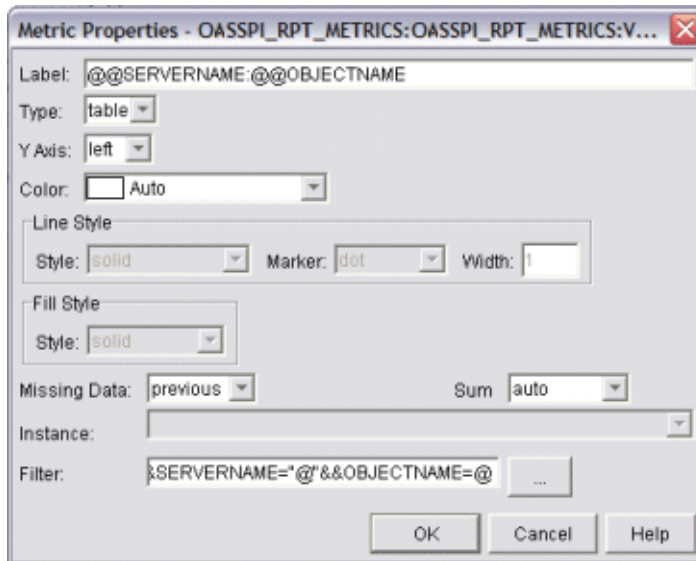
- 4 From this window,
- a Select **line** from the Type drop-down list. This generates a line graph.
  - b Enter a Date Range.
  - c Enter an interval using the Points Every drop-down list.
  - d Click **Label (alphabetical)** if you want the graph key sorted alphabetically.

- 5 Click the **Metrics** tab at the right of the window and click **Add**. The Metric Selection window opens.

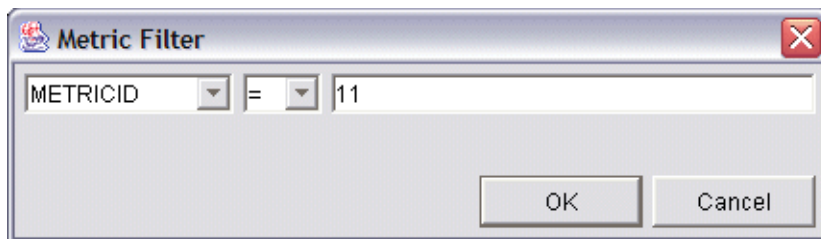


- 6 From the Metric Selection window,
  - a Next to the OASSPI\_RPT\_METRICS data source, click + to expand it in the tree.
  - b Select the VALUE check box.
  - c Click **OK**.

- 7 In the window with the Metrics tab selected, VALUE is displayed. Select the line on which VALUE is displayed and click **Properties**. The Metric Properties window opens.



- 8 From the Metric Properties window,
  - a In the Label text box, enter:
    - **@@SERVERNAME: @@OBJECTNAME** if you are creating one graph with all SERVERNAMEs
    - **@@OBJECTNAME** if you are creating one graph with one SERVERNAME
  - b In the Marker drop-down list, select any marker other than none.
  - c In the Missing Data drop-down list, select:
    - **previous** to use the previous value if data is missing from the data source
    - **zero** to use the value zero if data is missing from the data source
  - d Click **...** next to the Filter text box. The Metric Filter window opens.



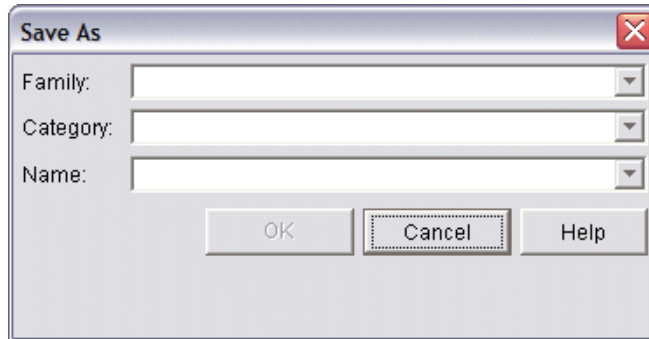
- 9 From the Metric Filter window,
  - a Select **METRICID** from the first drop-down list.
  - b Select **=** from the second drop-down list (if it is not already selected).
  - c Enter a metric number (for example, 11) in the text box.
  - d Click **OK**.
- 10 From the Metric Properties window,
  - a In the Filter text box, append the following:

- `&&SERVERNAME=@&&OBJECTNAME=@@` if you want one graph to display all SERVERNAME/OBJECTNAME combinations.
- `&&SERVERNAME="<server_name>"&&OBJECTNAME=@` if you want one graph to display one SERVERNAME and all OBJECTNAMEs associated with the multi-instance metric.

If you cannot edit the Filter text box, you can edit this item in the graph template file. For more information, see [step 13](#) on page 80.

b Click **OK**.

11 Click **Save As** at the top of the window. The Save As window opens.



12 From the Save As window,

- a Enter a family (for example, OASSPI\_Graphs) in the Family text box. The family name serves as a group to organize the graphs.
- b Enter a name (for example, metric\_11) in the Name text box to uniquely identify the graph.
- c Entering text into the Category text box is optional.
- d Click **OK**. The information is saved in a graph template file named `VPI_GraphsUser<family>.txt` (for example, `VPI_GraphsUserOASSPI_Graphs.txt`).

For more information about this window, see the online help.

13 Edit the graph template file. The file is located in the HPOM data directory on the system of the HP Performance Manager instance on which you are working. The graph file might look similar to [Figure 1](#).



**Figure 1**

```
*****
#* OpenView Performance Manager
#* user Defined Graph Templates
#* Last Updated: 07/25/05 04:31_30 AM by [1.2.3.4] moo1
*****
FAMILY: OASSPI_Graphs
GRAPH: Metric11
GRAPHBACKGROUND: None
DATERANGE: 1 day
GRAPHMULTIPLEGRAPHS: Yes
POINTSEVERY: raw
DATASOURCE: mwa
SYSTEMNAME: moo1

CLASS: OASSPI_RPT_METRICS:OASSPI_RPT_METRICS
METRIC: VALUE
FILTER: METRICID=11&&SERVERNAME=@&&OBJECTNAME=@
LABEL: @@SERVERNAME:@@OBJECTNAME
COLOR: Auto
MARKER: rectangle
MISSINGDATA: previous
END_GRAPH:

#*-----
GRAPH: Metric11_2
GRAPHBACKGROUND: None
DATERANGE: 1 day
GRAPHMULTIPLEGRAPHS: Yes
POINTSEVERY: raw
DATASOURCE: mwa
SYSTEMNAME: moo1

CLASS: OASSPI_RPT_METRICS:OASSPI_RPT_METRICS
METRIC: VALUE
FILTER: METRICID=11
LABEL: @@SERVERNAME:@@OBJECTNAME
COLOR:Auto
MARKER: rectangle
MISSINGDATA: previous
END_GRAPH:
```

There can be more than one set of data for a graph in the graph template file.

- a Add **SUMFROMRAW**: to the end of the first section of each graph (in the example above, add **SUMFROMRAW**: after `SYSTEMNAME: moo1`). This enables HP Performance Manager to summarized data from the data source and cannot be added using the GUI.
- b If you were unable to edit the Filter text box in the Metrics Properties window in step [step 10](#) on page 79, edit the `FILTER` field.
- c Save the file. The graph file now contains the following (see [Figure 2](#)):

**Figure 2**

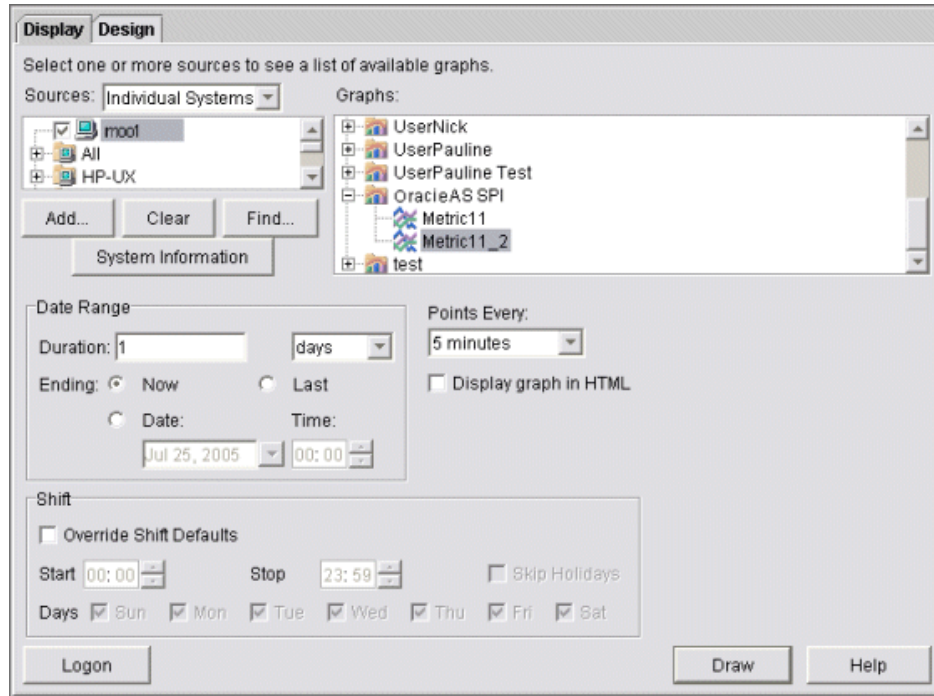
```
*****
#* OpenView Performance Manager
#* user Defined Graph Templates
#* Last Updated: 07/25/05 04:31_30 AM by [1.2.3.4] mool
*****
FAMILY: OASSPI_Graphs
GRAPH: Metric11
GRAPHBACKGROUND: None
DATERANGE: 1 day
GRAPHMULTIPLEGRAPHS: Yes
POINTSEVERY: raw
DATASOURCE: mwa
SYSTEMNAME: mool
SUMFROMRAW:

CLASS: OASSPI_RPT_METRICS:OASSPI_RPT_METRICS
METRIC: VALUE
FILTER: METRICID=11&&SERVERNAME=@&&OBJECTNAME=@
LABEL: @@SERVERNAME: @@OBJECTNAME
COLOR: Auto
MARKER: rectangle
MISSINGDATA: previous
END_GRAPH:

#*-----
GRAPH: Metric11_2
GRAPHBACKGROUND: None
DATERANGE: 1 day
GRAPHMULTIPLEGRAPHS: Yes
POINTSEVERY: raw
DATASOURCE: mwa
SYSTEMNAME: mool
SUMFROMRAW:

CLASS: OASSPI_RPT_METRICS:OASSPI_RPT_METRICS
METRIC: VALUE
FILTER: METRICID=11&&SERVERNAME=@&&OBJECTNAME=@
LABEL: @@SERVERNAME: @@OBJECTNAME
COLOR: Auto
MARKER: rectangle
MISSINGDATA: previous
END_GRAPH:
```

14 From the Performance Manager Java Interface window, click the **Display** tab.



15 In this window, follow these steps:

- a In the window below the Sources text box, navigate to the server on which the data source resides.
- b In the Graphs window, navigate to the family of graphs and select the graph you created.
- c Enter information into the Date Range dialog box and Points Every text box.
- d Click **Draw**. The graph opens.



If you edit the graph from the Design tab, the `SUMFROMRAW:` entry is deleted from the graph template file. You must edit the graph template file and re-enter this entry.

16 From the SPI, to enable graphing, follow these steps:

- a From the HPOM console, open the Node Bank window and select a node or groups of nodes on which you want to enable graphing.
- b Open the Application Bank window.
- c In the Application Bank window select **OASSPI** → **OASSPI Admin**.
- d Double-click **UDM Graph Enable**.



---

## 6 Basic Troubleshooting and Error Messages

### Self-Healing Info Application

The Self-Healing Info application gathers SPI troubleshooting data and stores it in a file that you can submit to HP support for assistance. For more information about this application, see [Self-Healing Info](#) on page 154.



The file created by the Self-Healing Info application might be hidden on some Windows managed nodes. If you do not see the file, open Windows Explorer and, from the Tools menu, select **Folder Options**. Click the **View** tab. Under Hidden files and folders, select **Show hidden files and folders**.

# Log and Trace Files

## Management Server

The following log file is found on the management server (typically, `<OvInstallDir>/var/opt/OV`)

<b>File Type</b>	Log
<b>Filename</b>	<code>&lt;OvInstallDir&gt;/WASSPI/oas/log/&lt;managed_node&gt;_disc_server.log</code>
<b>Description</b>	Records the updates done by the OASSPI Discovery policy to the management server's configuration for each managed node. Log files are overwritten each time the discovery policy is run on the managed node. Logging to this file is always enabled.

## UNIX Managed Nodes

The following log and trace files are found on the managed nodes running on UNIX (typically, `<OvAgentDir>/var/opt/OV/` or `<OvAgentDir>/var/lpp/OV/`):

<b>File Type</b>	Log
<b>Filename</b>	<code>&lt;OvAgentDir&gt;/log/javaagent.log</code>
<b>Description</b>	HPOM discovery agent log file containing the status of the HPOM discovery agent. By default, logging to this file is enabled at LOG_LEVEL 3. Set the LOG_LEVEL variable in <code>&lt;OvAgentDir&gt;/conf/svcDisc/OvJavaAgent.cfg</code> to 6 or higher (up to 9) to capture troubleshooting information (the higher the number, the more information is collected). To disable this log, set the LOG_LEVEL to 0. Additional information can be configured in this file to define log file size and the number of archived files kept. By default, the log file size is 1MB and five archived versions are kept.

<b>File Type</b>	Log
<b>Directory</b>	<code>&lt;OvAgentDir&gt;/log/oasspi/config.log</code>
<b>Description</b>	Records output from the Oracle AS SPI configuration scripts.

<b>File Type</b>	Log
<b>Directory</b>	<code>&lt;OvAgentDir&gt;/log/oasspi/errorlog</code>
<b>Description</b>	Records Oracle AS SPI error messages. This log file is monitored by Oracle AS SPI templates.

**File Type** Trace

**Filename** /<OvAgentDir>/log/oasspi/wasspi\_oas\_discovery.trc  
and /<OvAgentDir>/log/oasspi/  
oasspi\_oas\_jmx\_discovery.trc  
(archived files have a three digit number appended to the filename)

**Description** Discovery binary trace file used by your HP support representative. By default, tracing to this file is enabled. To disable tracing, in <OvAgentDir>/bin/instrumentation/wasspi\_oas\_discovery.pl, set the \$trace\_on variable to 0. To enable this trace, set the \$trace\_on to 1. When instrumentation is deployed, the wasspi\_oas\_discovery.pl file is overwritten (therefore, if you disable tracing, it becomes enabled when instrumentation is deployed). Five archived versions are kept. A new trace file is created when the discovery policy is run.

**File Type** Trace

**Directory** /<OvAgentDir>/log/oasspi/trace.log (archived files have a three digit number appended to the filename)

**Description** Trace file used by your HP support representative. This file gives information about the CollectorServer, regardless of whether the Collector is set to PERSISTANT or TRANSIENT mode in the SPIConfig file. The default value of the Collector Mode is 'PERSISTENT'.  
  
By default, tracing to this file is disabled. To enable this tracing, use the Start Tracing application.

**File Type** Trace

**Directory** /<OvAgentDir>/log/oasspi/traceCollectorClient.log  
(archived files have a three digit number appended to the filename)

**Description** Trace file used by your HP support representative. This file gives information about the CollectorClient when the Collector is set to 'PERSISTENT' mode in the SPIConfig file. The default value of the Collector Mode is 'PERSISTENT'.  
  
By default, tracing to this file is disabled. To enable this tracing, use the Start Tracing application.

## Windows Managed Nodes

The following log and trace files are found on the managed nodes running on Windows (typically, *<OvAgentDir>* is

`\Program Files\HP OpenView\Installed Packages\{790 ...}\):`

<b>File Type</b>	Log
<b>Filename</b>	<code>\&lt;OvAgentDir&gt;\log\javaagent.log</code>
<b>Description</b>	HPOM discovery agent log file containing the status of the HPOM discovery agent. By default, logging to this file is enabled at LOG_LEVEL 3. Set the LOG_LEVEL variable in <code>&lt;OvInstallDir&gt;\conf\svcDisc\OvJavaAgent.cfg</code> to 6 or higher (up to 9) to capture troubleshooting information (the higher the number, the more information is collected). To disable this log, set the LOG_LEVEL to 0. Additional information can be configured in this file to define log file size and the number of archived files kept. By default, the log file size is 1MB and five archived versions are kept.

<b>File Type</b>	Log
<b>Directory</b>	<code>\&lt;OvAgentDir&gt; \wasspi\oas\log\config.log</code>
<b>Description</b>	Records output from configuration scripts.

<b>File Type</b>	Log
<b>Directory</b>	<code>\&lt;OvAgentDir&gt; \wasspi\oas\log\errorlog</code>
<b>Description</b>	Records Oracle AS SPI error messages. This log file is monitored by Oracle AS SPI templates.

<b>File Type</b>	Trace
<b>Filename</b>	<code>\&lt;OvAgentDir&gt;\wasspi\oas\log\wasspi_oas_discovery.trc</code> and <code>\&lt;OvAgentDir&gt;\wasspi\oas\log\wasspi_oas_jmx_discovery.trc</code> (archived files have a three digit number appended to the filename)
<b>Description</b>	Discovery binary trace file used by your HP support representative. By default, tracing to this file is enabled. To disable tracing, in <code>\&lt;%OvInstallDir%&gt;\bin\instrumentation\wasspi_oas_discovery.pl</code> , set the <code>\$trace_on</code> variable to 0. To enable this trace, set the <code>\$trace_on</code> to 1. When instrumentation is deployed, the <code>wasspi_oas_discovery.pl</code> file is overwritten (therefore, if you disable tracing, it becomes enabled when instrumentation is deployed). Five archived versions are kept. A new trace file is created when the discovery policy is run.



**File Type** Trace

**Directory** \*<OvAgentDir>* \wasspi\oas\log\trace.log (archived files have a three digit number appended to the filename)

**Description** Trace file used by your HP support representative. This file gives information about the CollectorServer, regardless of whether the Collector is set to PERSISTENT or TRANSIENT mode in the SPIConfig file. The default value of the Collector Mode is PERSISTENT.

By default, tracing to this file is disabled. To enable this tracing, use the Start Tracing application.

**File Type** Trace

**Directory** \*<OvAgentDir>* \wasspi\oas\log\traceCollectorClient.log (archived files have a three digit number appended to the filename)

**Description** Trace file used by your HP support representative. This file gives information about the CollectorClient when the Collector is set to PERSISTENT mode in the SPIConfig file. The default value of the Collector Mode is PERSISTENT.

By default, tracing to this file is disabled. To enable this tracing, use the Start Tracing application.

## Troubleshooting the Discovery Process

**Problem:** The OASSPI-Discovery template does not automatically discover and update the Oracle AS SPI configuration.

**Solutions:**

- 1 Check for errors in the message browser of the managed nodes not being discovered. Follow the instruction text of any error messages displayed.
- 2 Verify that an Oracle OC4J/OHS server is installed on the managed node. If an OC4J/OHS server is not installed, install an OC4J/OHS server, and complete the configuration tasks listed in [Chapter 3, Configuring the Oracle AS SPI](#).
- 3 Verify the Oracle Application Server status. The application server must be running.
- 4 Verify the Java home directory (see [Verifying the Java Home Directory](#) on page 91).
- 5 Verify that the Configure OASSPI application is not running. Only one process can access the configuration at a time. If Configure OASSPI is running, other processes that must access the configuration (like the discovery process) hang until the configuration becomes available.
- 6 Check if the HPOM management server is suppressing duplicate messages:
  - a From the HPOM console, select Actions Server Configure. The Configure Management Server window opens.
  - b Look for the “Suppress and count duplicate messages” check box. If this box is selected, unselect it.
- 7 Restart the HPOM management server:
  - a Stop all HPOM GUIs that are running by selecting **File** → **Exit**.
  - b Stop the HPOM management server processes. Enter:  
`/opt/OV/bin/ovstop opc ovoacomm`
  - c Delete all HPOM temporary files. All pending messages (messages not saved in the database) and all pending actions (automatic actions, operator-initiated actions, scheduled actions, and command broadcast) are lost. Enter:  
`rm -f /var/opt/OV/share/tmp/OpC/mgmt_sv/*`
  - d Restart the HPOM management server process. Enter:  
`/opt/OV/bin/OpC/opcsv -start`  
`/opt/OV/bin/OpC/opcsv -status`
  - e Restart the HPOM GUI. Enter: `opc`

**Problem:** The OASSPI-Discovery template is adding inaccurate information to the configuration.

**Solutions:**

- 1 Verify the Java home directory. For more information, see [Verifying the Java Home Directory](#) on page 91.
- 2 Update the configuration and unselect the AUTO\_DISCOVER check box in the configuration editor to prevent the OASSPI-Discovery template from overwriting the configuration information.

**Problem:** The following error messages display when the Discover Oracle AS application is run:

```
/usr/lib/dld.sl: Can't find path for shared library: libiconv.sl
/usr/lib/dld.sl: No such file or directory
sh: 25691 Abort (coredump)
```

### Solution:


Install the `libiconv.sl` file on the HPOM management server. Download this file from: <http://hpux.connectis1.com/hppd/hpux/Development/Libraries/>

## Verifying the Java Home Directory

To successfully use the OASSPI-Discovery template, the Java home directory (on both a Windows and UNIX managed node) must be configured correctly.

Although the discover template searches for this information, if it cannot find this information or the information is not accurate, the discover template does not function completely.

On each managed node on which you want to run the discover template, verify one of the following (listed in the order of precedence used by the discover template):

- **JAVA\_HOME** is correctly defined in the configuration. To edit or view the configuration, run the Configure OASSPI application:
    - a At the HPOM console, select the node(s) in the Node Bank window.
    - b Select **Application Bank**.
    - c In the Application Bank window select **OASSPI** → **OASSPI Admin** → **Configure OASSPI**. (If the items do not appear, select **Map** → **Reload**.)
    - d The Introduction window opens.  
Click **Next**.
    - e From the configuration editor, set the **JAVA\_HOME** property. For more information about using the configuration editor, see [Using the Configuration Editor](#) on page 131.
    - f Click **Save** to save the changes made to the configuration. Once you save your changes, you cannot automatically undo them.
    - g Click **Finish** or **Next** to save any changes and exit the editor.  
If you selected **Next**, the Confirm Operation window opens. Click **OK**. If you click **Cancel** and made changes to the configuration, those changes remain in the configuration on the management server. To make the changes to the selected managed nodes' configuration, you must select those nodes in the Node Bank window, start the Discover Oracle AS application, click **Next** from the configuration editor, and then click **OK**.
  - h Run the Discover Oracle AS application on the managed nodes on which the **JAVA\_HOME** property was added or edited. Running the Discover Oracle AS application updates the service map.
- The **JAVA\_HOME** system variable is correctly defined.  
On a Windows manage node, follow these steps:
    - a Select **Start** → **Settings** → **Control Panel**.
    - b Double-click **System**.
    - c Click the **Advanced** tab.

- d Select **Environment Variables ...**
- e Scroll through the System variables list. Verify the `JAVA_HOME` value. If `JAVA_HOME` does not exist, it is not defined.

On a UNIX manage node, follow these steps:

- a Type `echo $JAVA_HOME`
- b Verify the output. If no output is returned, `JAVA_HOME` is not defined.

## Troubleshooting the Configuration

**Problem:** The OASSPI-Discovery template overwrites the configuration with inaccurate information.

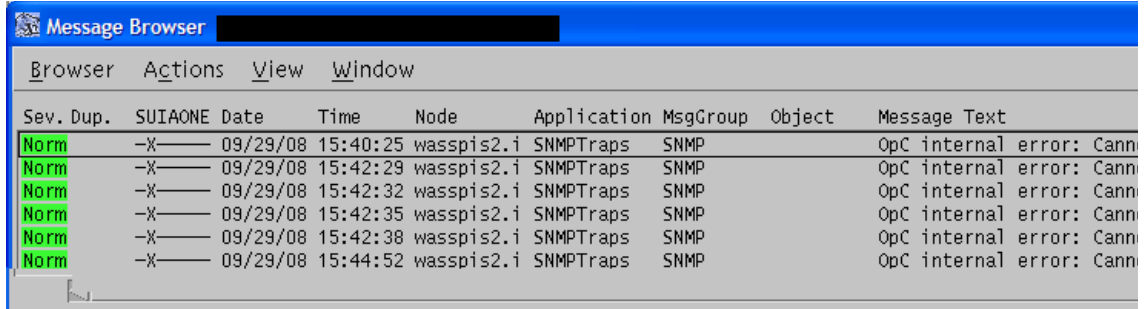
**Solution:** Update the configuration and unselect the `AUTO_DISCOVER` check box in the configuration editor to prevent the OASSPI-Discovery template from overwriting the configuration information.

## Troubleshooting the Applications

- **Problem:** Configuration variable `SERVER<n>_START_CMD` missing for server 'Default Server'  
**Solution:** Before you can successfully run the Start Oracle AS application, you must set the `START_CMD` and `USER` properties. Set these properties using the Configure OASSPI application. For more information about this application, see [Configure OASSPI](#) on page 150.
- **Problem:** Configuration variable `SERVER<n>_STOP_CMD` missing for server "Default Server"  
**Solution:** Before you can successfully run the Stop Oracle AS application, you must set the `STOP_CMD` and `USER` properties. Set these properties using the Configure OASSPI application. For more information about this application, see [Configure OASSPI](#) on page 150.
- **Problem:** When launched, the Verify application gives improper output.  
**Solution:** Before you launch the Verify application ensure that you have installed the latest version of Self-Healing Service (SHS) component from the SPI DVD.
- **Problem:** When launched, the Self-Healing Info application gives improper output.  
**Solution:** Ensure that you have installed the latest version of Self-Healing Service (SHS) component from the SPI DVD.
- **Problem:** When launching the applications, the applications hang or there is no output.  
**Solution:** The applications will not work if the memory is low. Check the performance of the node and the management server. The physical memory available must be more than 500 MB.
- **Problem:** View Status application shows a wrong status for a server instance or does not give any output.  
**Solution:** If a server is up and running but View Status application returns the server status as `NOT_RUNNING` (or does not give any output), then turn ON the monitoring for that particular server by using the Start Monitoring application.
- **Problem:** Datasource not getting created on RHEL 4.0 platform.  
**Solution:** Ensure that you have installed the latest version of DSI2DDF component from the SPI DVD.

# Error Messages

This section provides detailed information on error messages resulting from conditions detected in the operation of the Oracle AS SPI, not the Oracle Application Server itself. The error messages discussed in this chapter, belong to the OASSPI Message Group.



The screenshot shows a window titled "Message Browser" with a menu bar containing "Browser", "Actions", "View", and "Window". Below the menu bar is a table with the following columns: "Sev.", "Dup.", "SUIAONE", "Date", "Time", "Node", "Application", "MsgGroup", "Object", and "Message Text". The table contains six rows of error messages, all with a severity of "Norm" and a duplicate status of "-X". The messages are for "OpC internal error: Cann" and are generated by "wasspis2.i" in the "SNMPTraps" application group.

Sev.	Dup.	SUIAONE	Date	Time	Node	Application	MsgGroup	Object	Message Text
Norm	-X		09/29/08	15:40:25	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cann
Norm	-X		09/29/08	15:42:29	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cann
Norm	-X		09/29/08	15:42:32	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cann
Norm	-X		09/29/08	15:42:35	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cann
Norm	-X		09/29/08	15:42:38	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cann
Norm	-X		09/29/08	15:44:52	wasspis2.i	SNMPTraps	SNMP		OpC internal error: Cann

For any given problem, only the most recent error message is displayed (the older error message is automatically acknowledged). This reduces the number of error messages displayed in the message browser.

## WASSPI-1

<b>Description</b>	Unable to create the lock file <i>&lt;filename&gt;</i> . File already exists.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>Temporary lock files are used to avoid collisions if multiple Oracle AS SPI data collector processes attempt to access the same data file. This error occurs when the lock file cannot be created after several attempts because the file already exists.</p> <p><b>Suggested Action</b></p> <p>If a file by the same name already exists, it might not have been deleted by a previous run of the Oracle AS SPI data collector. You should delete this file manually.</p>

## WASSPI-2

<b>Description</b>	Cannot access the SPI configuration.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>A Oracle AS SPI configuration file could not be located or accessed. Either the file does not exist or there was a problem reading the file.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Verify that the collector template that runs the Oracle AS SPI data collector specifies the correct directory on the command line. The option <code>-Dwasspi.config.dir=&lt;configDirectory&gt;</code> must be specified on command line invocation of the data collector. See <a href="#">Managed Node File Locations</a> on page 127 for configuration directory <i>&lt;configDirectory&gt;</i>.</li><li>2 Verify that the Oracle AS SPI configuration files, <code>SiteConfig</code> and <code>SPIConfig</code>, are located in the directory specified on the command line in step 1. If not, run the Oracle AS SPI configuration, accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows, to reinstall the files.</li><li>3 See the text following the error message in the Oracle AS SPI error log to help identify the underlying cause of the problem (for example, an I/O exception). You can view the Oracle AS SPI error log for a managed node by using the <code>View Error Log</code> application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li></ol>

## WASSPI-3

<b>Description</b>	Error parsing command line.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The Oracle AS SPI data collector command line is incorrectly specified in a collector template.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the data collector command line syntax error. You can view the Oracle AS SPI error log for a managed node by using the <i>View Error Log</i> application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 If the error occurred in a collector template that shipped with the Oracle AS SPI, reinstall the Oracle AS SPI.</li><li>3 If the error occurred in a collector template not shipped with the Oracle AS SPI, correct the collector template that contains the incorrect command line. For more information on the Oracle AS SPI data collector command line, see <a href="#">Using the Oracle AS SPI Collector/Analyzer Command with Parameters</a> on page 57.</li></ol>

## WASSPI-4

<b>Description</b>	Error getting the metric definitions.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The Oracle AS SPI data collector could not read the metric definitions XML document. This error can be caused by a missing configuration property, an I/O error, an XML parsing error, a missing file, or a corrupted serialized data file.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the underlying cause of the problem. You can view the Oracle AS SPI error log for a managed node by using the <i>View Error Log</i> application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 If the problem is with the metric definitions file (<code>MetricDefinitions.xml</code>) that is shipped with the Oracle AS SPI, reinstall the Oracle AS SPI. Run the <i>Configure OASSPI</i> application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows.</li><li>3 If the problem is with a user-defined metric definitions file that is not shipped with the Oracle AS SPI, verify that this XML file adheres to the <code>MetricDefinitions.dtd</code> specification. For more information on writing user-defined metrics, see the <i>HP Operations Smart Plug-in User Defined Metrics User Guide</i>. Reinstall your user-defined metric definition file.</li><li>4 If the underlying error is <code>ClassNotFoundException</code>, this is an internal error. Report this to your HP support representative.</li></ol>



## WASSPI-5

<b>Description</b>	Error processing metric <i>&lt;metric_number&gt;</i> .
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b> An error occurred while trying to collect data or perform calculations for the specified metric.</p> <p><b>Suggested Action</b> See the text following the error message in the Oracle AS SPI error log to help identify the underlying cause of the problem. The error messages previous to this one provide more information about the problem. You can view the Oracle AS SPI error log for a managed node by using the View Error Log application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</p>

## WASSPI-6

<b>Description</b>	Required property <i>&lt;property_name&gt;</i> is missing from the Oracle AS SPI configuration.
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b> A required property is missing from the Oracle AS SPI configuration.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Run the Configure OASSPI application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. Verify that you specified the correct server information for the Oracle OC4J/OHS servers on this managed node.</li><li>2 Verify that the property is specified correctly in the Oracle AS SPI configuration file (<code>/var/opt/OV/wasspi/oas/conf/SiteConfig</code> or <code>/var/opt/OV/conf/oas/SiteConfig</code> on UNIX platforms or <code>/usr/OV/wasspi/oas/conf/SiteConfig</code> on Windows platforms) on the managed node in question.</li></ol>

## WASSPI-7

<b>Description</b>	Unable to contact server <server_name> at url=<URL>, port=<port>.
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The specified server is not running at the specified port.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Run the Configure OASSPI application, accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. Verify that you specified the correct server name and port information for the Oracle OC4J/OHS servers on this managed node.</li><li>2 Verify that the properties, SERVER&lt;n&gt;_NAME and SERVER&lt;n&gt;_PORT, are specified correctly in the Oracle AS SPI configuration file ( /var/opt/OV/wasspi/oas/conf/SiteConfig or /var/opt/OV/conf/oas/SiteConfig on UNIX platforms or /usr/OV/wasspi/oas/conf/SiteConfig on Windows platforms) on the managed node in question.</li><li>3 Verify that the Oracle OC4J/OHS server is running on the managed node.</li></ol>

## WASSPI-8

<b>Description</b>	Error saving graphing or reporting data to file <file_name>.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The specified graphing or reporting data file could not be found or an I/O error occurred when trying to access the file.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the underlying cause of the problem. You can view the Oracle AS SPI error log for a managed node by using the View Error Log application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 Identify the steps to reproduce the problem.</li><li>3 Turn on tracing (by using the Start Tracing application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows) and reproduce the problem. For more information about available applications, see <a href="#">Applications</a> on page 18. Tracing information is saved to /&lt;OvAgentDir&gt;/log/oasspi/trace.log (archived files have a three digit number appended to the filename) where /&lt;OvAgentDir&gt;/ is typically /var/opt/OV/.</li><li>4 Contact your HP support representative with the information gathered in the previous steps.</li></ol>

## WASSPI-9

<b>Description</b>	Unable to retrieve property <i>&lt;property_name&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>A required property is missing from one of the Oracle AS SPI configuration files.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the missing property. You can view the SPI error log for a managed node by using the View Error Log application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application. Verify that you specified the correct information for the Oracle OC4J/OHS servers on the managed node in question.</li><li>3 Verify that the missing property is specified in the Oracle AS SPI configuration file (<code>/var/opt/OV/wasspi/oas/conf/SiteConfig</code> or <code>/var/opt/OV/conf/oas/SiteConfig</code> on UNIX platforms or <code>/usr/OV/wasspi/oas/conf/SiteConfig</code> on Windows platforms) on the managed node in question.</li></ol>

## WASSPI-10

<b>Description</b>	Encountered problem accessing file <i>&lt;filename&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The specified file could not be found, created, or accessed. This file could be a temporary file.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the file in question and the underlying cause of the problem. You can view the Oracle AS SPI error log for a managed node by using the View Error Log application accessed from the <b>Application Bank</b> → <b>OASSPI Admin</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 Verify that you have enough disk space to create temporary files.</li></ol>

## WASSPI-11

<b>Description</b>	No servers have been specified in the Oracle AS SPI configuration file.
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The number of Oracle OC4J/OHS servers specified in the Oracle AS SPI configuration for the managed node in question is 0.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application. Verify that you have specified the correct server name and port information for the Oracle OC4J/OHS servers on this managed node.</li><li>2 Verify that the property <code>NUM_SERVERS</code> in the Oracle AS SPI configuration file (<code>/var/opt/OV/wasspi/oas/conf/SiteConfig</code> or <code>/var/opt/OV/conf/oas/SiteConfig</code> on UNIX platforms or <code>/usr/OV/wasspi/oas/conf/SiteConfig</code> on Windows platforms) is set to the number of Oracle OC4J/OHS servers on this managed node.</li></ol>

## WASSPI-12

<b>Description</b>	Opcmon returned an error code of <code>&lt;error_number&gt;</code> for the command <code>&lt;opcmon_command&gt;</code> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The <code>opcmon</code> process started by the Oracle AS SPI collector has returned an error (non-zero) exit code.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Identify the steps to reproduce the problem.</li><li>2 Turn on tracing (by using the Start Tracing application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows) and reproduce the problem. For more information about available applications, see <a href="#">Applications</a> on page 18. Tracing information is saved to <code>/&lt;OvAgentDir&gt;/log/oasspi/trace.log</code> (archived files have a three digit number appended to the filename) where <code>/&lt;OvAgentDir&gt;/</code> is typically <code>/var/opt/OV/</code>.</li><li>3 Contact your HP support representative with the information gathered in the previous steps.</li></ol>

## WASSPI-13

<b>Description</b>	Exception occurred while running an opcmn process.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The Oracle AS SPI data collector attempted to run a process to start an opcmn call. Either the process could not be created or was interrupted.</p> <p><b>Suggested Action</b></p> <p>For UNIX systems, make sure the kernel configurable parameters <code>NPROC</code> and <code>MAXUPRC</code> are set high enough to enable process creation.</p>

## WASSPI-14

<b>Description</b>	Unable to find file <i>&lt;filename&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>A file required by the Oracle AS SPI data collector could not be found.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the file in question and the underlying cause of the problem. You can view the Oracle AS SPI error log for a managed node by using the View Error Log application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 Reinstall the Oracle AS SPI.</li><li>3 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li></ol>

## WASSPI-15

<b>Description</b>	Error parsing XML document <i>&lt;filename&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> An error occurred while parsing the specified XML document.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the underlying cause of the problem. You can view the Oracle AS SPI error log for a managed node by using the View Error Log application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 If the XML document was provided by the user, correct the document. For more information about the correct format for a user-defined metric definition document, see the <i>HP Operations Smart Plug-in User Defined Metrics User Guide</i>.</li><li>3 If the XML document is a document that is shipped with the Oracle AS SPI, from the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application to reinstall the Oracle AS SPI configuration files.</li></ol>

## WASSPI-16

<b>Description</b>	A bad filter was specified for metric <i>&lt;metric_number&gt;</i> .
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b> A metric filter is incorrectly specified in the metric definitions XML document.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 If the metric is specified in an XML document that was provided by the user, correct the document. For more information about the correct format for a user-defined metric definition document, see the <i>HP Operations Smart Plug-in User Defined Metrics User Guide</i>.</li><li>2 If the metric is a pre-defined metric that is shipped with the Oracle AS SPI, from the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application in order to reinstall the Oracle AS SPI configuration files.</li></ol>

## WASSPI-18

<b>Description</b>	Error logging to datasource <i>&lt;datasource_class_name&gt;</i> . Logging process returned exit code <i>&lt;exit_code&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The ddflg process started by the Oracle AS SPI data collector returned a non-zero error code.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Identify the steps to reproduce the problem.</li><li>2 Turn on tracing (by using the Start Tracing application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows) and reproduce the problem. For more information about available applications, see <a href="#">Applications</a> on page 18. Tracing information is saved to <i>/&lt;OvAgentDir&gt;/log/oasspi/trace.log</i> (archived files have a three digit number appended to the filename) where <i>/&lt;OvAgentDir&gt;/</i> is typically <i>/var/opt/OV/</i>.</li><li>3 Contact your HP support representative with the information gathered in the previous steps.</li></ol>

## WASSPI-19

<b>Description</b>	Encountered problem instantiating XSLT transformer with <i>&lt;filename&gt;</i> .
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The XSL document that specifies the auto action report output contains errors.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Reinstall the Oracle AS SPI.</li><li>2 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li></ol>

## WASSPI-20

<b>Description</b>	Encountered problem creating report for metric <i>&lt;metric_number&gt;</i> .
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>An error occurred while producing a text report for the specified metric.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Reinstall the Oracle AS SPI.</li><li>2 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li></ol>

## WASSPI-21

<b>Description</b>	Encountered problem instantiating factory implementation. '<class name>'.
<b>Severity</b>	Critical
<b>Help Text</b>	<b>Probable Cause:</b> The java property specifying the class name is incorrect or the class does not implement the AppServerFactory interface. <b>Suggested Action:</b> Verify that the java property <code>appserver.implementation</code> is set to the fully qualified name of the class which implements the AppServerFactory interface.

## WASSPI-23

<b>Description</b>	Error initializing collector analyzer for server <server_name>.
<b>Severity</b>	Critical
<b>Help Text</b>	<b>Probable Cause</b> An exception was encountered while preparing to monitor the specified server. <b>Suggested Action</b> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the problem. You can view the SPI error log for a managed node by using the <code>View Error Log</code> application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 Identify the steps to reproduce the problem.</li><li>3 Turn on tracing (by using the <code>Start Tracing</code> application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows) and reproduce the problem. For more information about available applications, see <a href="#">Applications</a> on page 18. Tracing information is saved to <code>/&lt;OvAgentDir&gt;/log/oasspi/trace.log</code> (archived files have a three digit number appended to the filename) where <code>/&lt;OvAgentDir&gt;/</code> is typically <code>/var/opt/OV/</code>.</li><li>4 Run the <code>Gather Info</code> application (by using the <code>Gather Info</code> application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows).</li><li>5 Contact your HP support representative with the information gathered in the previous steps.</li></ol>



## WASSPI-24

<b>Description</b>	Error logging in to server <code>&lt;server_name&gt;</code> with login <code>&lt;login&gt;</code> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>A security exception occurred while logging in to the specified server.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Run the Configure OASSPI application (by using the Configure OASSPI application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows).</li><li>2 Verify that you have specified the correct login and password on the managed node on which the error occurred.</li><li>3 Verify the login has appropriate permissions.</li></ol>

## WASSPI-26

<b>Description</b>	The data logging process for <code>&lt;server_name&gt;</code> timed out.
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>Depending on your configuration, either HP Performance Agent or CODA failed to exit before the time-out.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Restart HP Performance Agent using the command <code>mwa restart</code>.</li><li>2 Restart CODA using the command <code>opcagt -start</code>.</li></ol>

## WASSPI-27

<b>Description</b>	RMI collector unable to process <i>&lt;command&gt;</i> .
<b>Severity</b>	Warning
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>An exception was encountered while performing an rmid related operation.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the problem. You can view the SPI error log for a managed node by using the View Error Log application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 Identify the steps to reproduce the problem.</li><li>3 Turn on tracing (by using the Start Tracing application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows) and reproduce the problem. For more information about available applications, see <a href="#">Applications</a> on page 18. Tracing information is saved to <code>/&lt;OvAgentDir&gt;/log/oasspi/trace.log</code> (archived files have a three digit number appended to the filename) where <code>/&lt;OvAgentDir&gt;/</code> is typically <code>/var/opt/OV/</code>.</li><li>4 Run the Gather Info application (by using the Gather Info application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows).</li><li>5 Contact your HP support representative with the information gathered in the previous steps.</li></ol>

## WASSPI-30

<b>Description</b>	Failed to start <i>&lt;rmid_path&gt;</i> on port <i>&lt;port&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The specified port is already in use.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Run the Configure OASSPI application (by using the Configure OASSPI application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows) and set the RMID_PORT property to a port number which is not currently in use.</li></ol>

## WASSPI-31

<b>Description</b>	Lost connection to RMI collector while processing <i>&lt;command&gt;</i> .
<b>Severity</b>	Warning
<b>Help Text</b>	N/A

## WASSPI-32

<b>Description</b>	Unable to retrieve metadata for mbean <code>&lt;JMX-ObjectName&gt;</code> .
<b>Severity</b>	Warning
<b>Help Text</b>	N/A

## WASSPI-33

<b>Description</b>	No actions matched server <code>&lt;server_name&gt;</code> , version <code>&lt;version&gt;</code> .
<b>Severity</b>	Warning
<b>Help Text</b>	<p><b>Probable Cause</b> JMXAction element(s) define FromVersion and ToVersion tags which do not match the server version.</p> <p><b>Suggested Action</b> If the action is valid on the server, then either modify the JMXAction definition's FromVersion/ToVersion elements or modify the server's VERSION property.</p>

## WASSPI-34

<b>Description</b>	Metric <code>&lt;metric_id&gt;</code> does not define any actions.
<b>Severity</b>	Warning
<b>Help Text</b>	<p><b>Probable Cause</b> The metric ID specified with the -m option does not define a JMXActions element.</p> <p><b>Suggested Action</b> Correct the -m option if an incorrect metric ID was specified. Otherwise, add a JMXActions definition to the metric definition.</p>

## WASSPI-35

<b>Description</b>	Error executing action <code>&lt;action_command-line&gt;</code> .
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b> An unexpected error occurred while executing the action.</p> <p><b>Suggested Action</b> View the managed node's error log to determine the cause (follows the error message).</p>

## WASSPI-36

<b>Description</b>	MBean <code>&lt;JMX_objectname&gt;</code> on server <code>&lt;server_name&gt;</code> does not expose operation <code>&lt;operation_name&gt;</code> .
<b>Severity</b>	Warning
<b>Help Text</b>	<b>Probable Cause</b> An action's JMXCalls element defines an operation not exposed by the specified MBean. <b>Suggested Action</b> Correct the JMXCalls element or remove the operation from the element.

## WASSPI-37

<b>Description</b>	MBean <code>&lt;JMX_objectname&gt;</code> on server <code>&lt;server_name&gt;</code> does not expose attribute <code>&lt;attribute_name&gt;</code> for write.
<b>Severity</b>	Warning
<b>Help Text</b>	<b>Probable Cause</b> An action's JMXCalls element defines a write attribute exposed by the specified MBean as read-only. <b>Suggested Action</b> If the specified MBean is a custom MBean, update its management interface so that the attribute is writable. Otherwise, remove the attribute definition from the JMXCalls element.

## WASSPI-38

<b>Description</b>	MBean <code>&lt;JMX_objectname&gt;</code> on server <code>&lt;server_name&gt;</code> does not expose attribute <code>&lt;attribute_name&gt;</code> .
<b>Severity</b>	Warning
<b>Help Text</b>	<b>Probable Cause</b> An action's JMXCalls element defines an attribute not exposed by the specified MBean ObjectName. <b>Suggested Action</b> Correct the JMXCalls element or remove the attribute from the element.

## WASSPI-39

<b>Description</b>	Error invoking operation <code>&lt;operation_name&gt;</code> on MBean <code>&lt;JMX_objectname&gt;</code> .
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>An unexpected error occurred while invoking an operation on the specified MBean. The managed resource might have thrown an exception.</p> <p><b>Suggested Action</b></p> <p>View the managed node's error log to determine the cause (follows the error message).</p>

## WASSPI-40

<b>Description</b>	Error setting attribute <code>&lt;attribute_name&gt;</code> on MBean <code>&lt;JMX_objectname&gt;</code> .
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>An unexpected error occurred while setting an attribute on the specified MBean. The managed resource might have thrown an exception.</p> <p><b>Suggested Action</b></p> <p>View the managed node's error log to determine the cause (follows the error message).</p>

## WASSPI-41

<b>Description</b>	Error getting attribute <code>&lt;attribute_name&gt;</code> on MBean <code>&lt;JMX_objectname&gt;</code> .
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>An unexpected error occurred while getting an attribute from the specified MBean. The managed resource might have thrown an exception.</p> <p><b>Suggested Action</b></p> <p>View the managed node's error log to determine the cause (follows the error message).</p>

## WASSPI-42

<b>Description</b>	Error running command <i>&lt;command&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> A command started by the Oracle AS SPI collector reported an error..</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Identify the steps to reproduce the problem.</li><li>2 Turn on tracing (by using the Start Tracing application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows) and reproduce the problem. For more information about available applications, see <a href="#">Applications</a> on page 18. Tracing information is saved to <i>&lt;OvAgentDir&gt;/log/oasspi/trace.log</i> (archived files have a three digit number appended to the filename) where <i>&lt;OvAgentDir&gt;/</i> is typically <i>/var/opt/OV/</i>.</li><li>3 Run the Gather Info application (by using the Gather Info application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows).</li><li>4 Contact your HP support representative with the information gathered in the previous steps.</li></ol>

## WASSPI-43

<b>Description</b>	Error publishing event <i>&lt;event-type&gt;</i> .
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Probable Cause</b> An unexpected error occurred while a publisher was handling a metric or collect event.</p> <p><b>Suggested Action</b> View the managed node's error log to determine the cause (follows the error message).</p>

## WASSPI-201

<b>Description</b>	File <i>&lt;filename&gt;</i> not found.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> A configuration file could not be found.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>2 Verify that the correct information has been specified for the Oracle OC4J/OHS servers on the managed node on which the error occurred.</li></ol>

## WASSPI-202

<b>Description</b>	Cannot read file <i>&lt;filename&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <ol style="list-style-type: none"><li>1 A file could not be opened or it could not be found.</li><li>2 Permissions might be incorrect or a directory might be corrupt.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>2 Verify that you have specified the correct information for the Oracle OC4J/OHS servers on the managed node on which the error occurred.</li><li>3 Verify that the permissions are correct for the HPOM user to read this file.</li></ol>

## WASSPI-203

<b>Description</b>	Cannot write file <i>&lt;filename&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>Permissions might be incorrect, or a file or directory might be corrupt.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>2 Verify that you specified the correct information for the Oracle OC4J/OHS servers on the managed node on which the error occurred.</li><li>3 Verify that the permissions are correct for the HPOM user to write this file.</li></ol>

## WASSPI-204

<b>Description</b>	Error sending opcmmsg <i>&lt;message&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>There was a problem running opcmmsg. “opcmmsg” might be missing or not have permissions to run (HPOM installation errors) or the system process table might be full.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Confirm that HPOM is properly installed and deployed to the managed node.</li><li>2 Ensure that the process table is not full. If it is, consider having the system administrator increase it.</li></ol>

## WASSPI-205

<b>Description</b>	Error sending opcmon <command>.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>There was a problem running opcmon. “opcmon” might be missing or not have permissions to run (HPOM installation errors) or the system process table might be full.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Confirm that HPOM is properly installed and deployed to the managed node.</li><li>2 Ensure that the process table is not full. If it is, consider having the system administrator increase it.</li></ol>

## WASSPI-206

<b>Description</b>	Cannot read directory <directory>.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The permissions on the directory prevent the HPOM user from reading it or the directory is corrupt.</p> <p><b>Suggested Action</b></p> <p>Verify that the permissions are correct for the HPOM user for this directory.</p>

## WASSPI-207

<b>Description</b>	Cannot move <filename> to <filename>.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <ol style="list-style-type: none"><li>1 Insufficient permissions.</li><li>2 Insufficient disk space.</li><li>3 File table problems.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Verify that the permissions are correct for the HPOM user.</li><li>2 Verify that there is enough disk space to create files.</li><li>3 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li></ol>



## WASSPI-208

<b>Description</b>	OASSPI must be configured before it can be used.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The Oracle AS SPI has not been configured on this node.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>2 Verify that you have specified the correct information for the Oracle OC4J/OHS servers on the managed node on which the error occurred.</li><li>3 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>OASSPI Verify</b> to run the verification application to confirm that the Oracle AS SPI has been successfully configured.</li></ol>

## WASSPI-209

<b>Description</b>	Cannot contact Oracle Application Server.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <ol style="list-style-type: none"><li>1 The server could be down or not responding.</li><li>2 The Oracle AS SPI might be configured incorrectly.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Verify that the Oracle OC4J/OHS server is up and running properly.</li><li>2 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>3 Verify that you have specified the correct information for the Oracle OC4J/OHS servers on the managed node on which the error occurred.</li><li>4 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>OASSPI Verify</b> to run the verification application to confirm that the Oracle AS SPI has been successfully configured.</li></ol>

## WASSPI-210

<b>Description</b>	Cannot configure OASSPI.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> The Oracle AS SPI configuration process failed.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the underlying cause of the problem. The error messages previous to this one provide more information about the problem. You can view the Oracle AS SPI error log for a managed node by using the View Error Log application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 Reinstall the Oracle AS SPI.</li><li>3 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li></ol>

## WASSPI-211

<b>Description</b>	Cannot create directory <directory>.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> There are insufficient permissions for the HPOM user to create the directory or there is insufficient disk space.</p> <p><b>Suggested Action</b> Verify that the permissions are correct for the HPOM user for this directory and verify that there is enough disk space.</p>

## WASSPI-213

<b>Description</b>	Improper parameters to program <name>. Usage: <usage>.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> The parameters to the program are incorrect.</p> <p><b>Suggested Action</b> Correct the parameters.</p>

## WASSPI-214

<b>Description</b>	Cannot run program <i>&lt;program_name&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The program failed to run. It might be missing, permissions might be incorrect, or the process table might be full.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Verify that the file exists. If it is a Oracle AS SPI program and the file is missing, reinstall the Oracle AS SPI and, from the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>2 Verify that the permissions are correct for the HPOM user.</li></ol>

## WASSPI-216

<b>Description</b>	Configuration variable <i>&lt;name&gt;</i> missing for server <i>&lt;server_name&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>A required Oracle AS SPI configuration property was not found.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>2 Verify that the correct information has been specified in the configuration for the managed node on which the error occurred.</li></ol>

## WASSPI-218

<b>Description</b>	Oracle Application Server monitoring has been turned OFF for <i>&lt;server_name&gt;</i> .
<b>Severity</b>	Warning
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>Collection has been turned off for the specified server.</p> <p><b>Suggested Action</b></p> <p>If desired, collection can be turned on by setting <code>COLLECT = ON</code> in the <code>SiteConfig</code> file in the Oracle AS SPI configuration directory on the managed node. The configuration directory is <code>/var/opt/OV/wasspi/oas/conf/</code> or <code>/var/opt/OV/conf/oas/</code> on UNIX platforms or <code>/usr/OV/wasspi/oas/conf/</code> on Windows platforms.</p>

## WASSPI-219

<b>Description</b>	Oracle Application Server monitoring has been turned ON for <server_name>.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> Collection has been turned on for the specified server.</p> <p><b>Suggested Action</b> If desired, collection can be turned off by setting <code>COLLECT = OFF</code> in the <code>SiteConfig</code> file in the Oracle AS SPI configuration directory on the managed node. The configuration directory is <code>/var/opt/OV/wasspi/oas/conf/</code> or <code>/var/opt/OV/conf/oas/</code> on UNIX platforms or <code>/usr/OV/wasspi/oas/conf/</code> on Windows platforms.</p>

## WASSPI-221

<b>Description</b>	<filename> does not exist.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> The specified file does not exist. If it is a log file, no entries have ever been logged to it. If it is a property file, then it has not been configured.</p> <p><b>Suggested Actions</b></p> <ul style="list-style-type: none"><li>• Log files - If there have never been any entries written to the file, no action is necessary. Otherwise, from the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>• Property files - From the application bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li></ul>

## WASSPI-222

<b>Description</b>	<i>&lt;filename&gt;</i> is empty.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The specified file is empty. If it is a log file, no entries have ever been logged to it, or the entries have been cleaned out. If it is a property file, then it is not properly configured.</p> <p><b>Suggested Action</b></p> <ul style="list-style-type: none"><li>• Log files - If there have never been any entries written to the file, no action is necessary. Otherwise, from the Application Bank, select <b>OASSPI → OASSPI Admin → Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>• Property files - From the application bank, select <b>OASSPI → OASSPI Admin → Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>• Configuration - From the application bank, select <b>OASSPI → OASSPI Admin → Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li></ul>

## WASSPI-223

<b>Description</b>	Cannot read <i>&lt;filename&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <ol style="list-style-type: none"><li>1 A file could not be opened or it could not be found.</li><li>2 Permissions might be incorrect or a directory might be corrupt.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 From the Application Bank, select <b>OASSPI → OASSPI Admin → Configure OASSPI</b> to run the Oracle AS SPI configuration application. Verify that you have specified the correct information for the Oracle OC4J/OHS servers on the managed node on which the error occurred.</li><li>2 Verify that the permissions are correct for the HPOM user to read this file.</li></ol>

## WASSPI-224

<b>Description</b>	ddfcomp returned an error configuring <i>&lt;name&gt;</i> .
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> ddfcomp returned an error. Neither MeasureWare nor CODA is installed on the system or MeasureWare or CODA is not configured correctly.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 If MeasureWare and CODA are not installed, this error can be ignored.</li><li>2 Identify the steps to reproduce the problem.</li><li>3 Turn on tracing (by using the <i>Start Tracing</i> application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows) and reproduce the problem. For more information about available applications, see <a href="#">Applications</a> on page 18. Tracing information is saved to <i>&lt;OvAgentDir&gt;/log/oasspi/trace.log</i> (archived files have a three digit number appended to the filename) where <i>&lt;OvAgentDir&gt;/</i> is typically <i>/var/opt/OV/</i>.</li><li>4 Contact your HP support representative with the information gathered in the previous steps.</li></ol>

## WASSPI-225

<b>Description</b>	No logfiles were found. Did you run OASSPI Config?
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> The logfile list is empty.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Reinstall the Oracle AS SPI.</li><li>2 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li></ol>

## WASSPI-226

<b>Description</b>	Cannot read file <filename>.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <ol style="list-style-type: none"><li>1 A file could not be opened or it could not be found.</li><li>2 Permissions might be incorrect or a directory might be corrupt.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>2 Verify that you have specified the correct information for the Oracle OC4J/OHS servers on the managed node on which the error occurred.</li><li>3 Verify that the permissions are correct for the HPOM user to read this file.</li></ol>

## WASSPI-227

<b>Description</b>	Cannot read file <filename>.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>No HPOM agent is installed on the system.</p> <p><b>Suggested Action</b></p> <p>If you should have a performance agent installed, reinstall the performance agent. Otherwise, this message can be ignored.</p>

## WASSPI-228

<b>Description</b>	ddflog returned an error logging <i>&lt;logfile-name&gt;</i> : <i>&lt;system-error-msg&gt;</i>
<b>Severity</b>	Warning
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>An error was returned by ddflog. This error could have been caused by the Oracle AS SPI not being properly configured to support logging performance data.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Try reconfiguring Oracle AS SPI on the node having the problem.</li><li>2 Otherwise, examine the system error message, if any, for clues to the problem.</li><li>3 Turn on tracing (by using the Start Tracing application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows) and reproduce the problem. For more information about available applications, see <a href="#">Applications</a> on page 18. Tracing information is saved to <i>/&lt;OvAgentDir&gt;/log/oasspi/trace.log</i> (archived files have a three digit number appended to the filename) where <i>/&lt;OvAgentDir&gt;/</i> is typically <i>/var/opt/OV/</i>.</li><li>4 Contact your HP support representative with the information gathered in the previous steps.</li></ol>

## WASSPI-229

<b>Description</b>	Cannot connect to directory <i>&lt;directory_name&gt;</i>
<b>Severity</b>	Warning
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The directory does not exist or the user the agent is running under does not have appropriate permissions to the directory.</p> <p><b>Suggested Action</b></p> <p>If you should have a performance agent installed, reinstall the performance agent. Otherwise, this message can be ignored.</p>

## WASSPI-230

<b>Description</b>	Cannot get lock <i>&lt;filename&gt;</i> after <i>&lt;time-interval&gt;</i>
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>A Oracle AS SPI process is hung or taking longer than expected.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Stop the HPOM agent on the managed node. Make sure all HPOM and Oracle Application Server processes have stopped.</li><li>2 Check if the lock file is still there. If it is, remove it.</li><li>3 Restart the agent.</li></ol>



## WASSPI-231

<b>Description</b>	Cannot start the Java runtime engine.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <ol style="list-style-type: none"><li>1 The JAVA_HOME property in the SiteConfig file is not set correctly.</li><li>2 Java is not properly installed on your system.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>2 Verify that you have specified the correct JAVA_HOME information on the managed node on which the error occurred.</li></ol>

## WASSPI-232

<b>Description</b>	Server <name> specified on command line, but not in configuration.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <ol style="list-style-type: none"><li>1 A -i or -e option was specified on the wasspi_oas_ca command line, but the server name specified is not configured in the SiteConfig file.</li><li>2 Java is not properly installed on your system.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Specify a correct server name on the command line.</li><li>2 From the Application Bank, select <b>OASSPI</b> → <b>OASSPI Admin</b> → <b>Configure OASSPI</b> to run the Oracle AS SPI configuration application.</li><li>3 Verify that you have specified the correct server names in the configuration.</li></ol>

## WASSPI-234

<b>Description</b>	Error running program <file>, return value: <n>.
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The SPI attempted to run the specified application or auxiliary program and encountered an error (the return code is specified).</p> <p><b>Suggested Action</b></p> <ul style="list-style-type: none"><li>• If the application is a SPI application, make sure the SPI is installed and configured correctly. If not, reinstall or reconfigure the SPI.</li><li>• If the application is a system application, make sure there are no system problems that prevent the application from running.</li></ul>

## WASSPI-235

<b>Description</b>	Restart of MeasurWare agent failed.
<b>Severity</b>	Warning
<b>Help Text</b>	<b>Probable Cause</b> The SPI attempted to automatically restart the MeasureWare agent and the automatic attempt failed. <b>Suggested Action</b> Restart the MeasureWare agent manually using the command <code>mwa restart server</code> .

## WASSPI-236

<b>Description</b>	Failure when running XSLT on <code>&lt;xml&gt;</code> with stylesheet <code>&lt;xsl&gt;:&lt;message&gt;</code> .
<b>Severity</b>	Critical
<b>Help Text</b>	<b>Probable Cause</b> The translation of the UDM XML failed (part of setting up graphing for user defined metrics). <b>Suggested Action</b> Review the specified message and verify the XML.

## WASSPI-237

<b>Description</b>	This is an informational message that an OV_PM or MeasureWare datasource was set up.
<b>Severity</b>	Normal
<b>Help Text</b>	N/A

## WASSPI-238

<b>Description</b>	No user defined metrics found.
<b>Severity</b>	Warning
<b>Help Text</b>	<b>Probable Cause</b> The UDM Graph Enable application was run, but no UDMs are defined. <b>Suggested Action</b> Verify that the UDM XML file is named correctly.

## WASSPI-241

<b>Description</b>	Cannot delete file <file>.
<b>Severity</b>	Critical
<b>Help Text</b>	<b>Probable Cause</b> The SPI failed to delete the specified file. <b>Suggested Action</b> Verify the file's permissions. Enable the user/system to delete the file.

## WASSPI-254

<b>Description</b>	Java exited with an error.
<b>Severity</b>	Critical
<b>Help Text</b>	<b>Probable Cause</b> While running the collector or other java application, either Java encountered an error or the Java application exited with an error. <b>Suggested Action</b> Check for other errors generated at the same time and the SPI's error log for clues about the cause of the problem.

## WASSPI-261

<b>Description</b>	XML Parse Error
<b>Help Text</b>	<b>Probable Cause</b> The <code>wasspi_oas_XMLParser</code> file might be missing or the XML might be malformed.

## WASSPI-262

<b>Description</b>	Discovery Error
<b>Help Text</b>	<b>Probable Cause</b> Discovery failed. Review the <code>errorlog</code> and <code>wasspi_oas_discovery.trc</code> files on the managed node.

## WASSPI-263

<b>Description</b>	Windows Registry Error
<b>Help Text</b>	<b>Probable Cause</b> The Oracle Application Server installation might have failed or is not installed.

## WASSPI-261

<b>Description</b>	XML Parse Error
<b>Help Text</b>	<b>Probable Cause</b> The wasspi_oas_XMLParser might be missing or the XML might be malformed.

## WASSPI-601

<b>Description</b>	Retrieving Oracle AS SPI configuration in HPOM server
<b>Severity</b>	Normal
<b>Help Text</b>	<b>Probable Cause</b> The managed node has requested a copy of the master SiteConfig file.

## WASSPI-602

<b>Description</b>	Updating Oracle AS SPI configuration in HPOM server
<b>Severity</b>	Normal
<b>Help Text</b>	<b>Probable Cause</b> This is a normal operation performed by the discovery application. If the operation is successful, the entry in the “A” (action) column for this message changes from “R” (running) to “S” (success). <b>Suggested Action</b> If the operation is not successful, the entry in the “A” (action) column for this message changes from “R” (running) to “F” (fail). Select this node and run the Discover Oracle AS application. If the problem persists, configure the Oracle AS SPI manually. For more information, see <a href="#">Chapter 3, Configuring the Oracle AS SPI</a> .

## WASSPI-603

<b>Description</b>	Updated Oracle AS spi configuration in HPOM server
<b>Severity</b>	Normal
<b>Help Text</b>	<b>Probable Cause</b> The discovery application has discovered some Oracle AS instances on the managed node. It has updated the Oracle AS SPI configuration on the HPOM management server.

## WASSPI-604

<b>Description</b>	Oracle AS Discovery Failed
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <ul style="list-style-type: none"><li>• Oracle AS was not installed on the managed node.</li><li>• There are no Oracle AS instances running on the managed node.</li><li>• Discovery needs more information to find all Oracle AS instances running on the managed node.</li><li>• The Oracle AS SPI does not have the correct configuration information for the Oracle AS instances.</li></ul> <p><b>Suggested Action</b></p> <ul style="list-style-type: none"><li>• Install Oracle AS or verify that Oracle AS is installed on the managed node.</li><li>• Make sure that all Oracle AS instances you want to monitor are up and running before running the Discover Oracle AS application. Discovery only finds Oracle AS instances that are running. Verify the servers are running from the Oracle AS Control Console.</li><li>• Run the Configure OASSPI application (select the managed node before starting the application) and set the HOME_LIST property. Then, run the Discover Oracle AS application.</li><li>• Verify the information set for the following properties: LOGIN, PASSWORD, NAME, and HOME_LIST. If you modify information for any of these properties, run the Discover Oracle AS application.</li></ul> <p>If the problem persists, configure the Oracle AS SPI manually. For more information, see <a href="#">Chapter 3, Configuring the Oracle AS SPI</a>.</p> <p>If manual configuration fails, run the SHS application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. Contact your HP support representative with the gathered information.</p>

## WASSPI-605

<b>Description</b>	Could not find OAS home directory: <directory>
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b></p> <p>The specified directory was set in the HOME_LIST property but the directory does not exist.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 Verify that the directory exists on the managed node.</li><li>2 Use the Configure OASSPI application to verify that the HOME_LIST property contains the specified directory and modify the value.</li><li>3 Run the Discover Oracle AS application.</li></ol>

## WASSPI-606

<b>Description</b>	Oracle AS version not found
<b>Severity</b>	Critical
<b>Help Text</b>	<p><b>Probable Cause</b> The OraclesAS version string was not found. Oracle AS might not be installed on the managed node.</p> <p><b>Suggested Action</b> Install Oracle AS or verify that Oracle AS is installed on the managed node.</p>

## All Other Errors

<b>Description</b>	An unknown error appears in the Oracle AS SPI error log.
<b>Severity</b>	Major
<b>Help Text</b>	<p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1 See the text following the error message in the Oracle AS SPI error log to help identify the problem. You can view the SPI error log for a managed node by using the View Error Log application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows. The error message can be identified by the date/time stamp.</li><li>2 Identify the steps to reproduce the problem.</li><li>3 Turn on tracing (by using the Start Tracing application accessed from the <b>Application Bank</b> → <b>OASSPI</b> → <b>OASSPI Admin</b> windows) and reproduce the problem. For more information about available applications, see <a href="#">Applications</a> on page 18. Tracing information is saved to <code>&lt;OvAgentDir&gt;/log/oasspi/trace.log</code> (archived files have a three digit number appended to the filename) where <code>&lt;OvAgentDir&gt;/</code> is typically <code>/var/opt/OV/</code>.</li><li>4 Contact your HP support representative with the information gathered in the previous steps.</li></ol>

# A File Locations

You can find Oracle AS SPI configuration files and error logs in specific directories.

## HPOM Management Server File Locations

Operating System	File	File Location
HP-UX	Configuration	/opt/OV/wasspi/oas/conf
Solaris	Configuration	/opt/OV/wasspi/oas/conf

## Managed Node File Locations

On Windows or UNIX managed nodes that were already running the Oracle AS SPI and are being switched to a non-root HTTPS agent environment (UNIX only: if these directories do not exist, see the next table for file locations):

Operating System	File	File Location
HP-UX, Solaris, Linux	Configuration	/var/opt/OV/conf/oasspi
HP-UX, Solaris, Linux	Error Logs	/var/opt/OV/log/oasspi
AIX	Configuration	/usr/lpp/OV/conf/oasspi
AIX	Error Logs	/usr/lpp/OV/log/oasspi
Windows (HTTPS)	Configuration	\Documents and Settings\All Users\Application Data\HP\HP BTO Software\wasspi\oas\conf
Windows (HTTPS)	Error Logs	\Documents and Settings\All Users\Application Data\HP\HP BTO Software\wasspi\oas\log

On newly configured Oracle AS SPI managed nodes in the non-root HTTPS agent environment (UNIX only):

<b>Operating System</b>	<b>File</b>	<b>File Location</b>
HP-UX, Solaris, Linux	Configuration	/var/opt/OV/conf/oasspi
HP-UX, Solaris, Linux	Error Logs	/var/opt/OV/log/oasspi
AIX	Configuration	/var/opt/OV/conf/oasspi
AIX	Error Logs	/var/opt/OV/log/oasspi



# B The Configuration

This appendix explains how to use the configuration editor, describes of the configuration properties, and provides samples of the configuration.

## Structure

See [Sample Configurations for the Oracle AS SPI](#) on page 146 for examples of the configuration. The basic structure of the configuration is (lines preceded by # are treated as comments and are ignored):

```
# Global Properties
property=<value> ...

# GROUP Block
GROUP <group_name>
{
<node_name> ...
}

# NODE Block
NODE <node_name | group_name>
{
property=<value> ...
}
```

## Global Properties

```
# Global Properties
<property>=<value> ...
```

Properties defined at the global level apply to all nodes. However, these global properties can be overridden by properties set within a GROUP or NODE block or by server-specific properties.

## GROUP Block

```
# GROUP Block
GROUP <group_name>
{
<node_name> ...
}
```

GROUP blocks are used to group nodes together that have common properties.

<group\_name> identifies the group of nodes with common properties. If a GROUP block <group\_name> is repeated within the configuration, the last definition takes precedence.

<node\_name> lists the nodes in the group and is the primary node name configured in HPOM.



The node name specified in a GROUP block matches the value returned by the HPOM variable \$OPC\_NODES, which is the primary node name configured in HPOM.

Set the common properties of the group using the NODE block.

Using the configuration editor, view, set, or edit GROUP block properties by selecting the Default Properties item in the <Group\_Name> folder.

## NODE Block

```
# NODE Block
NODE <node_name | group_name>
{
  <property>=<value> ...
}
```

Properties set in a NODE block apply to nodes belonging to the group defined by <group\_name> (to set common properties for a group) or to the specified <node\_name> (to set properties for a single node).

For a group, enter the <group\_name> defined by the GROUP block and define the group's common properties.

For a single node, enter the <node\_name> and define the properties.

If a property definition is repeated within the NODE block, the last definition takes precedence.

Using the configuration editor, view, set, or edit NODE block properties by selecting the Default Properties item in the <Node\_Name> folder.

## Server-Specific Properties

Each property specified as SERVER<n>\_property refers to a specific Oracle OC4J/OHS server instance. When more than one Oracle OC4J/OHS server instance is running on a given managed node, the number <n> differentiates the servers. Numbering begins at “1” and each Oracle OC4J/OHS server instance is assigned a unique number.

## Property Precedence

The order of precedence (highest to lowest) of properties defined in the configuration are:

- 1 SERVER<n>\_property (server-specific)
- 2 NODE <node\_name> {<property>} (property defined for a node)
- 3 NODE <group\_name> {<property>} (property defined for a group)
- 4 <property> (global property)

# Using the Configuration Editor

Use the configuration editor to view and edit the configuration. You must update the configuration using this editor only.

The main features of the configuration editor are:

- Tree
- Buttons
- Actions

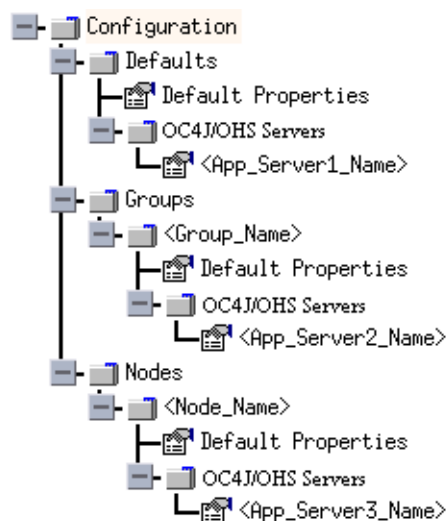
## Configure OASSPI – Tree

The Configure OASSPI tree, displayed in the left pane of the Configure OASSPI application’s main window, displays the Oracle AS SPI configuration in a tree structure.

The following is an example of the tree.



If no OC4J/OHS servers or groups are configured, the “OC4J/OHS Servers” and “Groups” folders are not displayed. If you are running Configure OASSPI for the first time and you did not select any nodes before you launched the application, the “Nodes” folder is not displayed



The icons are defined as follows:



The configuration properties can be viewed.



The configuration properties can be viewed and set.

The following table lists each item in the tree and a brief description of the item.

<b>Item Name</b>	<b>Description</b>
OC4J/OHS Servers	A folder that contains a list of all the OC4J/OHS servers. This folder can appear under Defaults (global properties), Group_Name(s) (GROUP block), or Node_Name(s) (NODE block).
<OC4J/OHS_Server_Name>	The name of the OC4J/OHS server.
Configuration	A folder that contains all Oracle AS SPI configuration information for the Oracle Application Server environment.
Default Properties	Lists the configuration properties that are set. This item appears under Defaults (global properties), Group_Name(s) (GROUP block), or Node_Name(s) (NODE block).
Defaults	A folder that represents the global properties. Default properties set at this level apply to all nodes. However, these properties can be overridden by properties set under the Group_Name and Node_Name folders (for more information, see <a href="#">Property Precedence</a> on page 130 ).
Groups	A folder that represents the GROUP block.
<Group_Name>	A folder that identifies the name of a group of nodes with common properties. Default properties set at this level apply to all nodes that belong to the specified group. These properties can be overridden by properties set under the Node_Name folders (for more information, see <a href="#">Property Precedence</a> on page 130).
Nodes	A folder that represents the NODE block.
<Node_Name>	A folder that represents a single node whose name matches the value returned by the HPOM variable \$OPC_NODES, which is the primary node name configured in HPOM. Default properties set at this level apply to the specified node only (for more information, see <a href="#">Property Precedence</a> on page 130).









## Configure OASSPI – Buttons

The following buttons are available in Configure OASSPI:

Button	Description
Cancel	Exit Configure OASSPI. If you set configuration properties without saving them, these changes are not saved. If you added or removed an OC4J/OHS server, node, or group without saving the change or if you modified a configuration property, a Confirm Cancel window opens. Click <b>Save and Exit</b> to save the changes before exiting, <b>Exit without Save</b> to exit without saving the changes, or <b>Return to Editing</b> to continue editing the configuration (changes are not saved).
Finish	Exit Configure OASSPI. Appears instead of <b>Next</b> if you launched Configure OASSPI without selecting any nodes.
Next	Exit Configure OASSPI. Takes you to the “Confirm Operation” window that lists the nodes you selected before you started Configure OASSPI. The selected managed nodes’ configurations are updated with your changes. If you made changes to nodes that were not selected (are not displayed in the “Confirm Operation” window), the changes are saved to the HPOM management server’s configuration, but to make the changes to those managed node’s configuration, you must select those managed nodes from the node bank, restart Configure OASSPI, and then exit.
Save	Save changes to the HPOM management server’s configuration and continue editing the configuration. You can also select <b>File</b> → <b>Save</b> to save your changes.

## Configure OASSPI – Actions

Actions that you can perform depend upon the item that is selected in the tree and from where you access the action. The following actions can be accessed from the Actions menu, File menu, or by right-clicking on an item in the tree.

Action	Description	Selected Tree Item
Add OC4J/OHS Server	Add an OC4J/OHS server. For more information, see <a href="#">Add OC4J/OHS Server</a> on page 134.	<ul style="list-style-type: none"> <li> OC4J/OHS Servers</li> <li> Defaults</li> <li> &lt;Group_Name&gt;</li> <li> &lt;Node_Name&gt;</li> </ul>
Add Group	Create a group to which you can assign nodes that have common properties. For more information, see <a href="#">Add Group</a> on page 135.	<ul style="list-style-type: none"> <li> Any item in the tree</li> <li> Any item in the tree</li> </ul>
Add Node	Add a managed node to the Nodes folder. For more information, see <a href="#">Add Node</a> on page 135.	<ul style="list-style-type: none"> <li> Any item in the tree</li> <li> Any item in the tree</li> </ul>

Action	Description	Selected Tree Item
Exit	Exit the Configure OASSPI application. This action is available from the File menu. If any changes were made that have not been saved, the Confirm Cancel window opens.	Any item in the tree Any item in the tree
Remove OC4J/OHS Server/Remove ALL OC4J/OHS Servers	Remove an OC4J/OHS server or all listed OC4J/OHS servers. For more information, see <a href="#">Remove OC4J/OHS Server/Remove ALL OC4J/OHS Servers</a> on page 136.	OC4J/OHS Servers <OC4J/OHS_Server_Name>
Remove Group/Remove ALL Groups	Remove a Oracle AS SPI group or all listed Oracle AS SPI groups. For more information, see <a href="#">Remove Group/Remove ALL Groups</a> on page 136.	Groups <Group_Name>
Remove Node/Remove ALL Nodes	Remove a managed node or remove all managed nodes. For more information, see <a href="#">Remove Node/Remove ALL Nodes</a> on page 137.	Nodes <Node_Name>
Save	Save changes to the configuration. This action is available from the File menu only if changes were made to the configuration.	Any item in the tree Any item in the tree
Set Configuration Properties tab	Set Oracle AS SPI configuration properties. For more information, see <a href="#">Set Configuration Settings Tab</a> on page 137.	<OC4J/OHS_Server_Name> Default Properties
View Configuration Settings tab	View Oracle AS SPI configuration properties. For more information, see <a href="#">View Configuration Settings Tab</a> on page 138.	Any item in the tree Any item in the tree

## Add OC4J/OHS Server

Add an Oracle OC4J/OHS Server instance at the global properties, GROUP, or NODE level in the Oracle AS SPI configuration.

To add an OC4J/OHS server, follow these steps:

- 1 Right-click one of the following items in the tree: Defaults (global properties level), OC4J/OHS Servers (global properties level), <Group\_Name> (GROUP level), or <Node\_Name> (NODE level) and select **Add OC4J/OHS Server**.

The Configure OASSPI Application: Add OC4J/OHS Server window opens.

- 2 Enter the “OC4J/OHS Server Name.” This is the name of the OC4J/OHS server as defined in the Oracle Application Server and is case-sensitive. The Oracle Application Server Control Console displays the server names of all configured OC4J/OHS servers in a domain. Use these names for the OC4J/OHS Server Name.
- 3 Click **OK**.

The NAME property is set.

The OC4J/OHS server is added and its properties are displayed. You can also set additional configuration properties for this server. For more information, see [Set Configuration Settings Tab](#) on page 137.

- 4 Click **Save** to save your changes.

If you do not want to add this OC4J/OHS server, right-click the OC4J/OHS server name, select **Remove OC4J/OHS Server**, and click **Save**.

## Add Group

Assign nodes to a group that have common properties in the Oracle AS SPI configuration.

To add a group, follow these steps:

- 1 Right-click any item in the tree and select **Add Group**.

The Configure OASSPI Application: Add Group window opens.

- 2 Enter the Group Name. The group name identifies the group of nodes with common properties and is NOT case-sensitive.

- 3 Click **OK**.

The group is added and the Set Configuration Properties tab for the group is selected.

- 4 Select **Add Node to Group**, select one node from the list to add to the group, and click **OK**. Repeat this step until all nodes are added to the group.

- 5 Set the configuration properties for this group using the **Select a Property to Set** pulldown list. For more information, see [Set Configuration Settings Tab](#) on page 137.

- 6 Click **Save** to save your changes.

If you do not want to add the group, right-click the group name, select **Remove Group**, and click **Save**.

## Add Node

Add a managed node to the Oracle AS SPI configuration.

To add a node, follow these steps:

- 1 Right-click any item in the tree and select **Add Node**.

If no additional managed nodes are available to add to the configuration, the following message appears:

All available managed nodes have been added to the configuration.

Click **OK** to exit this action.

Otherwise, the Configure OASSPI Application: Add Node window opens.

- 2 From the pulldown menu, select a node to add.

- 3 Click **OK**.

The node is added and the Set Configuration Properties tab for the node displays.

- 4 Set the configuration properties for this node using the **Select a Property to Set** pulldown list. For more information, see [Set Configuration Settings Tab](#) on page 137.

- 5 Click **Save** to save your changes.

If you do not want to add the node, right-click the node name, select **Remove Node**, and click **Save**.

## Remove OC4J/OHS Server/Remove ALL OC4J/OHS Servers

Remove an OC4J/OHS Server or all listed OC4J/OHS Servers from the Oracle AS SPI configuration.

To remove an OC4J/OHS server, follow these steps:

- 1 Right-click the OC4J/OHS server name and select **Remove OC4J/OHS Server**.  
The selected OC4J/OHS server name is removed from the list and its configuration properties are removed from the configuration.
- 2 Click **Save** to permanently remove the OC4J/OHS server.  
Click **Cancel** to cancel the removal of the OC4J/OHS server (the OC4J/OHS server name appears the next time you run Configure OASSPI). In the Confirm Cancel window, click **Exit without Save**.

To remove ALL OC4J/OHS servers, follow these steps:

- 1 Right-click the OC4J/OHS Servers folder and select **Remove ALL OC4J/OHS Servers**.  
The selected OC4J/OHS Servers folder and all OC4J/OHS servers listed in the selected folder are removed (all configuration properties for the listed OC4J/OHS servers are removed from the configuration).
- 2 Click **Save** to permanently remove the OC4J/OHS servers.  
Click **Cancel** to cancel the removal of all OC4J/OHS servers (the OC4J/OHS Servers folder and all OC4J/OHS server names listed in the folder appear the next time you run Configure OASSPI). In the Confirm Cancel window, click **Exit without Save**.

## Remove Group/Remove ALL Groups

Remove a Oracle AS SPI group or all listed Oracle AS SPI groups from the Oracle AS SPI configuration.

To remove a group, follow these steps:

- 1 Right-click the group server name and select **Remove Group**.  
The selected group is removed from the list and its configuration properties are removed from the configuration.
- 2 Click **Save** to permanently remove the group.  
Click **Cancel** to cancel the removal of the group (the group name appears the next time you run Configure OASSPI). In the Confirm Cancel window, click **Exit without Save**.



## Remove Node/Remove ALL Nodes

Remove a managed node or all listed managed nodes from the Oracle AS SPI configuration.

To remove a node, follow these steps:

- 1 Right-click the node name and select **Remove Node**.

The selected node is removed from the list and its configuration properties are removed from the configuration.

- 2 Click **Save** to permanently remove the node.

Click **Cancel** to cancel the removal of the node (the node name appears the next time you run Configure OASSPI). In the Confirm Cancel window, click **Exit without Save**.

To remove ALL nodes, follow these steps:

- 1 Right-click the Nodes folder and select **Remove ALL Nodes**.


The selected Nodes folder and all nodes listed in the selected folder are removed (all configuration properties for the listed nodes are removed from the configuration).

- 2 Click **Save** to permanently remove the nodes.

Click **Cancel** to cancel the removal of all nodes (the Nodes folder and all node names listed in the folder appear the next time you run Configure OASSPI). In the Confirm Cancel window, click **Exit without Save**.

## Set Configuration Settings Tab

Set Oracle AS SPI configuration properties at the global properties level or for the selected OC4J/OHS server(s), group(s) (GROUP level), or node(s) (NODE level).

Items with the  icon are the only items for which you can set configuration properties (Default Properties and <OC4J/OHS\_Server\_Name>).

To set the configuration properties of an item, select the item and click the **Set Configuration Properties** tab in the right pane.

### Setting a Property

To set a property in the configuration, follow these steps:

- 1 Select a property from the **Select a Property to Set** pulldown menu.
- 2 Select **Set Property**. The property and an empty value field appear in the table.
- 3 Click the empty value field and enter a value.
- 4 Repeat steps 1 through 3 for each property to set.
- 5 Click **Save**.

### Modifying a Property

To modify a property in the configuration, follow these steps:

- 1 Select the property from the table.
- 2 Double-click the value field.
- 3 Edit the value.
- 4 Repeat steps 1 through 3 for each property to modify.

- 5 Click **Save**.

### Removing a Property

To remove a property from the configuration, follow these steps:

- 1 Select the property from the table.
- 2 Click **Remove Property**.
- 3 Repeat steps 1 and 2 for each property to remove.
- 4 Click **Save**.

For more information about individual properties, see [Configuration Properties](#) on page 139.

### AUTO\_DISCOVER

The AUTO\_DISCOVER check box that appears near the bottom of the window sets the AUTO\_DISCOVER property. You can only set this property by selecting or unselecting the check box.

Selecting the check box (default) causes the discovery templates (if distributed) to automatically update the Oracle AS SPI configuration information in the service map and configuration. If the discovery templates are not distributed, the service map is created but not updated.

## View Configuration Settings Tab

View all Oracle AS SPI configuration properties set in the configuration on the HPOM management server or the Oracle AS SPI configuration properties for the selected OC4J/OHS server(s), group(s), or node(s).

To view the configuration properties of an item, select the item and click the **View Configuration Settings** tab in the right pane.

The following table describes the view when the specified item is selected.

Item Name	Description of View
OC4J/OHS Servers	View all configuration properties set for all the listed OC4J/OHS servers.
<OC4J/OHS_Server_Name>	View all configuration properties set for the OC4J/OHS server (these properties can be modified by selecting the <b>Set Configuration Properties</b> tab).
Configurations	View all configuration properties saved in the configuration on the HPOM management server.
Default Properties	View all configuration properties that are set (these properties can be modified by selecting the <b>Set Configuration Properties</b> tab).
Defaults	View all configuration properties set at the global properties level.
Groups	View all configuration properties set for all the listed groups.

Item Name	Description of View
<Group_Name>	View all configuration properties set for the specific group.
Nodes	View all configuration properties set for the listed nodes.
<Node_Name>	View all configuration properties set for the specific node.

### View Inherited Properties

A View Inherited Properties check box appears near the bottom of the window. By selecting this check box, the view of the configuration properties changes to show all inherited properties (those properties defined at a global properties level or GROUP level) that affect the selected item. Inherited properties are denoted by “<\*>” appearing after the property.

By unselecting this check box, the view shows only the configuration properties set at that level for the selected item.

Inherited properties can only be modified at the level they are set. If “<\*>” appears after the property, the property cannot be modified at that level. For example, if the property HOME is set at the global properties level (under the Defaults folder), it can only be modified in the Default Properties listed under the Defaults folder. Although HOME appears (with “<\*>” after it) in a <Group\_Name>’s Default Properties view, HOME cannot be modified at this level.

Properties set lower in the tree take precedence over those properties set higher in the tree. For example, if the property HOME is set at the global properties level (under the Defaults folder) and the property HOME is set at the GROUP level, the GROUP level property value takes precedence.

Configuration property precedence is as follows (listed from highest to lowest):

- 1 Server-specific
- 2 NODE level
- 3 GROUP level
- 4 Global properties level

## Configuration Properties

Table 5 on page 140 lists all properties by Oracle AS SPI requirements:

<b>Property</b>	Name of the property.
<b>Requirements</b>	Lists the property requirements for specific components:
<b>R -</b>	Required: The property must be set.
<b>C -</b>	Conditional: The property might need to be set if certain conditions are met.
<b>O -</b>	Optional: The property is not required for the component to work.

blank - Not Applicable: The property does not affect this component.

- Oracle AS SPI** Configuration requirements for the Oracle AS SPI to work.
- Discovery Process** Requirements for the discover process to work.
- Auto-Discovered** The property is automatically set by the discover process.
- Level of Configuration** The level at which this property can be set within the configuration structure.
- Default Properties** The global, group, or node level within the configuration structure.
- Application Server** The server-specific level within the configuration structure.

**Table 5 Properties Listed by Oracle AS SPI Requirements**

Property	Requirements			Level of Configuration	
	Oracle AS SPI	Discovery Process	Auto-Discovered	Default Properties	Application Server
HOME	R	C	✓	✓	✓
JAVA_HOME	R		✓	✓	✓
LOGIN	R			✓	✓
MAP_KEY_PREFIX	R	R	✓	✓	✓
NAME	R		✓		✓
PASSWORD	R			✓	✓
URL_PATH	R	R	✓	✓	✓
ALIAS	C				✓
AUTO_DISCOVER	C	C		✓	✓
GRAPH_URL	C			✓	
RMID_PORT	C			✓	
RMID_START_TIME	C			✓	
START_CMD	C			✓	✓
STOP_CMD	C			✓	✓
TYPE	C		✓		✓

**Table 5 Properties Listed by Oracle AS SPI Requirements**

Property	Requirements		Auto-Discovered	Level of Configuration	
	Oracle AS SPI	Discovery Process		Default Properties	Application Server
USER	C			✓	✓
VERSION	C		✓		✓
MAX_ERROR_LOG_SIZE	O			✓	
TIMEOUT	O			✓	✓

## Property Definitions

**Table 6 Configuration Properties**

Property	Applicable OAS Version	Required/Conditional/Optional	Description
ALIAS	9.04, 10.1.2, 10.1.3	<i>Conditional</i> Required if more than one OC4J/OHS server on a system share the same server name.	<p>ALIAS is a unique name assigned to an OC4J/OHS server on a managed node if more than one OC4J/OHS server on the managed node share the same server name. The alias, if set, is the name used in messages, reports, and graphs (otherwise, SERVER &lt;n&gt;NAME is used).</p> <p>If ALIAS is modified, the data for the old alias is saved but not mapped to the new alias.</p> <p><b>Example:</b> NODE petstore.hp.com  <pre>{SERVER1_NAME=dog SERVER1_ALIAS=beagle SERVER2_NAME=dog SERVER2_ALIAS=dachshund }</pre>           NODE flying_ace.hp.com {  <pre>SERVER1_NAME=snoopy SERVER1_ALIAS=beagle SERVER2_NAME=snoopy SERVER2_ALIAS=red_baron }</pre> </p>

**Table 6 Configuration Properties**

<b>Property</b>	<b>Applicable OAS Version</b>	<b>Required/ Conditional/ Optional</b>	<b>Description</b>
AUTO_DISCOVER	9.04, 10.1.2, 10.1.3	<i>Conditional</i> Required if you do <i>not</i> want the discovery policy to automatically overwrite the configuration information.	Select the AUTO_DISCOVER check box in the configuration editor to automatically update the Oracle Application Server configuration information in the service map and configuration.  Unselect the AUTO_DISCOVER check box in the configuration editor if you are manually configuring the Oracle Application Server configuration and do not want the discovery template to automatically overwrite the configuration information.
GRAPH_URL	9.04, 10.1.2, 10.1.3	<i>Conditional</i> Required if you want to use the View Graphs application (HP Performance Manager must be installed).	The fully-qualified URL used to launch HP Performance Manager. Set at the global level only. <b>Examples:</b> GRAPH_URL = http://<server_name>:<port_no>/OVPM (OVPM 8.10 on Windows and Unix), the default port number is 8081
HOME	9.04, 10.1.2, 10.1.3	<b>Required</b>	The directory where the Oracle Application Server is installed. <b>Example:</b> HOME = /opt/oracle/infra
JAVA_HOME	9.04, 10.1.2, 10.1.3	<b>Required</b> Required by the discovery process if there is more than one directory where Java is installed.	The directory where Java is installed that is used by the collector. The java engine is expected to be \$JAVA_HOME/bin/java. <b>Example:</b> JAVA_HOME = /opt/oracle/jdk
LOGIN	10.1.3	<b>Required</b>	An Oracle AS defined user (not a system user) that is used to monitor an Oracle AS server. <b>Example:</b> SERVER1_LOGIN = janedoe
MAP_KEY_PREFIX	10.1.3	<b>Required</b>	Any unique HTTP instance name. <b>Example:</b> my_j2eeinstance1.system1.com
MAX_ERROR_LOG_SIZE	9.04, 10.1.2, 10.1.3	Optional	The maximum number of MB allowed for the error log file. When the error log file reaches the maximum limit, it is renamed as a backup file and logging resumes. When a new backup file replaces an old backup file, the old backup is deleted. <b>Default:</b> 2MB <b>Example:</b> MAX_ERROR_LOG_SIZE = 20

**Table 6 Configuration Properties**

Property	Applicable OAS Version	Required/ Conditional/ Optional	Description
NAME	9.04, 10.1.2, 10.1.3	<b>Required</b>	<p>The OC4J instance name. Use the <code>dcmctl listInstances</code> command to display all Oracle Application Server instances.</p> <p>This name is used in messages, reports, and graphs unless ALIAS is set. Set ALIAS to uniquely identify each server if more than one OC4J/OHS server on a system share the same name (NAME is the same within a NODE block).</p> <p><b>Example:</b> SERVER1_NAME = exampleServer</p>
PASSWORD	10.1.3	<b>Required</b>	<p>The password for the LOGIN. If LOGIN is configured, a password must be defined.</p> <p><b>Example:</b> SERVER1_PASSWORD = johndoe123</p>
RMID_PORT	9.04, 10.1.2, 10.1.3	<i>Conditional</i> Required if the default port on which rmid listens is already in use.	<p><b>Default:</b> Oracle Application Server: 9240; JMX connector: 9241</p> <p>The port on which rmid listens. By default, if an HPOM managed node is monitoring application server(s) and MBean server(s) using the JMX connector, the SPI uses two ports (one for the application server(s) and one for the MBean server(s)). For example, if you are monitoring an Oracle Application Server and an MBean server, the SPI uses ports 9240 and 9241. If RMID_PORT is set, the SPI uses this one port for all servers (this property cannot be set at the application server level). For example, if you are monitoring a Oracle Application Server and an MBean server and set RMID_PORT to 9250, the SPI uses port 9250 only.</p> <p><b>Example:</b> RMID_PORT = 9250</p>
RMID_START_TIME	9.04, 10.1.2, 10.1.3	<i>Conditional</i> Required if rmid takes longer than 30 seconds to start.	<p><b>Default:</b> 30 (seconds)</p> <p>The amount of time, in seconds, to wait for rmid to start before timing out.</p> <p><b>Example:</b> RMID_START_TIME = 60</p>

**Table 6 Configuration Properties**

Property	Applicable OAS Version	Required/ Conditional/ Optional	Description
START_CMD	9.04, 10.1.2, 10.1.3	<i>Conditional</i> Required if you want to start the Oracle Application Server from the HPOM console	A fully qualified system command that is run when the HPOM Application Bank “Start Oracle AS” application is used. This command is run by USER which must be set in order for the “Start Oracle AS” application to work. <b>NOTE:</b> This command must exit. That is, the Oracle Application Server process must run in the background or as a service and it must be protected from its parent process dying. <b>Example:</b> SERVER1_START_CMD = /sbin/init.d/oracle start
STOP_CMD	9.04, 10.1.2, 10.1.3	<i>Conditional</i> Required if you want to stop the Oracle Application Server from the HPOM console	A fully qualified system command that is run when the HPOM Application Bank “Stop Oracle AS” application is used. This command is run by USER which must be configured in order for the “Stop Oracle AS” application to work. <b>Example:</b> SERVER1_STOP_CMD = /sbin/init.d/oracle stop
TIMEOUT	9.04, 10.1.2, 10.1.3	Optional	<b>Default:</b> 120 (seconds). The maximum amount of time, in seconds, Oracle AS SPI tries to connect to the Oracle Application Server. When the specified time is exceeded, Oracle AS SPI sends an alarm to the message browser indicating that the Oracle Application Server is unavailable. If metric C002_ServerStatusRep is being collected, the unavailability of the server is logged.  If no time limit is desired, set this property to -1.
TYPE	9.04, 10.1.2, 10.1.3	<i>Conditional</i> Required if you are configuring a JMX connector	<b>Default:</b> ajp13. The type of JMX connector. Set to ajp13 if this is an OC4J server. Set to ohs if this is an OHS (HTTP_Server) server. Set to ovrmi if you are configuring a JMX connector. <b>Example:</b> SERVER1_TYPE=ajp13
URL_PATH	10.1.3	<b>Required</b>	Required for discovery and collection of metrics. It is a mandatory property that every server in the SiteConfig must have. <b>Example:</b> SERVER2_URL_PATH=/opmn://samplesystem:6005/my2_home



**Table 6 Configuration Properties**

<b>Property</b>	<b>Applicable OAS Version</b>	<b>Required/ Conditional/ Optional</b>	<b>Description</b>
USER	9.04, 10.1.2, 10.1.3	<i>Conditional</i> Required if you want to start and/or stop the Oracle Application Server from the HPOM console	The system username for starting and stopping the Oracle Application Server from the HPOM Application Bank. The default is the username under which the HP Operations agent runs. <b>Example:</b> USER = ias_admin
VERSION	9.04, 10.1.2, 10.1.3	<i>Conditional</i> Required for Oracle Application Server version 10.1.2, 10.1.3	The version number of the Oracle Application Server in the format <i>Major# [Minor#]</i> where: <i>Major#</i> - The primary version number (for example, 10.1) <i>Minor#</i> - The service pack installed (for example, 1 for SP1). If <i>Minor#</i> is not specified, it defaults to 0 (no service pack installed). <b>Example:</b> SERVER1_VERSION = 10.1 2

# Sample Configurations for the Oracle AS SPI

## Example 1: Single Node/Two Servers

This example is for a single node running two servers: an OC4J and HTTP servers. The properties HOME, JAVA\_HOME, MAP\_KEY\_PREFIX, and VERSION are global defaults that apply to all servers and nodes.

```
HOME=C:/OraHome_1
JAVA_HOME=C:/OraHome/jdk
MAP_KEY_PREFIX=
VERSION=10.1 2
NUM_SERVERS=2
NODE some_node.hp.com
{
  SERVER1_NAME=HTTP_Server
  SERVER1_TYPE=ohs
  SERVER2_NAME=home
  SERVER2_TYPE=ajp13
}
```

## Example 2: Multiple Nodes/Repeated Properties

This example shows how you can configure a group of related systems that have numerous properties in common. Some nodes, however, might have one or two properties that you need to set differently. You can address these kinds of situations in three steps:

- 1 Use the Add Group action in the configuration editor to name the group, specify the nodes in it, and set the configuration properties. For more information, see [Add Group](#) on page 135.
- 2 Use the Add Node action in the configuration editor to define individual node properties (either for nodes not in the group or for nodes in the group that have some unique/separate properties). For more information, see [Add Node](#) on page 135.



Properties set for a node take precedence over the same properties set for a group. See [Property Precedence](#) on page 130 for the complete order of property precedence.

In the example, the global default properties HOME, JAVA\_HOME, and MAP\_KEY\_PREFIX are overridden for SERVER4 and SERVER5 of the node group “production” and for node europa.hp.com.

```
HOME = /opt/oracle/appsrv
JAVA_HOME = /opt/oracle/appsrv/jdk
MAP_KEY_PREFIX = /appsrv.hp.com
VERSION = 10.1 2
GROUP production
{
  mercury.hp.com
  venus.hp.com
  mars.hp.com
  jupiter.hp.com
}
```

```

NODE production
{
  SERVER1_NAME = HTTP_Server
  SERVER1_TYPE = ohs
  SERVER1_ALIAS = HTTP_Server+appsrv.hp.com
  SERVER2_NAME = OC4J_Portal
  SERVER2_TYPE = ajp13
  SERVER3_NAME = home
  SERVER3_TYPE = ajp13
  SERVER4_NAME = HTTP_Server
  SERVER4_TYPE = ohs
  SERVER4_ALIAS = HTTP_Server+infra.hp.com
  SERVER4_HOME = /opt/oracle/infra
  SERVER4_JAVA_HOME = /opt/oracle/infra/jdk
  SERVER4_MAP_KEY_PREFIX = /oasspi/infra.hp.com
  SERVER5_NAME = OC4J_SECURITY
  SERVER5_TYPE = ajp13
  SERVER5_HOME = /opt/oracle/infra
  SERVER5_JAVA_HOME = /opt/oracle/infra/jdk
  SERVER5_MAP_KEY_PREFIX = /oasspi/infra.hp.com
}
NODE europa.hp.com
{
  SERVER1_NAME = OC4J_SECURITY
  SERVER1_TYPE = ajp13
  SERVER1_HOME = /opt/oracle/infra
  SERVER1_JAVA_HOME = /opt/oracle/infra/jdk
  SERVER1_MAP_KEY_PREFIX = /oasspi/infra.hp.com
}

```



---

# C Applications

The Oracle AS SPI applications include configuration and troubleshooting utilities.

OASSPI Admin applications include:

- [Configure OASSPI](#)
- [Discover Oracle AS](#)
- [Init Non-Root](#)
- [Self-Healing Info](#)
- [Start/Stop Monitoring](#)
- [Start/Stop Tracing](#)
- [Verify](#)
- [View Error Log](#)
- [View Graphs](#)

Oracle AS SPI applications include:

- [Launch Oracle AS Console](#)
- [Start/Stop Oracle AS](#)
- [View OAS Logs](#)
- [View Status](#)

# OASSPI Admin Applications Group

OASSPI Admin applications enable you to configure, control, and troubleshoot the Oracle AS SPI. The OASSPI Admin applications group includes the following applications:

## Configure OASSPI

Configure OASSPI application launches the configuration editor and enables you to manage the Oracle AS SPI configuration by viewing, editing, or setting configuration properties

If you are configuring the Oracle AS SPI for the first time, you must use the Discover Oracle AS application to automatically set basic configuration properties. For complete instructions on how to configure Oracle AS SPI, see [Chapter 3, Configuring the Oracle AS SPI](#).

### Function

Configure OASSPI performs the following functions:

- Updates the configuration on the HPOM management server and managed nodes.
- Creates the directories and files required by Oracle AS SPI on the selected managed nodes.
- Sets up data sources for reporting and graphing
- Sets up the Oracle Application Server log files and Oracle AS SPI error log file for monitoring

The HPOM management server maintains the configuration information for all Oracle Application servers on HP Operations Manager managed nodes. Each managed node maintains a subset of the configuration information maintained on the management server. The configuration information of Oracle Application servers on a node is maintained on that managed node.

When you make changes to the configuration using the configuration editor, the changes are always saved on the HPOM management server.

If you select a specific HPOM managed node when you launch Configure OASSPI, configuration changes affecting Oracle Application Servers running on that node are automatically saved on the node. If you do not select a managed node, the configuration changes are not saved on the managed node.

Configuration changes affecting non-selected managed nodes are saved to the configuration on the HPOM management server and not on the non-selected managed node. To save the changes on the node, you must select the managed node and re-run the Configure OASSPI application.

### To Launch the Configure OASSPI Application

- 1 From the HPOM console, select the nodes in the Node Bank window.
- 2 Select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **OASSPI Admin** → **Configure OASSPI**. (If the items do not appear, select **Map** → **Reload**.) The Introduction window opens.
- 4 Click **Next**. The configuration editor opens. For more information about using the configuration editor, see [Using the Configuration Editor](#) on page 131.

- 5 Optionally, click **Save** to save any changes made to the configuration. Once you save your changes, you cannot automatically undo them.
- 6 Click **Finish** or **Next** to save any changes and exit the editor.

If you selected **Next**, the Confirm Operation window opens. Click **OK**.



If you click **Cancel** and made changes to the configuration, those changes remain in the configuration on the management server. To make the changes to the selected managed nodes' configuration, you must select those nodes in the Node Bank window, start the Configure OASSPI application, click **Next** from the configuration editor, and then click **OK**.

- 7 If you added an application server or added/edited the `HOME` and/or `JAVA_HOME` properties, run the Discover Oracle AS application on the managed nodes on which the application server/properties were added or edited. Running the Discover Oracle AS application updates the service map.

## Discover Oracle AS

Discover Oracle AS launches the configuration editor that you can use to configure Oracle AS SPI by setting basic configuration properties needed for discovery.

The Discover Oracle AS application deploys the discovery templates on the managed nodes. These polices automatically discover instances of Oracle Application servers on the managed nodes and update the configuration.

### Function

Discover Oracle AS updates the configuration on the HP Operations Manager (HPOM) management server and selected managed nodes.

Configuration information for all Oracle OC4J/OHS servers on all HPOM managed nodes is maintained on the HPOM management server.

Each managed node maintains a subset of the information maintained on the management server. The managed node maintains configuration information about the OC4J/OHS servers running on that node.

You must select an HPOM managed node before you launch this application. All configuration changes made to the Oracle OC4J/OHS server on the selected node is automatically saved on that node.

If the changes affect a server on a non-selected node, then the changes are saved to the configuration on the management server and not on the non-selected node. To save the changes on the managed node, select that managed node and re-run the Discover Oracle AS application.

### To Launch the Discover Oracle AS Application

Launch the Discovery application on one managed node at a time. You must run the Discover Oracle AS application to set the basic configuration properties required for the Oracle AS SPI to discover instances of the Oracle Application Server, deploy the Oracle AS SPI discovery templates, and update the service map.



If an instance of Oracle AS Server has a server login name and password different from the default login and password, before launching the discovery tool you must explicitly configure the login details for that server using the configuration editor.

Follow these steps:

- 1 At the HPOM console, double-click OVO Node Bank. The OVO Node Bank window opens.
- 2 From the Window menu, select **Application Bank**. The OVO Application Bank opens in a new window.
- 3 Double-click **OASSPI**. The Application Group: OASSPI window opens.
- 4 Double-click **OASSPI Admin**. The Application Group: OASSPI Admin window opens. All the OASSPI Admin applications appear in this window.
- 5 Select a node from the OVO Node Bank window and double-click **Discover Oracle AS** (If the above does not appear as described, select **Map** → **Reload**.) The Introduction window opens. This window contains brief information about the Discovery application.
- 6 Click **Next**. A second Introduction window opens. This window displays information about the properties that might be required for the discovery process to work.
- 7 Click **Next**. If you already set the LOGIN and PASSWORD properties, the configuration editor opens.

If you did not set the LOGIN and PASSWORD properties, the Set Access Info for Default Properties window opens.

- 8 Set the same LOGIN and PASSWORD properties as configured in the Oracle AS login and password in [Task2: Configure a Oracle AS Server User](#) on page 40.

➤ The LOGIN and PASSWORD properties set in this window are used as the default Oracle AS login and password (they are set at the global properties level). That is, if no NODE level or server-specific LOGIN and PASSWORD properties are set, this Oracle AS login and password are used by the Oracle AS SPI to access all Oracle AS servers. For more information about the configuration structure, see [Structure](#) on page 129.

- 9 Click **Next**. The configuration editor opens.
- 10 From the configuration editor, set the configuration properties. For more information about using the configuration editor, see [Appendix B, The Configuration](#).
- 11 Click **Next** to save any changes and exit the editor.
- 12 The Confirm Operation window opens. Verify the nodes on which the operation is to be performed. Click **OK**.

➤ If you click **Cancel** and made changes to the configuration, those changes remain in the configuration on the management server. To make the changes to the selected managed nodes' configuration, you must select those nodes in the Node Bank window, start the Discover Oracle AS application, click **Next** from the configuration editor, and then click **OK**.

## Init Non-Root

Updates the `/var/opt/OV/bin/instrumentation/wasspi_oas_platdef.pm` file and generates the `wasspi_oas_sudoers` configuration file on the selected managed nodes.

This application simplifies the configuration of a non-root HTTPS agent on a UNIX managed node (HPOM for UNIX 8.x only). For all the steps necessary to configure a non-root HTTPS agent on a UNIX managed node, see [Configuring a Non-Root HTTPS Agent on a UNIX Managed Node \(OVO 8.x Only\)](#) on page 50.



## Function

The Init Non-Root application performs the following functions on the selected managed nodes:

- 1 Runs the `wasspi_oas_perl -S wasspi_oas_makePlatdef -force` command to set the proper SPI path configuration and updates the `/var/opt/OV/bin/instrumentation/wasspi_oas_platdef.pm` and `wasspi_oas_platdef.prop` files.
- 2 Generates the `wasspi_oas_sudoers` configuration file.

## To Launch the Init Non-Root Application

- 1 From the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **OASSPI Admin** → **Init Non-Root**.

## Self-Healing Info

The Self-Healing Info Application collects data that you can send to your HP support representative.


### Required Setup

If you are collecting data for a reproducible problem, follow these steps before running the Self-Healing Info application:

- 1 Run the Start Tracing application. For more information, see [Start/Stop Tracing](#) on page 155.
- 2 Reproduce the problem.

### Function

Self-Healing Info application performs the following functions:

- Saves data in in the following file:
  - on a UNIX managed node: `/tmp/wasspi_oas_support.tar`
  - on a Windows managed node: `wasspi_oas_support.zip` in `%TEMP%` directory. This file might be hidden on some Windows managed nodes. If you do not see the file, open Windows Explorer and, from the **Tools** menu, select **Folder Options**. Click the **View** tab. Under Hidden files and folders, select **Show hidden files and folders**.
- Launches and saves data using the Verify application (for more information, see [Verify](#) on page 156).

## To Launch the Self-Healing Info Application

- 1 From the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **OASSPI Admin** → **Self-Healing Info**.

## Start/Stop Monitoring

When you launch the Start/ Stop Monitoring application, the Oracle AS SPI starts/stops collecting metrics for OC4J/OHS server instances on a managed node.

### Function

- Start Monitoring starts the collection of metrics for one or all OC4J/OHS servers on a managed node.

These metrics generate alarms when thresholds are exceeded. You can also use the metrics to create reports (automatically or manually generated) and graphs. These reports and graphs are used to analyze trends in server usage, availability and performance.

- Stop Monitoring stops the collection of metrics for one or all OC4J/OHS servers on a managed node.

You can stop monitoring on a managed node if the node is not running for a known reason (for example, the node is down for maintenance). Stopping the monitoring prevents unnecessary alarms from being generated.

You can launch the Verify application to check whether the monitoring has started or stopped. By default, monitoring is on.

### To Launch the Start/Stop Monitoring Application

- 1 From the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **OASSPI Admin** → **Start Monitoring** or **Stop Monitoring**.

## Start/Stop Tracing

Starts/stops the tracing of the collection of metrics.

### Purpose

Starts/stops the tracing of the collection of metrics into a file. Run this application only when instructed by your HP support representative.

Run the Self-Healing Info application to collect the file(s) created by this application as part of the data to be used by your HP support representative.

### Function

Start Tracing saves information about the collection of metrics into a file.

Stop Tracing stops saving information about the collection of metrics.

### To Launch the Start/Stop Tracing Application

- 1 From the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.

- 3 In the Application Bank window select **OASSPI** → **OASSPI Admin** and double-click **Start Tracing** or **Stop Tracing**.

## Verify

You can run the Verify application to check whether the Oracle AS SPI is installed properly on the server and managed nodes.



Before you launch the Verify application ensure that you installed the latest version of Self-Healing Service (SHS) component from the SPI DVD.

## Function

The Verify application performs the following actions on all managed nodes:

- Checks that the following directories exist:
  - <OV\_AGT\_DIR>/wasspi/oas/conf/
  - <OV\_AGT\_DIR>/wasspi/oas/datalog/
  - <OV\_AGT\_DIR>/wasspi/oas/history/
  - <OV\_AGT\_DIR>/wasspi/oas/lib/
  - <OV\_AGT\_DIR>/wasspi/oas/log/
  - <OV\_AGT\_DIR>/wasspi/oas/tmp/
- Checks that the following files exist:
  - <OV\_AGT\_DIR>/wasspi/oas/conf/logSetup
  - <OV\_AGT\_DIR>/wasspi/oas/conf/MetricMap
  - <OV\_AGT\_DIR>/wasspi/oas/conf/OVTrace.tcf.on
  - <OV\_AGT\_DIR>/wasspi/oas/conf/SiteConfig
  - <OV\_AGT\_DIR>/wasspi/oas/conf/SPIConfigLogFiles
  - <OV\_AGT\_DIR>/wasspi/oas/conf/version
  - <OV\_AGT\_DIR>/wasspi/oas/lib/castor.jar
  - <OV\_AGT\_DIR>/wasspi/oas/lib/GraphSP.xsl
  - <OV\_AGT\_DIR>/wasspi/oas/lib/JspiCola.jar
  - <OV\_AGT\_DIR>/wasspi/oas/lib/MetricMap.xsl
  - <OV\_AGT\_DIR>/wasspi/oas/lib/SiteConfig
  - <OV\_AGT\_DIR>/wasspi/oas/lib/xalan.jar
  - <OV\_AGT\_DIR>/wasspi/oas/lib/xerces.jar
  - <OVOAGT\_CMDDIR>/ovtrc3.jar
  - <OVOAGT\_CMDDIR>/SPI\_DiscClient.ps
  - <OVOAGT\_CMDDIR>/spi\_oas.xml
  - <OVOAGT\_CMDDIR>/wasspi\_oas\_DiscReg.txt

- <OVOAGT\_CMDDIR>/wasspi\_oas\_platdef.pm
- <OVOAGT\_CMDDIR>/wasspi\_oas\_platdef.prop
- <OVOAGT\_CMDDIR>/wasspi\_oas\_shs\_agent\_install.xml
- <OVOAGT\_CMDDIR>/wasspi\_oas\_shs\_input.xml
- <OVOAGT\_CMDDIR>/wasspi\_oas\_shs\_server\_install.xml
- <OVOAGT\_CMDDIR>/wasspi\_oas\_shs\_task.xml
- <OVOAGT\_CMDDIR>/wasspi\_oas\_traceConfig.xml
- <OVOAGT\_CMDDIR>/wasspi\_oas\_util.vbs
- <OVOAGT\_CMDDIR>/wasspi\_oas\_xalan.jar
- <OVOAGT\_CMDDIR>/wasspi\_oas\_xerces.jar
- <OVOAGT\_CMDDIR>/xerces.jar
- <OVOAGT\_MONDIR>/wasspi\_oas\_cat
- <OVOAGT\_MONDIR>/wasspi\_oas\_makePlatdef
- **Checks that the following files exist and the version is A.04 or higher:**
  - <OV\_AGT\_DIR>/wasspi/oas/conf/MBeanReports.dtd
  - <OV\_AGT\_DIR>/wasspi/oas/conf/MBeanReports.xsl
  - <OV\_AGT\_DIR>/wasspi/oas/conf/MetricDefinitions.dtd
  - <OV\_AGT\_DIR>/wasspi/oas/conf/ReportsHeader.xsl
  - <OV\_AGT\_DIR>/wasspi/oas/conf/ReportsUtil.xsl
  - <OV\_AGT\_DIR>/wasspi/oas/conf/SPIConfig
  - <OV\_AGT\_DIR>/wasspi/oas/lib/JSpiCola.jar
  - <OVOAGT\_CMDDIR>/wasspi\_oas\_admin
  - <OVOAGT\_CMDDIR>/wasspi\_oas\_discovery.pl
  - <OVOAGT\_CMDDIR>/wasspi\_oas\_spiapps
  - <OVOAGT\_MONDIR>/wasspi\_oas\_ca
  - <OVOAGT\_MONDIR>/wasspi\_oas\_configBasic
  - <OVOAGT\_MONDIR>/wasspi\_oas\_configCheck
  - <OVOAGT\_MONDIR>/wasspi\_oas\_configLogs
  - <OVOAGT\_MONDIR>/wasspi\_oas\_configPerf
  - <OVOAGT\_MONDIR>/wasspi\_oas\_files
  - <OVOAGT\_MONDIR>/wasspi\_oas\_le
  - <OVOAGT\_MONDIR>/wasspi\_oas\_lib.pl
  - <OVOAGT\_MONDIR>/wasspi\_oas\_logdata
  - <OVOAGT\_MONDIR>/wasspi\_oas\_trace.pm
  - <OVOAGT\_MONDIR>/wasspi\_oas\_udmgraphs

Verify application performs the following actions on the management server:

- Checks that the following directories exist:

- /opt/OV/wasspi/oas/conf/
- /opt/OV/wasspi/oas/bin/
- /opt/OV/wasspi/oas/lib/
- **Checks that the following files exist:**
  - /opt/OV/wasspi/oas/conf/SiteConfig
  - /opt/OV/wasspi/oas/conf/SPIConfig
  - /opt/OV/wasspi/oas/lib/JSpiCola.jar
  - /opt/OV/wasspi/oas/lib/wasspi\_config\_gui.jar
  - /opt/OV/wasspi/oas/lib/xalan.jar
  - /opt/OV/wasspi/oas/lib/xerces.jar
  - /opt/OV/wasspi/oas/lib/MetricDefinitions.dtd
  - /opt/OV/wasspi/oas/lib/images/details.gif
  - /opt/OV/wasspi/oas/lib/images/properties.gif
  - /opt/OV/wasspi/oas/lib/images/OpenView.gif
  - /opt/OV/wasspi/oas/lib/help/intro\_configure.html
  - /opt/OV/wasspi/oas/lib/help/intro\_discover.html
  - /opt/OV/wasspi/oas/lib/help/instruct\_discover.html
  - /opt/OV/newconfig/OVPM/VPI\_GraphsOASSPI.txt
  - /opt/OV/newconfig/OVPM/OASSPI\_FormTemplate.txt
  - /opt/OV/newconfig/OVPM/OASSPI\_FrameTemplate.txt
  - /opt/OV/OVPM/webapps/OVPM/OASSPI\_Empty.htm
- **Checks that the following files exist and the version is A.04 or higher:**
  - /opt/OV/wasspi/oas/bin/parseDefs.pl
  - /opt/OV/wasspi/oas/bin/processWASSPIDiscovMsg.pl
  - /opt/OV/wasspi/oas/bin/startOASConsole.pl
  - /opt/OV/wasspi/oas/bin/updateMasterConfig.pl
  - /opt/OV/wasspi/oas/bin/wasspi\_getOpcNodes
  - /opt/OV/wasspi/oas/bin/wasspi\_oas\_app\_graphs
  - /opt/OV/wasspi/oas/bin/wasspi\_oas\_editConfig
  - /opt/OV/wasspi/oas/bin/wasspi\_oas\_makePlatdef
  - /opt/OV/wasspi/oas/bin/wasspi\_oas\_optaction\_graphs
  - /opt/OV/wasspi/oas/bin/wasspi\_oas\_xterm
  - /opt/OV/wasspi/oas/lib/wasspi\_oas\_serverLib.pm

Verify application performs the following actions on Windows managed nodes:

- **Checks that the following files exist:**
  - <OVOAGT\_CMDDIR>\spi\_oas.cmd
  - <OVOAGT\_CMDDIR>\spi\_oas\_runSHSCollector.cmd

- <OVOAGT\_MONDIR>\wasspi\_oas\_opcagt.cmd
- <OVOAGT\_MONDIR>\wasspi\_oas\_perl.cmd

- Checks that the following files exist and the version is A.04 or higher:

- <OVOAGT\_CMDDIR>\wasspi\_oas\_util.vbs
- <OVOAGT\_MONDIR>\wasspi\_oas\_config.cmd
- <OVOAGT\_MONDIR>\wasspi\_oas\_readRegistryKeys.vbs

Verify application performs the following actions on UNIX managed nodes:

- Checks that the following files exist:

- <OVOAGT\_CMDDIR>/spi\_oas.sh
- <OVOAGT\_CMDDIR>/spi\_oas\_runSHSCollector.sh
- <OVOAGT\_MONDIR>/wasspi\_oas\_opcagt
- <OVOAGT\_MONDIR>/wasspi\_oas\_setpath

- Checks that the following files exist and the version is A.04 or higher:

- <OVOAGT\_CMDDIR>/wasspi\_oas\_installFile
- <OVOAGT\_CMDDIR>/wasspi\_oas\_osinfo
- <OVOAGT\_CMDDIR>/wasspi\_oas\_processLib.pl
- <OVOAGT\_MONDIR>/wasspi\_oas\_config
- <OVOAGT\_MONDIR>/wasspi\_oas\_perl
- <OVOAGT\_MONDIR>/wasspi\_oas\_xterm

- Checks that the following files exist and the version is A.01.30.00 or higher:

- <OVOAGT\_MONDIR>/ddfcomp.exe
- <OVOAGT\_MONDIR>/ddfcomp\_coda.exe
- <OVOAGT\_MONDIR>/ddflog.exe.pl
- <OVOAGT\_MONDIR>/ddflog\_code.exe
- <OVOAGT\_MONDIR>/ddfutil.exe

Verify application performs the following actions on Linux managed nodes:

- Checks that the following files exist and the version is A.01.30.00 or higher:

- <OVOAGT\_MONDIR>/ddfcomp
- <OVOAGT\_MONDIR>/ddfcomp\_coda
- <OVOAGT\_MONDIR>/ddflog
- <OVOAGT\_MONDIR>/ddflog\_code
- <OVOAGT\_MONDIR>/ddfutil

Verify application performs the following actions on OSF managed nodes:

- Checks that the following files exist and the version is A.01.23.00 or higher:

- <OVOAGT\_MONDIR>/ddfcomp
- <OVOAGT\_MONDIR>/ddfcomp\_coda

- <OVOAGT\_MONDIR>/ddflog
- <OVOAGT\_MONDIR>/ddflog\_code
- <OVOAGT\_MONDIR>/ddfutil

Verify application performs the following actions on HP-UX, Solaris, AIX, and other UNIX managed nodes:

- Checks that the following files exist and the version is A.01.20.00 or higher:
  - <OVOAGT\_MONDIR>/ddfcomp
  - <OVOAGT\_MONDIR>/ddfcomp\_coda
  - <OVOAGT\_MONDIR>/ddflog
  - <OVOAGT\_MONDIR>/ddflog\_code
  - <OVOAGT\_MONDIR>/ddfutil

In this instance, <OV\_AGT\_DIR> is:

- on a UNIX managed node: /var/opt/OV
- on a Windows managed node: depends on the installation of the product and <OVO\_CMDDIR>:
  - on an HTTPS managed node is: <OV\_AGT\_DIR>\bin\instrumentation and <OVO\_MONDIR> :
  - on an HTTPS managed node is: <OV\_AGT\_DIR>\bin\instrumentation

## To Launch the Verify Application

- 1 From the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **OASSPI Admin** → **Verify**.

If the Verify application is successful, the following message appears:

Installation is clean



## View Error Log

You can use the View Error Log application to view the contents of the Oracle AS SPI error log file.

### Function

View Error Log displays the contents of the Oracle AS SPI error log file `<OV_AGT_DIR>/log/oasspsi/errorlog`.

In this instance, `<OV_AGT_DIR>` typically is:

- `/var/opt/OV` on UNIX managed nodes
- `/Program Files/HP OpenView/Installed Packages/{790 ...}` on Windows managed nodes

### To View the Oracle AS SPI Error Log

- 1 From the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **OASSPI Admin** → **View Error Log**.

## View Graphs

You can use the View Graphs application to view HP Performance Manager graphs in a web browser.

### Required Setup

HP Performance Manager must be installed and you must edit the `ovweb.conf` file before this application can run successfully. For more information, see [Task 1: Configure the Management Server to Launch Your Web Browser](#) on page 35.

If you are using Netscape Navigator, use version 6.0 or higher. Do not use Netscape Navigator 4.79 with this application.

### Function

The View Graphs application launches a web browser to display, as graphs, the Oracle AS SPI metric data. These graphs are generated using HP Performance Manager.

### To Launch the View Graphs Application

- 1 From the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **OASSPI Admin** → **View Graphs**.

# Oracle AS SPI Applications Group

The applications in the Oracle AS SPI group provide you access to the functions of Oracle Application Server from the HPOM console. The Oracle AS SPI applications group includes the following applications:

## Launch Oracle AS Console

By running the Launch Oracle AS Console application you can bring up the Oracle Application Server Control Console.

### Required Setup

- Edit the `ovweb.conf` file before launching this application. For more information, see [Task 1: Configure the Management Server to Launch Your Web Browser](#) on page 35.
- Install Oracle AS Enterprise Manager on the managed node to launch the Oracle Enterprise Manager Database Control.

### Function

Launch Oracle AS Console brings up the Oracle Application Server Admin Console in a web browser for a single application server or all application servers on the selected node.

### To Launch the Launch Oracle AS Console Application

- 1 From the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **Oracle AS** → **Launch Oracle AS Console**.
- 4 Select an option:
  - 1 - Launch the Oracle Application Server Control Console
  - 2 - Launch AggreSPY
  - 3 - Launch the Oracle Enterprise Manager Database Control (Oracle AS Enterprise Manager must be installed on the managed node for this option to be available)
  - q - Quit the application

## Start/Stop Oracle AS

You can start or stop one or more instances of Oracle Application Servers from the HP Operations Manager (HPOM) console by running the Start Oracle AS application, without logging in to each individual Oracle Application Server Control Consoles.

### Required Setup

The `START_CMD`, `STOP_CMD`, and `USER` configuration properties *must* be set before this application can run successfully.

## Function

Start or Stop Oracle AS application starts or stops one or all application servers on the selected managed nodes.

### To Launch the Start/Stop Oracle AS Application

- 1 At the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI → Oracle AS → Start Oracle AS** or **Stop Oracle AS**.

## View OAS Logs

You can use View OAS Logs application enables you to view Oracle Application Server log files without logging in to the system on which the Oracle Application Server is running.

## Function

View OAS Logs application performs the following functions:

- If you launch View OAS Logs without a parameter, the application displays a numbered list of available log files for the selected managed node.
- If you launch View OAS Logs with an invalid parameter (a non numeric value or a number that does not correspond to the list of available log files), the application displays a numbered list of available log files for the selected managed node.
- If you launch View OAS Logs with a valid parameter, the application displays the contents of the corresponding log file for the selected managed node.

You can enter only one numeric value in the parameter field and view the log file corresponding to that number. Select one log file to view per managed node every time you launch the View OAS Logs application.

If you keep the Application Status window open and relaunch the application, the output in the Application Status window accumulates.

### To Launch the View OAS Logs Application

- 1 From the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI → Oracle AS → View OAS Logs**.
- 4 Select the managed nodes on which you want to view the Oracle Application Server log file.
- 5 Click **Launch**. The Edit Parameters window appears. If you know the number of the log file you want to view, enter it into the Parameters field. Otherwise, leave this field blank to list available log files to view.
- 6 Click **Launch**. The Application Status window opens.
- 7 In the Launched Applications field, check the Status of the application for each node:

- Started/Starting - The application is running.
  - Succeeded - A list of available log files to view opens. Select the node in the Launched Applications field and scroll through the Application Output field to view the list of available log files.
  - Failed - The application did not succeed. For more information about the problem, select the node in the Launched Applications field and scroll through the Application Output field.
- 8 Double-click **View OAS Logs**.
  - 9 Select the managed nodes on which you want to view the Oracle Application Server log file.
  - 10 Click **Launch**. The Edit Parameters window appears.
  - 11 In the Parameters text box, enter the number of the log file you want to view. Only one log file can be selected.  
  
If you do not remember the number of the log file, go to the Application Status window, select the node in the Launched Applications field, scroll through the Application Output field to view the list of available log files, and enter the number of the log file you want to view in the Edit Parameters window.
  - 12 Click **Launch**.
  - 13 In the Application Status window, select the node on which to view the selected log file and scroll through the Application Output field to view the log file.
  - 14 Repeat steps 8-13 for each log file you want to view.
  - 15 Click **Close** to close the Application Status window.

## View Status

The View Status application displays a status report of the Oracle Application Servers running on a selected managed node. You can use this application to check the status of each application server running on the node.

### Function

View Status displays the Oracle Application Server instance name, hostname, Oracle home, and processes (component, type, process ID, and status) for each application server instance.

### To Launch the View Status Application

- 1 At the HPOM console, select a node in the Node Bank window.
- 2 From the Window menu, select **Application Bank**.
- 3 In the Application Bank window select **OASSPI** → **Oracle AS** → **View Status**.

---

# Glossary

**agent**

A program or process running on a remote device or computer system that responds to management requests, performs management operations, or sends performance and event notification. An agent can provide access to managed objects and MIB variables, interpret policy for resources and do configuration of resources.

**application**

Packaged software that provides functionality that is designed to accomplish a set of related tasks. An application is generally more complex than a tool.

**ASCII**

American Standard Code for Information Interchange.

**assigned policy**

A policy that has been assigned to one or more resources in the computing environment but which has not yet been deployed or installed on those resources.

**automatic action**

A pre-configured program or script that is run in response to an event, message, or a change in information in the management database. without operator intervention.

**client**

When the context is network systems, a computer system on a network that accesses a service from another computer (server). When the context is software, a program or executable process that requests a service from a server.

**client console**

An instance of the user interface that appears on the client system while the application runs on a server.

**command**

An instruction to a computer program that causes a specified operation to be carried out. Commands are typically typed by users on a command line.

**configuration**

In a network context, the complete set of inter-related systems, devices and programs that make up the network. For example the components of a network can include computer systems, routers, switches, hubs, operating systems and network software. The configuration of the network determines the way that it works and the way that it is used. In a software context, the combination of settings of software parameters and attributes that determine the way the software works, the way it is used, and how it appears.

**configuration file**

A file that contains specifications or information that can be used for determining how a software program should look and operate.

**configure**

To define and modify specified software settings to fulfill the requirements of a specified environment, application or usage.

**connection**

A representation of a logical or physical relationship between objects.

**console**

An instance of the user interface from which the user can control an application or set of applications.

**customization**

The process of designing, constructing or modifying software to meet the needs and preferences of a particular customer or user.

**customize**

To design, construct or modify software to meet the needs and preferences of a particular customer or user.

**data type**

A particular kind of data; for example database A repository of data that is electronically stored. Typically databases are organized so that data can be retrieved and updated.

**deploy**

To install and start software, hardware, capabilities, or services so that they work in the business environment.

**Deployed application**

An application and its components that are installed and started to work in the business environment.

**deployed policy**

A policy that is deployed on one or more resources in the computing environment.

**deployment**

The process of installing and activating software, hardware, capabilities or services so that they work in the business environment.

**Deployment package**

A software package that can be deployed automatically and installed on a managed node.

**error log**

An output file containing error messages.

**event**

An event is an unsolicited notification such as an SNMP trap or WMI notification generated by an agent or process in a managed object or by a user action. Events usually indicate a change in the state of a managed object or cause an action to occur.

**HP Operations Manager**

A family of network and system management products, and an architecture for those products. HP Operations Manager includes development environments and a wide variety of management applications.

**Hypertext Transfer Protocol (HTTP).**

The protocol that World Wide Web clients and servers use to communicate.

**HTTPS**

Hypertext Transfer Protocol Secure.

**icon**

An on-screen image that represents objects that can be monitored or manipulated by the user or actions that can be started by the user.

**managed object**

A network, system, software or service object that is both monitored for performance, status and messages and is manipulated by means of actions in the management software.

**management console**

An instance of the user interface from which the user can control the management application or set of management applications. The console might be on the system that contains the management software or it might be on another system in the management domain.

**management server**

A server that provides management services, processes, or a management user interface to clients. A management server is a type of management station.

**message**

A structured, readable notification that is generated as a result of an event, the evaluation of one or more events relative to specified conditions, or a change in application, system, network, or service status.

**message browser**

A graphical user interface that presents notifications that are generated as a result of an event, the evaluation of one or more events relative to specified conditions or a change in application, system, network, or service status.

**message description**

Detailed information about an event or message.

**message key**

A message attribute that is a string used to identify messages that were triggered from particular events. The string summarizes the important characteristics of the event. Message keys can be used to allow messages to acknowledge other messages, and allows for the identification of duplicate messages.

**message severity level**

A property of a message indicating the level of impact of the event or notification that initiated the message. See also severity level.

**metadata**

Data that defines data.

**metric**

A measurement that defines a specific operational or performance characteristic.

**Microsoft Management Console (MMC)**

A Microsoft product that provides a software framework for the management of IT environments. Management products are added or "snapped into" the management console and thus extend the management capability of the Microsoft Management Console.

**module**

A self-contained software component that performs a specific type of task or provides for the presentation of a specific type of data. Modules can interact with one another and with other software.

**node**

When the context is network, a computer system or device (for example, printer, router, bridge) in a network. When the context is a graphical point to point layout, a graphical element in a drawing that acts as a junction or connection point for other graphical elements.

**parameter**

A variable or attribute that might be given an arbitrary value for use during an execution of either a computer program or a procedure within a program.

**parameter type**

An abstraction or categorization of a parameter that determines the particular kind of data that is valid for the parameter. For example a parameter type could be IP Address which indicates that parameter values must have 4 numbers separated by decimals with the value for each number being in the range of 0 to 255.

**parameter value**

A value that is given to a variable.

**templates**

A set of one or more specifications rules and other information that help automate network, system, service, and process management. Templates can be deployed to various targets (for



example, managed systems, devices, network interfaces) providing consistent, automated administration across the network.

### **Policy management**

The process of controlling templates (for example, creating, editing, tracking, deploying, deleting) for the purposes of network, system or service management.

### **policy type**

An abstraction or categorization of templates based on the function of the policy or the services that the policy supports.

### **port**

If the context is hardware, a location for passing information into and out of a network device. If the context is ECS, a location for passing information into and out of a correlation node.

### **server**

If the context is hardware plus software, a computer system that provides a service (for example, management capabilities, file storage capabilities) to other computer systems (clients) on the network. If the context is a software component, a program or executable process that responds to and services requests issued by clients.

### **severity level**

A property of an object indicating the status of the object. Severity level is based on the impact of events or messages associated with the object.

### **SMART Plug-In (SPI)**

Prepackaged software that installs into a management console and provides management capabilities specific to a given type of business application, database, operating system, or service.

### **trace log**

An output file containing records of the execution of application software



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