

# HP Operations Smart Plug-in for IBM WebSphere Application Server

for HP Operations Manager for Windows®

Software Version: 7.04

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## PDF version of the online help

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# HP Operations Smart Plug-in for WebSphere Application Server

The HP Operations Smart Plug-in for WebSphere Application Server (WebSphere SPI) allows you to manage WebSphere servers from an HPOM console.

To install and configure the HP Operations Smart Plug-in for WebSphere Application Server (WebSphere SPI), refer to the *HP Operations Smart Plug-in for WebSphere Application Server Installation and Configuration Guide* located on HP Operations Smart Plug-ins DVD in the file `\Documentation\SPI Guides\WebSphere_AppServer_Install_Config.pdf`.

## Related Topics:

- Overview
- Getting Started
- Components

# Overview

The Smart Plug-in for WebSphere Application Server (WebSphere SPI) adds monitoring capabilities otherwise unavailable to HP Operations Manager for Windows (HPOM).

**Smart Plug-in integration uses :** Used in conjunction with HPOM, the WebSphere SPI offers centralized tools that help you monitor and manage systems using WebSphere. From the HPOM console, you can monitor the availability, use, and performance of WebSphere running on HPOM managed nodes. The WebSphere SPI metrics are automatically sent to the HPOM agent and can be alarmed on or consolidated into reports and graphs which help you analyze trends in server usage, availability, and performance. The WebSphere SPI can be integrated with HP Reporter and HP Performance Manager (both products must be purchased separately) to provide additional reporting and graphing flexibility and capabilities.

**Smart Plug-in data collection:** After completing the WebSphere SPI installation and configuration, you will find key server-related metrics that cover the following areas:

- server availability
- server performance
- memory usage
- transaction rates
- servlet executing times, time-outs, request rates
- JDBC connection status
- Web application processing

**Smart Plug-in data interpretation:** WebSphere administrators can choose those metrics most crucial to the successful operation of WebSphere by modifying WebSphere SPI policies. These policies contain settings that allow incoming data to be measured against predefined rules that generate useful information in the form of messages. These messages with severity-level color-coding can be reviewed for problem analysis and resolution. Corrective actions are often available under the Instructions tab, as are automatically generated metric reports, under the Annotations tab, when you double-click on a message.

## Related Topics:

- Introduction
- Getting Started

- Components

# Getting started

Smart Plug-in for WebSphere Application Server (WebSphere SPI) messaging, reporting, and action-executing capabilities are based on the HPOM concept of policies . The settings within these policies define various conditions within the WebSphere. After the WebSphere SPI policies are in use, they allow information to be sent back to the HPOM management server to help you proactively address potential or existing problems and avoid serious disruptions to Web transaction processing. WebSphere SPI helps you perform the following functions:

- **Collect and interpret server performance/availability information**

WebSphere SPI, after you configure and deploy it on the managed nodes, gathers data that is interpreted and acted on, according to settings within the deployed policies. Those WebSphere SPI policies define conditions that can occur within WebSphere, such as queue throughput rates, cache use percentages, timeout rates, and average transaction times. Default thresholds, set within the policies, monitor these conditions and trigger messages to the console when a threshold has been exceeded.

- **Display information**

**Messages in the Message Browser:** Comparing the values gathered for WebSphere performance/availability against the policy settings relating to those specific areas, HP Operations agent software forwards the appropriate messages to the HPOM console. These messages are displayed with color-coded severity levels in the HPOM Message Browser.

**Instruction Text:** Messages generated by WebSphere SPI programs contain instruction text to help diagnose and remedy problems. Double-click the message and select the Instructions tab to view the text.

You can usually find instruction text in the message details; this same text is also available in the metric definition .

**ASCII-Text Reports:** In addition to the instruction text mentioned above, metrics with alarms also have automatic action reports that are generated when a defined threshold is exceeded. These reports show conditions of specific WebSphere instance. When a report is available, double-click the message and select the Annotations tab.

- **Generate reports using HP Reporter**

WebSphere SPI also integrates with HP Reporter to provide you with over 20 management-ready, Web-based reports. WebSphere SPI includes the policies for generating these reports within its Report package, which you can install on the Reporter Windows system. After you have installed the



product and completed some configuration steps, you can expect to see new reports of summarized, consolidated data generated nightly that can help you assess how WebSphere is performing over time.

- **Graph data with HP Performance Manager**

WebSphere SPI can be used with HP Performance Manager to generate graphs showing the WebSphere SPI collected metric values. If you have purchased HP Performance Manager, use it according to its instructions.

- **Customize WebSphere SPI Policies**

You can use WebSphere SPI policies with no customization, or you can change them as you find necessary. Possible minor modifications and major customizations are listed here:

- **Modification of Default Policies:** Within a policy, you can change the default settings for (1) collection interval, (2) threshold, (3) message text, (4) duration (5) severity level of the condition, (6) actions assigned to the condition (operator-initiated or automatic).
- **Creation of Custom Policy Groups:** Create custom policy groups, using default policies as a starting point.
- **Custom Metrics:** The ability to define your own metrics or user-definable metrics (UDMs) is a powerful feature that you can use to expand the monitoring capabilities of WebSphere SPI.

### **Related Topics:**

- Introduction
- Overview
- Components

# Components

The WebSphere Smart Plug-in (WebSphere SPI) components include:

- Tools
- Policies

These components allow you to configure and receive data in the form of messages, annotations, and metric reports. The messages (available in the Message Browser), annotations (available through message properties), and metric reports (available through tools) provide you with information about conditions present in the server(s) running on specific managed nodes.

The WebSphere SPI configuration tools let you configure the management server's connection to named server instances on specific managed nodes. After you have configured the connection, you can assign policies to the nodes. With HP Operations agent software running on the managed nodes, you can use the WebSphere SPI reporting tools to generate metric reports. In addition, you can generate graphs that show the WebSphere SPI data (available through message properties).

## **Related Topics:**

- Tools
- Policies
- Reports and graphs
- How the WebSphere SPI works

# Tools

The Smart Plug-in for WebSphere Application Server (WebSphere SPI) tools include configuration and troubleshooting utilities. From the HPOM console, select **Tools** → **SPI for WebSphere** to access the tools which are divided into the following categories:

- Metric Reports tools group
- SPI Admin tools group
- WebSphere Admin tools group

## **Related Topics:**

- Components
- Policies

## SPI Admin tools group

The SPI Admin tools group allows the HPOM administrator to perform routine tasks relating to WebSphere SPI.

For a more detailed description of the tools, click the tool name in the table below.

| Tool                         | Description  |
|------------------------------|--|
| Discover or Configure WBSSPI | Discovers the WebSphere Application Server instances or Configures the WebSphere SPI.                    |
| Create WBSSPI Node Groups    | Create WebSphere SPI node groups based on discovered services.   |
| Self-Healing Info            | Collect log, trace, and other information to be used by your HP support representative.                  |
| Start/Stop Monitoring        | Starts/Stops WebSphere SPI monitoring.   |
| Start/Stop Tracing           | Starts/Stops tracing. The tracing information collected is to be used by your HP support representative. |
| Verify                       | Verifies the WebSphere SPI is properly installed on the managed node.                                    |
| View Error File              | View the WebSphere SPI error log.  |

### Related Topics:

- Metric Reports tools group
- WebSphere Admin tools group

# Discover or Configure WBSSPI

You can run either the discovery or configuration using Discover or Configure WBSSPI tool. The tool Discover or Configure WBSSPI allows you to either identify instances of a WebSphere Application Server on a managed node from the HPOM console (on selecting Launch Discover Tool option) or maintain the WebSphere SPI configuration by viewing, editing, or setting configuration properties in the configuration editor (on selecting Launch Configure Tool option).

## Function

The following functions are performed by the Configure Tool:

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

The Discover Tool updates the configuration on the HPOM management server and selected managed nodes.

Configuration information for all WebSphere servers on HPOM managed nodes is maintained on the HPOM management server. Configuration information for a specific WebSphere server on an HPOM managed node is maintained on that managed node (each managed node maintains a subset of the configuration information maintained on the HPOM management server).

When saved, changes made with the configuration editor are always saved on the HPOM management server.

An HPOM managed node must be selected when this tool is launched, and changes to the configuration affecting any WebSphere servers on that managed node are automatically saved on that managed node.

If a specific HPOM managed node is selected when this tool is launched and changes are made that affect a WebSphere server on a non-selected managed node, the changes are saved to the configuration on the HPOM management server, but are *not* saved to the non-selected managed node. You must re-run this tool, select the affected managed node and, on exiting the tool, the changes are saved to that managed node.

## To launch Discover or Configure WBSSPI

To launch the Discover or Configure WBSSPI tool, perform these steps:

1. From the HPOM console for Windows, select **Tools** → **SPI for WebSphere** → **SPI Admin** .
2. Double-click **Discover or Configure WBSSPI** .
3. Select the managed nodes on which you want to launch the tool.
4. Click **Launch** .

The "Tool Selector" window opens.

5. To run the discovery, select the Launch Discover Tool radio button and click **OK** . To run the configuration, select the Launch Configure Tool radio button and click **OK** . By default, the Launch Configure Tool radio button is selected.

See *HP Operations Smart Plug-in for IBM WebSphere Application Server Installation and Configuration Guide for Windows* for more information on how to launch Discover or Configure WBSSPI tool.

# Create WBSSPI Node Groups

Create WBSSPI Node Groups tool allows you to create WebSphere SPI node groups that contains all the managed nodes running supported versions of WebSphere. Node groups are created based on discovered services.

If new managed nodes are added, run this tool again to add these managed nodes to the WebSphere SPI node groups.

## Function

Create WBSSPI Node Groups does the following:

- In the Nodes folder, creates the SPI for WebSphere node group and a subgroup based on the version of WebSphere running (WebSphere 7.0).
- Places all HPOM managed nodes running WebSphere 7.0 in the WebSphere 7.0 group.
- Assigns tools, reports, and graphs to the nodes and node groups.

## To launch Create WBSSPI Node Groups tool

1. From the HPOM console, select **Tools** → **SPI for WebSphere** → **SPI Admin** .
2. Double-click **Create WBSSPI Node Groups** . The "Tool Status" window opens.
3. In the Launched Tools field, check the Status of the tool for each node:
  - Started/Starting - The tool is running.
  - Succeeded - WebSphere SPI has successfully created the node groups. Scroll to the bottom of the Tool Output field. The message "Done" displays.
  - Failed - The tool did not succeed. Scroll through the Tool Output field for more information about the problem.
4. Click **Close** to close the "Tool Status" window.
5. To verify the node group has been created, select **Nodes** → **SPI for WebSphere** . A node group for each WebSphere server version is created containing the managed nodes running that WebSphere server version. If no managed nodes are running a particular version of the WebSphere server, that node group is not created. For example, if you do not have any managed

nodes running WebSphere server version 5.0, that node group is not created.



# Start/Stop Monitoring

Start or Stop Monitoring tools allow you to start or stop the WebSphere SPI from collecting metrics for one application server or all application servers on a managed node.

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

Typically, the HPOM administrator would 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.

Run Verify to determine if monitoring is started or stopped. By default, monitoring is on.

## Function

Start Monitoring does the following:

- Starts the collection of metrics for one or all application servers on a managed node.

Stop Monitoring does the following:

- Stops the collection of metrics for one or all application servers on a managed node.

## To launch Start/Stop Monitoring tool

1. From the HPOM console, select **Tools** → **SPI for WebSphere** → **SPI Admin** .
2. Double-click **Start Monitoring** or **Stop Monitoring** .
3. Select the managed nodes on which you want to start or stop collection of metrics.
4. Click **Launch** . The "Console Status" window and then the "Server Selection" window open.
5. From the "Server Selection" window, select one application server or all application servers on which to start/stop collection of metrics.
6. Click **OK** .
7. From the "Console Status" window in the Launched Tool field, check the Status of the tool for each node:

- Started/Starting - The tool is running.
  - Finished - The tool has completed. Scroll through the Tool Output field for more information.
8. Click **Close** to close the "Console Status" window.

# Self-Healing Info

Self-Healing Info tool allows you to collect data to be used by your HP support representative.

## Function

Self-Healing Info application performs the following functions:

1. Saves data in the following file:
  - On a UNIX managed node: `/tmp/wasspi_wbs_support.tar`
  - On a Windows managed node: `wasspi_wbs_support.zip` in `%TEMP%` directory
2. Launches and saves data using the Verify application.

## To launch Self-Healing Info tool

1. From the HPOM console, select **Tools** → **SPI for WebSphere** → **SPI Admin** .
2. Double-click **Self-Healing Info** .
3. Select the managed nodes on which to collect data.
4. Click **Launch** . The "Tool Status" window opens. In the Tool Output field, the location of the data appears.
5. Send the collected data to your HP support representative.
6. Click **Close** to close the Tool Status window.

# Start/Stop Tracing

Start and Stop Tracing tools allow you to start or stop logging the information about each of the activity performed by the SPI on the managed node. Run this tool only when instructed by your HP support representative.

Self-Healing Info collects the files created by this tool as part of its data to be used by your HP support representative.

## Function

Start Tracing does the following:

- Saves the information about each of the activity performed by the SPI on the managed node into a file.

Stop Tracing does the following:

- Stops saving the information about each of the activity performed by the SPI on the managed node into a file.

## To launch Start/Stop Tracing tool

1. From the HPOM console, select **Tools** → **SPI for WebSphere** → **SPI Admin** .
2. Double-click **Start Tracing** or **Stop Tracing** .
3. Select the managed nodes on which you want to start or stop tracing.
4. Click **Launch** . The "Tool Status" window opens.
5. In the Launched Tools field, check the Status of the tool for each node:
  - **Started/Starting** - The tool is running.
  - **Succeeded** - Tracing is successfully started/stopped for WebSphere SPI on the managed node. Select the node in the Launched Tools field and scroll to the bottom of the Tool Output field. The message "Tracing is ON/OFF." appears.
  - **Failed** - The tool did not succeed. Select the node in the Launched Tools field and scroll through the Tool Output field for more information about the problem.

6. Click **Close** to close the "Tool Status" window.

# Verify

The tool Verify enables you to verify whether the files required for the functioning of the SPI (instrumentation, library, configuration files, and so on) are properly deployed.

## Function

The Verify tool verifies whether the files required for the functioning of the SPI (instrumentation, library, configuration files, and so on) are properly deployed. It gives a list of missing instrumentation files.

### NOTE:

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

## To launch Verify tool

1. From the HPOM console, select **Tools** → **SPI for WebSphere** → **SPI Admin** .
2. Double-click **Verify** .
3. Select the managed nodes on which you want to verify the WebSphere SPI installation.
4. Click **Launch** . The "Tool Status" window opens.
5. In the Launched Tools field, check the Status of the tool for each node:
  - Started/Starting - The tool is running.
  - Succeeded - WebSphere SPI has been properly installed on the managed node. Select the node in the Launched Tools field and scroll to the bottom of the Tool Output field. The message "Installation is clean" appears.
  - Failed - The tool did not succeed. Select the node in the Launched Tools field and scroll through the Tool Output field for more information about the problem.
6. Click **Close** to close the "Tool Status" window.

# View Error File

View Error File tool allows you to view the contents of the error log file.

## Function

View Error File does the following:

- Displays the contents of the WebSphere SPI error file `<AgentDir> /wasspi/wbs/log/errorlog`.

where `<OvAgentDir>` typically is:

- On UNIX managed nodes: `/var/opt/OV` or `/var/lpp/OV`
- On Windows Managed Nodes: `\Program Files\HP\HP BTO Software` (for HTTPS managed nodes)

## To launch View Error File tool

1. From the HPOM console, select **Tools** → **SPI for WebSphere** → **SPI Admin**.
2. Double-click **View Error File**.
3. Select the managed nodes on which you want to view the WebSphere SPI error log file.
4. Click **Launch**. The "Tool Status" window opens.
5. In the Launched Tools field, check the Status of the tool for each node:
  - Started/Starting - The tool is running.
  - Succeeded - You can view the WebSphere SPI error log file. Select the node in the Launched Tools field and scroll through the Tool Output field to view the error log file.
  - Failed - The tool did not succeed. Select the node in the Launched Tools field and scroll through the Tool Output field for more information about the problem.
6. Click **Close** to close the "Tool Status" window.

# WebSphere Admin tools group

WebSphere Admin tools group allows the HPOM administrator to perform routine tasks relating to WebSphere.

For a more detailed description of the tools, click the tool name in the table below.

| <b>Tool</b>          | <b>Description</b>                     |
|----------------------|--|
| Check WebSphere      | Checks the state of WebSphere.         |
| Start/Stop WebSphere | Start/Stop WebSphere (requires setup). |
| View WebSphere Log   | View the WebSphere log files.          |

## Related Topics:

- [Metric Reports tools group](#)
- [SPI Admin tools group](#)



# Check WebSphere

Check WebSphere tool allows you check the status of each application server running on a managed node. It displays a status report for WebSphere on the selected managed nodes.

## Function

Check WebSphere displays the following information for each application server on the selected managed node(s):

|                                |   |
|--------------------------------|---|
| <b>Server Name</b>             | The name of the WebSphere Server.                               |
| <b>Server State</b>            | The status of WebSphere.  |
| <b>Start Date</b>              | The date when WebSphere was started.                            |
| <b>Admin Server State</b>      | The status of the WebSphere Administrative Console.             |
| <b>Admin Server Start Date</b> | The date when the WebSphere Administrative Console was started. |

If the WebSphere SPI has been configured to not collect metrics for WebSphere, the message "Collection is temporarily OFF for <server\_name >" appears.

### NOTE:

Before you launch the Check WebSphere tool on a node ensure that the Collector is running for the WebSphere Application Server instance on that node.

## To launch Check WebSphere tool

1. From the HPOM console, select **Tools** → **SPI for WebSphere** → **WebSphere Admin** .
2. Double-click **Check WebSphere** .
3. Select the managed nodes on which you want to view the status of the application servers.
4. Click **Launch** . The "Tool Status" window opens.
5. In the Launched Tools field, check the Status of the tool for each node:
  - Started/Starting - The tool is running.
  - Succeeded - A status report is available for each instance of the WebSphere server on the

managed node. Select the node in the Launched Tools field and scroll through the Tool Output field.

- Failed - The tool did not succeed. Select the node in the Launched Tools field and scroll through the Tool Output field for more information about the problem.

6. Click **Close** to close the "Tool Status" window.

**Related Topics:**

- Start/Stop WebSphere
- View WebSphere Log
- Metric Reports tools group
- SPI Admin tools group

# Start/Stop WebSphere

Start WebSphere and Stop WebSphere tools allow you to start or stop WebSphere from the HPOM console. You can start or stop one or more application server on the selected managed nodes without logging in to each WebSphere Administrative Console to perform these functions.

## Required Setup

- The `START_CMD`, `STOP_CMD`, and `USER` properties **MUST** be set before this tool can run successfully. Refer to Configuration Properties and Discover or Configure WBSSPI for more information about setting these properties.
- If you are using WebSphere Application Server 6.1 with Admin security enabled, before launching the Stop WebSphere tool you **must** set the following values for the attributes in the `/WEBSPPHERE_HOME>/profiles/<profile_name>/properties/soap.client.prop` file. Set these values for all the profiles that you want to stop.
  - Set the value of **loginSource** attribute to "properties" (the default value of **loginSource** is "prompt").  
`com.ibm.CORBA.loginSource=properties`
  - Set the value of **loginUserid** attribute to the WebSphere admin user id and **loginPassword** attribute to the WebSphere admin password:  
`com.ibm.CORBA.loginUserid=<admin_user>`  
`com.ibm.CORBA.loginPassword=<admin_password>`

## Function

Start/Stop WebSphere does the following:

- Starts/Stops an application server or all application servers on the selected managed node(s).

## To launch Start/Stop WebSphere tool

1. From the HPOM console, select **Tools** → **SPI for WebSphere** → **WebSphere Admin** .
2. Double-click **Start WebSphere** or **Stop WebSphere** .
3. Select the managed nodes on which you want to start/stop WebSphere.
4. Click **Launch** .

A "Console Status" window and then the "Server Selection" window open.

5. From the "Server Selection" window, select one application server or all application servers to start or stop.
6. Click **OK**.
7. From the "Console Status" window in the Launched Tool field, check the Status of the tool for each node:
  - Started/Starting - The tool is running.
  - Finished - The tool has completed. Scroll through the Tool Output field for more information.
8. Click **Close** to close the "Console Status" window.

**Related Topics:**

- [Check WebSphere](#)
- [View WebSphere Log](#)
- [Metric Reports tools group](#)
- [SPI Admin tools group](#)

# View WebSphere Log

View WebSphere Log tool allows you to select a WebSphere log file to view without logging in to the system on which WebSphere is running.

## Function

View WebSphere Log does the following:

- If you run View WebSphere Log without entering a parameter, a numbered list of available log files for a managed node appears.
- If you run View WebSphere Log with a parameter entered, if the parameter is not valid (a non-numeric value is entered or the number entered does not correspond to the list of available log files), a numbered list of available log files for the managed node appears.
- If you run View WebSphere Log with a valid parameter, the contents of the corresponding log file for the managed appears.

You may only enter one numeric value in the parameter field. This is the number used to designate the log file to view for all managed nodes selected. Select one log file per managed node to view each time you launch the tool.

If you keep the Tool Status window open and re-launch View WebSphere Log, the output in the Tool Status window accumulates.

## To launch View WebSphere Log tool

1. From the HPOM console, select **Tools** → **SPI for WebSphere** → **WebSphere Admin** .
2. Double-click **View WebSphere Log** .
3. Select the managed nodes on which you want to view the WebSphere log file.
4. Click **Launch** . The "Edit Parameters" window opens. If you know the number of the log file you want to view, type it in the Parameters field. Otherwise, leave this field blank to list available log files to view.
5. Click **Launch** . The "Tool Status" window displays.
6. In the Launched Tools field, check the Status of the tool for each node:

- Started/Starting - The tool is running.
- Succeeded - A list of available log files to view displays. Select the node in the Launched Tools field and scroll through the Tool Output field to view the list of available log files.
- Failed - The tool did not succeed. Select the node in the Launched Tools field and scroll through the Tool Output field for more information about the problem.

Leave the "Tool Status" window open.

7. Double-click **View WebSphere Log** .
8. Select the managed nodes on which you want to view the WebSphere log file.
9. Click **Launch** . The "Edit Parameters" window appears.
10. 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 "Tool Status" window, select the node in the Launched Tools field, scroll through the Tool 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.

11. Click **Launch** .
12. In the "Tool Status" window, select the node on which to view the selected log file and scroll through the Tool Output field to view the log file.
13. Repeat steps 7 - 12 for each log file you want to view.
14. Click **Close** to close the "Tool Status" window.

#### **Related Topics:**

- Check WebSphere
- Start/Stop WebSphere
- Metric Reports tools group
- SPI Admin tools group

# Metric Reports tools group

The Smart Plug-in for WebSphere Application Server (WebSphere SPI) reports show information on WebSphere conditions in the server. Each report displays the condition of all configured server instances on the managed node in relation to the metric.

To generate a report, follow these steps:

1. From the HPOM console, select **Tools** → **SPI for WebSphere** → **Metric Reports** .
2. Double-click a report.
3. Select the nodes on which to run the report.
4. Click **Launch** .

## WebSphere SPI reports generated from alarms

A WebSphere SPI Report can also be triggered by an alarm condition. When such a situation occurs, the report is generated *automatically* . This report is context sensitive, relating only to a single server on the managed node. The information in the report is generated at the time the report was run (when the alarm condition occurred). You can find the report by double-clicking on the message and selecting the Annotations tab.

If you configure your Message Browser to display the A column, then an "S" under the A column (adjacent to the message) indicates that the report was *successfully* generated and is waiting in the *Annotations* of the message.

## Metric reports description

| Name/Associated Metric     | Description  |
|----------------------------|--|
| I005_JVMMemUtilPct         | Percentage of heap space used in the JVM.  |
| I040_ServSessAverageLfe    | Average lifetime of a servlet session in milliseconds.   |
| I041_ServSessActSes        | Number of sessions currently being accessed.   |
| I042_ServInvSessRt         | Number of sessions being invalidated per second.   |
| I212_ThreadPoolUtilPct     | Percentage of threads used in a pool during collection interval.   |
| I213_ThreadPoolPctMax      | Percentage of time number of threads in pool reached configured maximum size (drill down).                                 |
| I220_EJBPoolUtil           | Percentage of active beans in the pool (drill down).   |
| I221_EJBMethRespTime       | Average EJB response time in milliseconds.   |
| I222_EJBMethodCallsRt      | Number of EJB method calls per minute (drill down).  |
| I224_EJBEntDataLdStRt      | Number of times an EJB was written to or loaded from the database per minute (drill down).                                 |
| I246_WebAppServletRespTime | Average response time in milliseconds for a servlet.   |
| I247_WebAppServletErrorRt  | Number of errors in a servlet per second (drill down).   |
| I261_JDBCConnPoolWaiters   | Average Number of threads waiting for a connection from connection pools (drill down).                                     |
| I262_JDBCConnPoolWaitTime  | Average time that a client waited for a connection in milliseconds (drill down).   |
| I263_JDBCConnPoolUtil      | Percentage of connection pool in use.  |
| I264_JDBCConnPoolMaxPct    | Percentage of time that all connections in a pool are in use.  |
| I265_JDBCConnPoolTimeoutRt | Number of times a client timed out waiting for a connection from the pool per minute (drill down).                         |
| I810_MsgBackoutRate        | The rate at which the messages failed to be delivered to the bean onMessage method (message driven beans).                 |
| I811_ReturnDiscrdRt        | The rate at which the returning object was discarded because the pool was full (entity and stateless).                     |
| I814_PrdstcchdsrdRt        | The rate at which the prepared statements are discarded by the least recently used (LRU) algorithm of the statement cache. |

**Related Topics:**



- SPI Admin tools group
- WebSphere Admin tools group


## Metric I005\_JVMMemUtilPct

|                                    |  |
|------------------------------------|--|
| Policy Name                        | WBSSPI_0005  |
| Metric Name                        | I005_JVMMemUtilPct   |
| Metric Type                        | Alarming   |
| Description                        | Percentage of heap space used in the JVM.  |
| Impact                             | Low  |
| PMI Module                         | jvmRuntimeModule   |
| Severity: Condition with Threshold | WBSSPI-0005.1: Critical threshold, 98<br>WBSSPI-0005.2: Major threshold, 95  |
| Collection Interval                | 15m  |
| Message Group                      | WebSphere  |
| Message Text                       | <p>WBSSPI-0005.10: % of heap space used (&lt;\$VALUE&gt;%) too high (&gt;=&lt;\$THRESHOLD&gt;%) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0005.11: % of heap space used (&lt;\$VALUE&gt;%) is within the threshold (&lt;\$THRESHOLD&gt;%) [Policy: &lt;\$NAME&gt;]</p>  |
| Instruction Text                   | <p><b>Probable Cause</b> : The JVM is running out of available heap space.</p> <p><b>Potential Impact</b> : The performance of all the J2EE components (Servlets, EJBs, and so on) for the server becomes slow.</p> <p><b>Suggested action</b> : For IBM i and distributed platforms, click <b>Servers</b> → <b>Server Types</b> → <b>WebSphere Application Servers</b> → &lt;server_name &gt;. In the Server Infrastructure section, click <b>Java and process management</b> → <b>Process definition</b> → <b>Java virtual machine</b> .</p> |

*Java Virtual Machine (JVM) Heap Size*

The Java Virtual Machine (JVM) Heap Size settings influence garbage collection of Java objects. If you increase the heap size, garbage collection occurs less frequently, but takes longer. These settings depend strongly on your application and on the amount of physical memory available. Consider:

- whether the JVM Heap for the selected application server shares physical memory with other application server JVM Heaps on the same machine.
- specifying JVM Heaps to reside in physical memory and prevent swapping to disk.
- setting the starting JVM Heap Size to one quarter of the maximum JVM Heap Size.
- setting the maximum JVM Heap Size to the following, if you have only one application server on the machine:
  - 128 MB, for small systems with less than 1 GB of memory
  - 256 MB, for systems with 2 GB of memory
  - 512 MB, for larger systems

 **NOTE:** A value of 0, or blank, indicates that no starting or maximum heap size is passed, when initializing the JVM. On OS/400, the JVM Heap Size is quite different and you should never set the maximum heap size.

Report Type

ASCII

Area

JVM

## Metric I040\_ServSessAverageLfe

|                                    |   |
|------------------------------------|---|
| Policy Name                        | WBSSPI_0040   |
| Metric Name                        | I040_ServSessAverageLfe   |
| Metric Type                        | Alarming and Graphing   |
| Description                        | Average servlet session lifetime in milliseconds.   |
| Impact                             | Medium  |
| PMI Module                         | servletSessionsModule   |
| Severity: Condition with Threshold | WBSSPI-0040.1: Warning threshold, 1000  |
| Collection Interval                | 1h  |
| Message Group                      | WebSphere   |
| Message Text                       | WBSSPI-0040.10: Average servlet session lifetime (<\$VALUE>ms) too high (>=<\$THRESHOLD>ms) [Policy: <\$NAME>]<br>WBSSPI-0040.11: Average servlet session lifetime (<\$VALUE>ms) is within the threshold (<\$THRESHOLD>ms) [Policy: <\$NAME>] |
| Instruction Text                   | Check or modify the session settings :<br>In the administrative console page, click <b>Servers</b> → <b>Server Types</b> → <b>WebSphere Application Servers</b> → <b>&lt;Web container</b> → <b>Session management</b> .                      |
| Report Type                        | ASCII   |
| Area                               | Servlets  |

## Metric I041\_ServSessActSes

|                                    |  |
|------------------------------------|--|
| Policy Name                        | WBSSPI_0041  |
| Metric Name                        | I041_ServSessActSes  |
| Metric Type                        | Alarming, Graphing, and Reporting  |
| Description                        | Number of sessions currently being accessed.   |
| Impact                             | High   |
| PMI Module                         | servletSessionsModule  |
| Severity: Condition with Threshold | WBSSPI-0041.1: Warning threshold, 10000  |
| Collection Interval                | 1h   |
| Message Group                      | WebSphere  |
| Message Text                       | WBSSPI-0041.10: # of sessions currently being accessed (<\$VALUE>) too high (>=<\$THRESHOLD>) [Policy: <\$NAME>]<br>WBSSPI-0041.11: # of sessions currently being accessed (<\$VALUE>) is within the threshold (<\$THRESHOLD>) [Policy: <\$NAME>]  |
| Instruction Text                   | <p><b>Probable Cause</b> : The number of sessions currently being accessed has exceeded a threshold value.</p> <p><b>Potential Impact</b> : If this number equals the "maximum session count", request for new sessions is not created.</p> <p><b>Suggested action</b> : To check or modify the session settings for maximum session counts:<br/>In the administrative console page, click <b>Servers</b> → <b>Server Types</b> → <b>WebSphere Application Servers</b> → &lt;server_name &gt; → <b>Web container</b> → <b>Session management</b> .</p> |
| Report Type                        | ASCII  |

|      |          |
|------|----------|
| Area | Servlets |
|------|----------|

## Metric I042\_ServInvSessRt

|                                    |  |
|------------------------------------|--|
| Policy Name                        | WBSSPI_0042  |
| Metric Name                        | I042_ServInvSessRt   |
| Metric Type                        | Alarming and Graphing  |
| Description                        | Number of sessions being invalidated per second.   |
| Impact                             | Low  |
| PMI Module                         | servletSessionsModule  |
| Severity: Condition with Threshold | WBSSPI-0042.1: Warning threshold, 10000  |
| Collection Interval                | 1h   |
| Message Group                      | WebSphere  |
| Message Text                       | <p>WBSSPI-0042.10: # of sessions timed out per second (&lt;\$VALUE&gt;/sec) too high (&gt;=&lt;\$THRESHOLD&gt;/sec) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0042.11: # of sessions timed out per second (&lt;\$VALUE&gt;/sec) is within the threshold (&lt;\$THRESHOLD&gt;/sec) [Policy: &lt;\$NAME&gt;]</p>  |
| Instruction Text                   | <p><b>Probable Cause</b> : The number of sessions being invalidated per second has exceeded a threshold value.</p> <p><b>Potential Impact</b> : The average response time of the application may increase, if the sessions get invalidated even before the request to them is made by a client.</p> <p><b>Suggested action:</b> To modify or increase the session timeout :</p> <p>In the administrative console page, click <b>Servers</b> → <b>Server Types</b> → <b>WebSphere Application Servers</b> → <b>&lt;server_name &gt;Web container</b> → <b>Session management</b> . Set the Session timeout value accordingly.</p> |

|             |          |
|-------------|----------|
| Report Type | ASCII    |
| Area        | Servlets |



# Metric I212\_ThreadPoolUtilPct

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0212   |
| <u>Metric Name</u>                                | I212_ThreadPoolUtilPct  |
| <u>Metric Type</u>                                | Alarming  |
| <u>Description</u>                                | Percentage of threads used in a pool during collection interval.  |
| <u>Impact</u>                                     | High  |
| <u>PMI Module</u>                                 | threadPoolModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0212.1: Critical threshold, 90<br>WBSSPI-0212.2: Major threshold, 85<br>WBSSPI-0212.3: Minor threshold, 80   |
| <u>Collection<br/>Interval</u>                    | 15m   |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | <p>WBSSPI-0212.10: % of threads used (&lt;\$VALUE&gt;%) too high (&gt;=&lt;\$THRESHOLD&gt;%)<br/>[Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0212.11: % of threads used (&lt;\$VALUE&gt;%) is within the threshold (&lt;\$THRESHOLD&gt;%)<br/>[Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0212.20: % of threads used (&lt;\$VALUE&gt;%) too high (&gt;=&lt;\$THRESHOLD&gt;%)<br/>[Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0212.21: % of threads used (&lt;\$VALUE&gt;%) is within the threshold (&lt;\$THRESHOLD&gt;%)<br/>[Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0212.30: % of threads used (&lt;\$VALUE&gt;%) too high (&gt;=&lt;\$THRESHOLD&gt;%)<br/>[Policy: &lt;\$NAME&gt;]</p> |

|                         |   |
|-------------------------|---|
|                         | WBSSPI-0212.31: % of threads used (<\$VALUE>%) is within the threshold (<\$THRESHOLD>%)<br>[Policy: <\$NAME>]   |
| <u>Instruction Text</u> | <p><b>Probable Cause</b> : The percent of threads in use in a pool has exceeded a threshold value</p> <p><b>Potential Impact</b> : Small Thread pool size might have been chosen.This choice can have the following impact:</p> <ul style="list-style-type: none"> <li>• Thread pool saturation condition may occur.</li> <li>• CPU utilization may consistently keep shooting up.</li> </ul> <p><b>Suggested action</b> :</p> <ol style="list-style-type: none"> <li>1. To fix a saturated thread pool, keep changing the thread pool size in steps until CPU utilization reaches between 75 and 85 percent.</li> <li>2. Tune the application using a code profiling tool.</li> <li>3. To check the size of the threadpool, in the Admin Console click <b>Servers</b> → <b>Server Types</b> → <b>Application servers</b> → &lt;server_name &gt; → <b>Thread pools</b> or <b>Servers</b> → <b>Server Types</b> → <b>Application servers</b> → <b>server1</b> → <b>ORB service</b> → <b>Thread Pool</b> .</li> </ol> |
| <u>Report Type</u>      | ASCII   |
| <u>Area</u>             | Performance   |

 **NOTE:**

If the ThreadPool Size is configured as growable, the value for the metric I212\_ThreadPoolUtilPct can exceed 100%. In this case, modify the threshold to a desired value to avoid false or frequent alarms.

# Metric I213\_ThreadPoolPctMax

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0213   |
| <u>Metric Name</u>                                | I213_ThreadPoolPctMax   |
| <u>Metric Type</u>                                | Alarming  |
| <u>Description</u>                                | Percentage of time number of threads in pool reached configured maximum size (drill down).  |
| <u>Impact</u>                                     | High  |
| <u>PMI Module</u>                                 | threadPoolModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0213.1: Minor threshold, 10  |
| <u>Collection<br/>Interval</u>                    | 15m   |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | WBSSPI-0213.10: % of time # of threads reached configured maximum (<\$VALUE>%) too high (>=<\$THRESHOLD>%) [Policy: <\$NAME>]<br>WBSSPI-0213.11: % of time # of threads reached configured maximum (<\$VALUE>%) is within the threshold (<\$THRESHOLD>%) [Policy: <\$NAME>]   |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The percent of threads in use in a pool has exceeded a threshold value</p> <p><b>Potential Impact</b> : Small Thread pool size may have been chosen.This choice can have the following impact:&lt; ul&gt;</p> <ul style="list-style-type: none"> <li>• Thread pool saturation condition may occur.</li> <li>• CPU utilization may consistently keep shooting up.</li> </ul> <p><b>Suggested action</b> :</p> <ol style="list-style-type: none"> <li>1. To fix a saturated thread pool, keep changing the thread pool size in steps until CPU utilization reaches between 75 and 85 percent.</li> </ol> |

|                    |   |
|--------------------|---|
|                    | <ol style="list-style-type: none"><li>2. Tune the application using a code profiling tool.</li><li>3. To check the size of the threadpool, in the Admin Console click <b>Servers</b> → <b>Server Types</b> → <b>Application servers</b> → <b>&lt;server_name &gt;</b> → <b>Thread pools</b> or <b>Servers</b> → <b>Server Types</b> → <b>Application servers</b> → <b>server1</b> → <b>ORB service</b> → <b>Thread Pool</b> .</li></ol> |
| <b>Report Type</b> | ASCII   |
| <b>Area</b>        | Performance   |

# Metric I220\_EJBPoolUtil

|   |  |
|---|--|
| <u>Policy Name</u>  | WBSSPI_0220  |
| <u>Metric Name</u>  | I220_EJBPoolUtil   |
| <u>Metric Type</u>  | Alarming and Reporting   |
| <u>Description</u>  | Percentage of active beans in the pool (drill down).   |
| <u>Impact</u>   | High   |
| <u>PMI Module</u>   | beanModule   |
| <u>Severity:</u><br><u>Condition with</u><br><u>Threshold</u> | WBSSPI-0220.1: Warning threshold, 90   |
| <u>Collection Interval</u>                                    | 1h   |
| <u>Message Group</u>  | WebSphere  |
| <u>Message Text</u>   | WBSSPI-0220.10: % of EJBs in the pool in use (<\$VALUE>%) too high (>=<\$THRESHOLD>%) [Policy: <\$NAME>]<br>WBSSPI-0220.11: % of EJBs in the pool in use (<\$VALUE>%) is within the threshold (<\$THRESHOLD>%) [Policy: <\$NAME>]  |
| <u>Instruction Text</u>                                       | <p><b>Probable Cause :</b> The utilization of the EJB cache has exceeded a threshold value.</p> <p><b>Potential Impact :</b></p> <ul style="list-style-type: none"> <li>• Thread pool saturation condition may occur.</li> <li>• CPU utilization may consistently keep shooting up.</li> </ul> <p><b>Suggested action :</b></p> <ol style="list-style-type: none"> <li>1. To fix a saturated thread pool, keep changing the thread pool size in steps until CPU utilization reaches between 75 and 85 percent.</li> <li>2. Tune the application using a code profiling tool.</li> <li>3. To check the size of the EJB Cache, in the Admin Console click</li> </ol> |

|                    |   |
|--------------------|---|
|                    | <b>Servers → Server Types → Application servers → &lt;server_name &gt;<br/>→ EJB container → EJB Cache Settings .</b> |
| <b>Report Type</b> | ASCII   |
| <b>Area</b>        | EJB   |

The metric WBSSPI\_0220 returns a valid value only if Entity Beans are present in the application(s) deployed on the WebSphere Application Server(s).

# Metric I221\_EJBMethRespTime

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0221   |
| <u>Metric Name</u>                                | I221_EJBMethRespTime  |
| <u>Metric Type</u>                                | Alarming and Reporting  |
| <u>Description</u>                                | Average EJB response time in milliseconds.  |
| <u>Impact</u>                                     | Medium  |
| <u>PMI Module</u>                                 | beanModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0221.1: Major threshold, 5000<br>WBSSPI-0221.2: Warning threshold, 1000  |
| <u>Collection Interval</u>                        | 5m  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | <p>WBSSPI-0221.10: Average EJB response time (&lt;\$VALUE&gt;ms) too high (&gt;=&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0221.11: Average EJB response time (&lt;\$VALUE&gt;ms) is within the threshold (&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0221.20: Average EJB response time (&lt;\$VALUE&gt;ms) too high (&gt;=&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0221.21: Average EJB response time (&lt;\$VALUE&gt;ms) is within the threshold (&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> |
| <u>Instruction Text</u>                           | <p><b>Probable Cause :</b> The average response time of an EJB has exceeded a threshold value.</p> <p><b>Potential Impact :</b></p> <ul style="list-style-type: none"> <li>• Not sufficient Beans in pooled state.</li> <li>• Beans getting destroyed frequently.</li> <li>• Application response time may increase.</li> </ul>   |

|                    |   |
|--------------------|---|
|                    | <b>Suggested action</b> : To check the size of the EJB Cache, in the Admin Console click <b>Servers</b> → <b>Server Types</b> → <b>Application servers</b> → <b>&lt;server_name &gt;</b> → <b>EJB container</b> → <b>EJB Cache Settings</b> . |
| <b>Report Type</b> | ASCII   |
| <b>Area</b>        | EJB   |

The metric WBSSPI\_0221 returns a valid value only if Entity Beans are present in the application(s) deployed on the WebSphere Application Server(s).



# Metric I222\_EJBMethodCallsRt

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0222   |
| <u>Metric Name</u>                                | I222_EJBMethodCallsRt   |
| <u>Metric Type</u>                                | Alarming and Reporting  |
| <u>Description</u>                                | Number of EJB method calls per minute (drill down).   |
| <u>Impact</u>                                     | Low   |
| <u>PMI Module</u>                                 | beanModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0222.1: Warning threshold, 10  |
| <u>Collection<br/>Interval</u>                    | 5m  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | WBSSPI-0222.10: # of EJB method calls per minute (<\$VALUE>/min) too high (>=<\$THRESHOLD>/min) [Policy: <\$NAME>]<br>WBSSPI-0222.11: # of EJB method calls per minute (<\$VALUE>/min) is within the threshold (<\$THRESHOLD>/min) [Policy: <\$NAME>]   |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The number of EJB method calls per minute has exceeded a threshold value.</p> <p><b>Potential Impact</b> :</p> <ul style="list-style-type: none"> <li>• Increase in the CPU utilization</li> <li>• Increase in the EJB pool utilization</li> </ul> <p><b>Suggested action</b> : To check the size of the EJB Cache, in the Admin Console click <b>Servers</b> → <b>Server Types</b> → <b>Application servers</b> → &lt;server_name &gt; → <b>EJB container</b> → <b>EJB Cache Settings</b> .</p> |
| <u>Report Type</u>                                | ASCII   |
| <u>Area</u>                                       | EJB   |

The metric `WBSSPI_0222` returns a valid value only if Entity Beans are present in the application(s) deployed on the WebSphere Application Server(s).

## Metric I224\_EJBEntDataLdStRt

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0224   |
| <u>Metric Name</u>                                | I224_EJBEntDataLdStRt   |
| <u>Metric Type</u>                                | Alarming and Reporting  |
| <u>Description</u>                                | Number of times an EJB was written to or loaded from the database per minute (drill down).  |
| <u>Impact</u>                                     | Low   |
| <u>PMI Module</u>                                 | beanModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0224.1: Warning threshold, 10  |
| <u>Collection Interval</u>                        | 15m   |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | WBSSPI-0224.10: # of times EJB data was written to or loaded from the database per minute (<\$VALUE>/min) too high (>=<\$THRESHOLD>/min) [Policy: <\$NAME>]<br>WBSSPI-0224.11: # of times EJB data was written to or loaded from the database per minute (<\$VALUE>/min) is within the threshold (<\$THRESHOLD>/min) [Policy: <\$NAME>]   |
| <u>Instruction Text</u>                           | <p><b>Probable Cause :</b> The number of times an EJB was written to or loaded from the database per minute has exceeded a threshold value.</p> <p><b>Potential Impact :</b></p> <ul style="list-style-type: none"> <li>• Increase in the CPU usage</li> <li>• May reduce the response time of the applications, if the EJB pool is full since the container has to passivate a bean and provide space for active beans in the pool.</li> </ul> <p><b>Suggested action :</b> Make sure the EJB pool utilization is not high so that the Data Loads and Stores can be performed quickly.</p> |

|                    |       |
|--------------------|-------|
| <b>Report Type</b> | ASCII |
| <b>Area</b>        | EJB   |

The metric WBSSPI\_0224 returns a valid value only if Entity Beans are present in the application(s) deployed on the WebSphere Application Server(s).

# Metric I246\_WebAppServletRespTime

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0246   |
| <u>Metric Name</u>                                | I246_WebAppServletRespTime  |
| <u>Metric Type</u>                                | Alarming and Reporting  |
| <u>Description</u>                                | Average response time in milliseconds for a servlet.  |
| <u>Impact</u>                                     | Medium  |
| <u>PMI Module</u>                                 | webAppModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0246.1: Major, 10000<br>WBSSPI-0246.2: Warning, 2000   |
| <u>Collection<br/>Interval</u>                    | 1h  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | <p>WBSSPI-0246.10: Average response time for a web application servlet (&lt;\$VALUE&gt;ms) too high (&gt;=&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0246.11: Average response time for a web application servlet (&lt;\$VALUE&gt;ms) is within the threshold (&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0246.20: Average response time for a web application servlet (&lt;\$VALUE&gt;ms) too high (&gt;=&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0246.21: Average response time for a web application servlet (&lt;\$VALUE&gt;ms) is within the threshold (&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The average response time for servlet in msec has exceeded a threshold value.</p> <p><b>Potential Impact</b> : As the number of concurrent users for the application increases, the thread pool utilization of the servlet engine also increases and the new requests may not be serviced immediately. This increases the response time</p>  |

|                    |  |
|--------------------|--|
|                    | of the application.<br><b>Suggested action</b> : Check the application server or servlet engine documentation for information about thread pool and its configurations to handle increased number of concurrent users or requests. |
| <b>Report Type</b> | ASCII  |
| <b>Area</b>        | Web Applications   |

# Metric I247\_WebAppServletErrorRt

|   |  |
|---|--|
| <u>Policy Name</u>                        | WBSSPI_0247  |
| <u>Metric Name</u>                        | I247_WebAppServletErrorRt  |
| <u>Metric Type</u>                        | Alarming   |
| <u>Description</u>                        | Number of errors in a servlet per second (drill down).   |
| <u>Impact</u>                             | Low  |
| <u>PMI Module</u>                         | webAppModule   |
| <u>Severity: Condition with Threshold</u> | WBSSPI-0247.1: Warning, 100  |
| <u>Collection Interval</u>                | 1h   |
| <u>Message Group</u>                      | WebSphere  |
| <u>Message Text</u>                       | WBSSPI-0247.10: # of errors for a web application servlet per second (<\$VALUE>/sec) too high (>=<\$THRESHOLD>/sec) [Policy: <\$NAME>]<br>WBSSPI-0247.11: # of errors for a web application servlet per second (<\$VALUE>/sec) is within the threshold (<\$THRESHOLD>/sec) [Policy: <\$NAME>]  |
| <u>Instruction Text</u>                   | <p><b>Probable Cause</b> : The number of errors in a servlet per second has exceeded a threshold value.</p> <p><b>Potential Impact</b> : Applications response time may increase drastically.</p> <p><b>Suggested action</b> :</p> <ul style="list-style-type: none"> <li>• Verify thread pool size set.</li> <li>• Verify connection pool size set.</li> <li>• Verify JVM heap size set.</li> </ul> |
| <u>Report Type</u>                        | ASCII  |
| <u>Area</u>                               | Web Applications   |

# Metric I261\_JDBCConnPoolWaiters

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0261   |
| <u>Metric Name</u>                                | I261_JDBCConnPoolWaiters  |
| <u>Metric Type</u>                                | Alarming and Reporting  |
| <u>Description</u>                                | Average number of threads waiting for a connection from connection pools (drill down).  |
| <u>Impact</u>                                     | High  |
| <u>PMI Module</u>                                 | connectionPoolModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0261.1: Major, 10<br>WBSSPI-0261.2: Warning, 1   |
| <u>Collection<br/>Interval</u>                    | 5m  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | <p>WBSSPI-0261.10: Average # of threads waiting for a connection from connection pools (&lt;\$VALUE&gt;) too high (&gt;=&lt;\$THRESHOLD&gt;) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0261.11: Average # of threads waiting for a connection from connection pools (&lt;\$VALUE&gt;) is within the threshold (&lt;\$THRESHOLD&gt;) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0261.20: Average # of threads waiting for a connection from connection pools (&lt;\$VALUE&gt;) too high (&gt;=&lt;\$THRESHOLD&gt;) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0261.21: Average # of threads waiting for a connection from connection pools (&lt;\$VALUE&gt;) is within the threshold (&lt;\$THRESHOLD&gt;) [Policy: &lt;\$NAME&gt;]</p> |
| <u>Instruction Text</u>                           | <b>Probable Cause</b> : The average number of threads waiting for a connection from the connection pool has exceeded a threshold value.   |



|                    |  |
|--------------------|--|
|                    | <p><b>Potential Impact</b> : The application slows down.</p> <p><b>Suggested action</b> : Small pool size is chosen for JDBC connection pool.</p> <ul style="list-style-type: none"> <li>• To fix a saturated connection pool, keep changing the pool size in steps until number of blocked applications is significantly reduced.</li> <li>• To modify or view the JDBC settings, in the administration console, click <b>Resources</b> → <b>JDBC</b> → <b>JDBC providers</b> → <b>&lt;JDBC_provider_name &gt;</b> → <b>Data sources</b> → <b>Default Datasource</b> → <b>Connection pools</b> .</li> </ul> |
| <b>Report Type</b> | ASCII  |
| <b>Area</b>        | JDBC   |

# Metric I262\_JDBCConnPoolWaitTime

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0262   |
| <u>Metric Name</u>                                | I262_JDBCConnPoolWaitTime   |
| <u>Metric Type</u>                                | Alarming and Reporting  |
| <u>Description</u>                                | Average time that a client waited for a connection in msec (drill down).  |
| <u>Impact</u>                                     | Medium  |
| <u>PMI Module</u>                                 | connectionPoolModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0262.1: Major, 50<br>WBSSPI-0262.2: Warning, 0   |
| <u>Collection<br/>Interval</u>                    | 5m  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | <p>WBSSPI-0262.10: Average. time a client waited for a connection (&lt;\$VALUE&gt;ms) too high (&gt;=&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0262.11: Average time a client waited for a connection (&lt;\$VALUE&gt;ms) is within the threshold (&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0262.20: Average. time a client waited for a connection (&lt;\$VALUE&gt;ms) too high (&gt;=&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0262.21: Average time a client waited for a connection (&lt;\$VALUE&gt;ms) is within the threshold (&lt;\$THRESHOLD&gt;ms) [Policy: &lt;\$NAME&gt;]</p> |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The average time that a client waited for a connection in has exceeded a threshold value.</p> <p><b>Potential Impact</b> :</p> <ul style="list-style-type: none"> <li>• The client requests is not processed if the wait time is less than or equal to</li> </ul>  |

|                    |   |
|--------------------|---|
|                    | <p>connection timeout.</p> <ul style="list-style-type: none"><li>• The application response time increases.</li></ul> <p><b>Suggested action :</b> In the WebSphere Administration console, click <b>Resources → JDBC → Datasources → &lt;datasource_name &gt; → Connection Pools</b> and configure the properties appropriately.</p> |
| <u>Report Type</u> | ASCII   |
| <u>Area</u>        | JDBC  |

# Metric I263\_JDBCConnPoolUtil

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0263   |
| <u>Metric Name</u>                                | I263_JDBCConnPoolUtil   |
| <u>Metric Type</u>                                | Alarming and Reporting  |
| <u>Description</u>                                | Percentage of connection pool in use.   |
| <u>Impact</u>                                     | High  |
| <u>PMI Module</u>                                 | connectionPoolModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0263.1: Critical, 98<br>WBSSPI-0263.2: Major, 95   |
| <u>Collection<br/>Interval</u>                    | 5m  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | <p>WBSSPI-0263.10: % utilization of a connection pool (&lt;\$VALUE&gt;%) too high (&gt;=&lt;\$THRESHOLD&gt;%) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0263.11: % utilization of a connection pool (&lt;\$VALUE&gt;%) is within the threshold (&lt;\$THRESHOLD&gt;%) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0263.20: % utilization of a connection pool (&lt;\$VALUE&gt;%) too high (&gt;=&lt;\$THRESHOLD&gt;%) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0263.21: % utilization of a connection pool (&lt;\$VALUE&gt;%) is within the threshold (&lt;\$THRESHOLD&gt;%) [Policy: &lt;\$NAME&gt;]</p> |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The percent utilization of the connection pool has exceeded a threshold value.</p> <p><b>Potential Impact</b> :</p> <ul style="list-style-type: none"> <li>• Connection pool saturation condition may soon occur.</li> <li>• JDBC connection timeouts occur on connection pool saturation.</li> </ul>  |

|                    |  |
|--------------------|--|
|                    | <ul style="list-style-type: none"><li>• Application response time increases.</li></ul> <p><b>Suggested action</b> : To modify or view the JDBC settings, in the administration console, click <b>Resources</b> → <b>JDBC</b> → <b>JDBC providers</b> → <b>&lt;JDBC_provider_name &gt;</b> → <b>Datasources</b> → <b>&lt;datasource_name &gt;</b> → <b>Connection Pools</b> and configure the properties appropriately.</p> |
| <b>Report Type</b> | ASCII  |
| <b>Area</b>        | JDBC   |

# Metric I264\_JDBCConnPoolMaxPct

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0264   |
| <u>Metric Name</u>                                | I264_JDBCConnPoolMaxPct   |
| <u>Metric Type</u>                                | Alarming  |
| <u>Description</u>                                | Percentage of time that all connections in a pool are in use.   |
| <u>Impact</u>                                     | High  |
| <u>PMI Module</u>                                 | connectionPoolModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0264.1: Critical, 98<br>WBSSPI-0264.2: Major, 95   |
| <u>Collection<br/>Interval</u>                    | 5m  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | <p>WBSSPI-0264.10: % of time all connections in a pool are in use (&lt;\$VALUE&gt;%) too high (&gt;=&lt;\$THRESHOLD&gt;%) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0264.11: % of time all connections in a pool are in use (&lt;\$VALUE&gt;%) is within the threshold (&lt;\$THRESHOLD&gt;%) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0264.20: % of time all connections in a pool are in use (&lt;\$VALUE&gt;%) too high (&gt;=&lt;\$THRESHOLD&gt;%) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0264.21: % of time all connections in a pool are in use (&lt;\$VALUE&gt;%) is within the threshold (&lt;\$THRESHOLD&gt;%) [Policy: &lt;\$NAME&gt;]</p> |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The percent of time that all connections in a pool are in use has exceeded a threshold value.</p> <p><b>Potential Impact</b> : Small connection pool size may have been chosen.This choice can have the following impact:</p>  |

|                    |   |
|--------------------|---|
|                    | <ul style="list-style-type: none"> <li>• Connection pool saturation condition may occur.</li> <li>• CPU utilization may consistently keep shooting up.</li> </ul> <p><b>Suggested action :</b></p> <ol style="list-style-type: none"> <li>1. To fix a saturated connection pool, keep changing the thread pool size in steps until CPU utilization reaches between 75 and 85 percent.</li> <li>2. To modify or view the JDBC settings, in the administration console, click <b>Resources → JDBC → JDBC providers → &lt;JDBC_provider_name &gt; → Datasources → &lt;datasource_name &gt; → Connection Pools</b> and configure the properties appropriately. .</li> </ol> |
| <b>Report Type</b> | ASCII   |
| <b>Area</b>        | JDBC  |

# Metric I265\_JDBCConnPoolTimeoutRts

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0265   |
| <u>Metric Name</u>                                | I265_JDBCConnPoolTimeoutRt  |
| <u>Metric Type</u>                                | Alarming and Reporting  |
| <u>Description</u>                                | Number of times a client timed out waiting for a connection from the pool (drill down) per minute.  |
| <u>Impact</u>                                     | Low   |
| <u>PMI Module</u>                                 | connectionPoolModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0265.1: Critical, 98<br>WBSSPI-0265.2: Major, 95   |
| <u>Collection<br/>Interval</u>                    | 5m  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | <p>WBSSPI-0265.10: # of times a client timed out waiting for a connection per minute (&lt;\$VALUE&gt;/min) too high (&gt;=&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0265.11: # of times a client timed out waiting for a connection per minute (&lt;\$VALUE&gt;/min) is within the threshold (&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0265.20: # of times a client timed out waiting for a connection per minute (&lt;\$VALUE&gt;/min) too high (&gt;=&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0265.21: # of times a client timed out waiting for a connection per minute (&lt;\$VALUE&gt;/min) is within the threshold (&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p> |
| <u>Instruction Text</u>                           | <b>Probable Cause</b> : The number of times a client timed out waiting for a connection from the connection pool has exceeded a threshold value.  |



|                    |  |
|--------------------|--|
|                    | <p><b>Potential Impact</b> : Increased number of timed out requests impacts the performance of the applications.</p> <p><b>Suggested action</b> : To modify or view the JDBC settings, in the administration console, click <b>Resources</b> → <b>JDBC</b> → <b>JDBC providers</b> → <b>&lt;JDBC_provider_name &gt;</b> → <b>Datasources</b> → <b>&lt;datasource_name &gt;</b> → <b>Connection Pools</b> and configure the properties appropriately.</p> |
| <b>Report Type</b> | ASCII  |
| <b>Area</b>        | JDBC   |

# Metric I810\_MsgBackoutRate

|                                    |   |
|------------------------------------|---|
| Policy Name                        | WBSSPI_0810   |
| Metric Name                        | I810_MsgBackoutRate   |
| Metric Type                        | Alarming, Reporting, and Graphing   |
| Description                        | The rate at which the messages failed to be delivered to the bean onMessage method (message driven beans).  |
| Impact                             | Medium and Low  |
| PMI Module                         | beanModule  |
| Severity: Condition with Threshold | WBSSPI-0810.1: Warning threshold, 5   |
| Collection Interval                | 15m   |
| Message Group                      | WebSphere   |
| Message Text                       | <p>WBSSPI-0810.10: The rate at which the messages failed to be delivered to the bean onMessage method (message driven beans) (&lt;\$VALUE&gt;/min) too high (&gt;=&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0810.11: The rate at which the messages failed to be delivered to the bean onMessage method (message driven beans) (&lt;\$VALUE&gt;/min) is within the threshold (&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p>   |
| Instruction Text                   | <p><b>Probable Cause</b> : The rate at which the messages failed to be delivered to the bean onMessage method (message driven beans) has exceeded a threshold value</p> <p><b>Potential Impact</b> : The message could be corrupt or just in an unexpected format. These messages could be sent again to the MDB based on the configured retries. If the number of retries are more, the application response slows down.</p> <p><b>Suggested action</b> : Configure the Backout threshold appropriately, to prevent the number of tries for the backed</p> |

---

|             |               |
|-------------|---------------|
|             | out messages. |
| Report Type | ASCII         |
| Area        | EJB           |

## Metric I811\_ReturnDiscrdRt

|                                    |   |
|------------------------------------|---|
| Policy Name                        | WBSSPI_0811   |
| Metric Name                        | I811_ReturnDiscrdRt   |
| Metric Type                        | Alarming, Reporting, and Graphing   |
| Description                        | The rate at which the returning object was discarded because the pool was full (entity and stateless).  |
| Impact                             | High, Medium, and Low   |
| PMI Module                         | beanModule  |
| Severity: Condition with Threshold | WBSSPI-0811.1: Warning threshold, 10  |
| Collection Interval                | 15m   |
| Message Group                      | WebSphere   |
| Message Text                       | <p>WBSSPI-0811.10 ReturnsDiscardRate: The rate at which the returning object was discarded because the pool was full (entity and stateless) (&lt;\$VALUE&gt;/min) too high (&gt;=&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0811.11 ReturnsDiscardRate: The rate at which the returning object was discarded because the pool was full (entity and stateless) (&lt;\$VALUE&gt;/min) is within the threshold (&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p> |
| Instruction Text                   | <p><b>Probable Cause</b> : ReturnsDiscardRate:<br/>The rate at which the returning object was discarded because the pool was full (entity and stateless) has exceeded a threshold value</p> <p><b>Potential Impact</b> : The performance of the applications slows down.</p> <p><b>Suggested action</b> : Modify the pool settings accordingly:<br/>In the administrative console page, click <b>Servers</b> → <b>WebSphere Application servers</b> → &lt;server &gt; → <b>EJB</b></p>  |

---

|             |   |
|-------------|---|
|             | <b>Container Settings → EJB Container .</b> |
| Report Type | ASCII                                       |
| Area        | EJB   |

## Metric I814\_PrdstchdsrdRt

|                                    |  |
|------------------------------------|--|
| Policy Name                        | WBSSPI_0814  |
| Metric Name                        | I814_PrdstchdsrdRt   |
| Metric Type                        | Alarming, Reporting, and Graphing  |
| Description                        | The rate at which the prepared statements are discarded by the least recently used (LRU) algorithm of the statement cache.   |
| Impact                             | High and Medium  |
| PMI Module                         | connectionPoolModule   |
| Severity: Condition with Threshold | WBSSPI-0814.1: Warning threshold, 10   |
| Collection Interval                | 15m  |
| Message Group                      | WebSphere  |
| Message Text                       | <p>WBSSPI-0814.10: The rate at which the prepared statements are discarded by the least recently used (LRU) algorithm of the statement cache (&lt;\$VALUE&gt;/sec) too high (&gt;=&lt;\$THRESHOLD&gt;/sec) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0814.11: The rate at which the prepared statements are discarded by the least recently used (LRU) algorithm of the statement cache (&lt;\$VALUE&gt;/min ) is within the threshold (&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p> |
| Instruction Text                   | <p><b>Probable Cause</b> : ReturnsDiscardRate:<br/>The rate at which the returning object was discarded because the pool was full (entity and stateless) has exceeded a threshold value</p> <p><b>Potential Impact</b> : The performance of the applications slows down.</p>   |

|             |   |
|-------------|---|
|             | <b>Suggested action</b> : Modify the pool settings accordingly:<br>In the administrative console page, click <b>Servers</b> → <b>WebSphere Application servers</b> → <server > → <b>EJB Container Settings</b> → <b>EJB Container</b> . |
| Report Type | ASCII   |
| Area        | EJB   |

# Policies

The Smart Plug-in for WebSphere Application Server (WebSphere SPI) policy group is organized according to the impact that their data collections incur on system performance. All data collection affects performance in some way, with impact varying according to metric (counter). The overhead cost associated with each WebSphere SPI metric is represented with a rating of *high*, *medium*, or *low*. Metrics with medium or high ratings have higher performance impacts. The calculations required for the collected data generally require multiplication, division, or both. A metric with a low rating involves only a minor performance cost since its calculation requires just a single addition or subtraction.

The SPI for WebSphere policy group contains the following subgroups:

- WBSSPI Discovery
- High-Impact
- Medium-Impact
- Low-Impact

## WBSSPI Discovery

The WBSSPI Discovery policy group contains the following policies:

- **WBSSPI-Messages** – A single policy that intercepts messages related to the discovery process
- **WBSSPI Service Discovery** – A single policy that does the following:
  - Checks for the presence of a WebSphere application server installation on the managed node on which it is deployed.
  - Gathers data from the WebSphere SPI configuration from the WebSphere Admin Server and configuration files.
  - Creates/Updates the service map.
  - Updates the WebSphere SPI configuration data for the WebSphere application on the managed node.
  - Automatically deploys the Medium-Impact policy group to the managed node on which it discovers the presence of a WebSphere application server.



## High-, Medium-, and Low-Impact

The WebSphere SPI policies are grouped for convenient deployment according to the impact that their data collection incurs on system performance. Refer to *Overhead Generated Through Data Collection* for complete listings of the specific metrics included in each group.

The High-, Medium-, and Low-Impact policy groups contain the following subgroups and policy:

- **WBSSPI-Logfiles** – Monitors WebSphere-generated and WebSphere SPI-generated logfiles. The information captured from these logfiles includes changes to WebSphere configurations and errors that occur in the operation of WebSphere or WebSphere SPI.
- **WBSSPI-Metrics** – Determines the threshold conditions of a monitored metric, the message text sent when the threshold is exceeded, the actions to complete, and instructions to follow (if necessary). Also known as a monitor policy.
- **WBSSPI-Monitors** – Controls what metrics are collected by running the collector/analyzer at the specified polling interval and defining the monitor policies that are collected.
- **WBSSPI-Messages** – A single policy that intercepts WebSphere and internal WebSphere SPI messages.

## Policy Variables

The following variables are used by the WebSphere SPI policies. If you are creating your own policies, you may use these variables.

| Name           | Description  |
|----------------|--|
| instancename   | The instance for which the metric is being reported for multi-instance metrics.  |
| map_port       | See port. This variable may be deprecated in future releases.  |
| map_servername | The application server name with spaces replaced with underscores ("_"). Used for service map keys where spaces are prohibited.<br><br>Example: <code>my_server</code> |
| node           | The node on which the application server is running.<br><br>Example: <code>mo01.hp.com</code>  |

|            |   |
|------------|---|
| port       | The port on which the application server is listening. Corresponds to the PORT configuration property.<br>Example: 9001 |
| servername | The application server name. Corresponds to the NAME configuration property.<br>Example: my server                      |

**Related Topics:**

- Metrics
- Monitors
- Logfiles
- Components
- Tools
- Metrics Overhead
- Metrics Naming/Numbering Conventions
- Metrics by Number

# Metrics

The Smart Plug-in for WebSphere Application Server (WebSphere SPI) metric policies have pre-defined settings that simplify setup tasks for the WebSphere SPI. Over time, however, you may want to customize some of those settings. Basic pieces of information you need for those customizations are provided.

For easy reference, the tables list all metrics by area. Click the Metric Name in the metric summary table to display individual metric details for every WebSphere metric and, when available, its policy settings. For metrics used for reporting or graphing only, no settings exist, hence the setting is labeled “N/A” (not applicable).

## Availability Metrics

| ID | Metric Name          | Description                    | Impact | Type | Severity | Area         |
|----|----------------------|--------------------------------|--------|------|----------|--------------|
| 1  | I001_ServerStatus    | Status of a server             | L      | A    | Critical | Availability |
| 2  | I002_ServerStatusRep | Status of a server - reporting | L      | R    | &nbsp;   | Availability |

## JVM Metric

| ID  | Metric Name         | Description   | Impact | Type | Severity | Area |
|-----|---------------------|---|--------|------|----------|------|
| 5   | I005_JVMMemUtilPct  | Percentage of heap space used in the JVM  | L      | A    | Critical | JVM  |
| 6   | I006_ClusterStatus  | Status of the cluster   | L      | A    | Critical | JVM  |
| 807 | I807_JVMMemFreePct  | Percent of JVM Free Memory available  | ML     | G    | Critical | JVM  |
| 808 | I808_JVMCpuUsagePct | The CPU Usage of the Java virtual machine                                       | ML     | G    | Critical | JVM  |
| 809 | I809_GCIntervalTime | The average garbage collection value in seconds between two garbage collections | HML    | G    | Critical | JVM  |

## Performance Metrics

| ID  | Metric Name               | Description   | Impact | Type | Severity                   | Area        |
|-----|---------------------------|---|--------|------|----------------------------|-------------|
| 210 | I210_ThreadPoolActThreads | Number of concurrently active threads in a pool                                   | H      | R    | &nbsp;                     | Performance |
| 211 | I211_ThreadPoolAveSize    | Average number of threads in a pool   | H      | R    | &nbsp;                     | Performance |
| 212 | I212_ThreadPoolUtilPct    | Percentage of threads used in a pool collection interval                          | H      | A    | Critical<br>Major<br>Minor | Performance |
| 13  | I013_ThrdPoolPctMax       | Percentage of time the number of threads in a pool reached the configured maximum | H      | G    | &nbsp;                     | Performance |
| 213 | I213_ThreadPoolPctMax     | Percentage of time the number of threads in a pool reached the configured maximum | H      | A    | Minor                      | Performance |
| 14  | I014_ThrdPoolCrtRt        | Number of threads created per minute  | L      | G    | &nbsp;                     | Performance |

## EJB Metrics

| ID  | Metric Name           | Description   | Impact | Type | Severity         | Area |
|-----|-----------------------|---|--------|------|------------------|------|
| 20  | I020_EJBPoolUtil      | Percentage of active beans in the pool              | H      | G    | &nbsp;           | EJB  |
| 220 | I220_EJBPoolUtil      | Percentage of active beans in the pool (drill down) | H      | AR   | Warning          | EJB  |
| 221 | I221_EJBMethRespTime  | Average response time of an EJB                     | M      | AR   | Major<br>Warning | EJB  |
| 22  | I022_EJBMethCallsRt   | Number of EJB method calls per minute               | L      | GR   | &nbsp;           | EJB  |
| 222 | I222_EJBMethodCallsRt | Number of EJB method calls per minute (drill down)  | L      | AR   | Warning          | EJB  |

|     |                       |   |     |     |          |     |
|-----|-----------------------|---|-----|-----|----------|-----|
| 223 | I223_EJBPoolSize      | Average size of the EJB pool  | H   | R   | &nbsp;   | EJB |
| 24  | I024_EJBEntDtLdStRt   | Number of times an EJB was written to or loaded from the database per minute                              | L   | GR  | &nbsp;   | EJB |
| 224 | I224_EJBEntDataLdStRt | Number of times an EJB was written to or loaded from the database per minute (drill down)                 | L   | AR  | Warning  | EJB |
| 25  | I025_EJBPoolMissPct   | Average percentage of time a call to retrieve an EJB from the pool failed                                 | L   | G   | &nbsp;   | EJB |
| 225 | I225_EJBPoolMissPct   | Average percentage of time a call to retrieve an EJB from the pool failed                                 | L   | R   | &nbsp;   | EJB |
| 26  | I026_EJBConcLives     | Average number of bean objects in the pool  | H   | AG  | Warning  | EJB |
| 810 | I810_MsgBackoutRate   | The rate at which the messages failed to be delivered to the bean onMessage method (message driven beans) | ML  | ARG | Critical | EJB |
| 811 | I811_ReturnDiscrdRt   | The rate at which the returning object was discarded because the pool was full (entity and stateless)     | HML | ARG | Critical | EJB |

## Servlets Metrics

| ID | Metric Name         | Description   | Impact | Type | Severity | Area     |
|----|---------------------|---|--------|------|----------|----------|
| 40 | I040_ServSessAveLfe | Average lifetime of a servlet session in milliseconds | M      | AG   | Warning  | Servlets |
| 41 | I041_ServSessActSes | Number of sessions currently being accessed           | H      | AGR  | Warning  | Servlets |
| 42 | I042_ServInvSessRt  | Number of sessions being invalidated per second       | L      | AG   | Warning  | Servlets |

## Web Applications Metrics

| ID  | Metric Name                | Description  | Impact | Type | Severity      | Area             |
|-----|----------------------------|--|--------|------|---------------|------------------|
| 45  | I045_WebApServReqRt        | Number of requests for a servlet per second                  | L      | GR   | &nbsp;        | Web Applications |
| 245 | I245_WebAppServletReqRt    | Number of requests for a servlet per second (drill down)     | L      | AR   | Warning       | Web Applications |
| 246 | I246_WebAppServletRespTime | Average response time for a servlet in milliseconds          | M      | AR   | Major Warning | Web Applications |
| 47  | I047_WebAppServErRt        | Number of errors in a servlet per second                     | L      | G    | &nbsp;        | Web Applications |
| 247 | I247_WebAppServletErrorRt  | Number of errors in a servlet per second (drill down)        | L      | A    | Warning       | Web Applications |
| 48  | I048_WebAppServLoad        | Number of servlets currently loaded for a web application    | L      | AG   | Warning       | Web Applications |
| 49  | I049_WebApServReIRt        | Number of servlets reloaded for a web application per minute | L      | G    | &nbsp;        | Web Applications |

## JDBC Metrics

| ID  | Metric Name                 | Description   | Impact | Type | Severity       | Area |
|-----|-----------------------------|---|--------|------|----------------|------|
| 260 | I260_JDBCConnPoolSize       | Average number of connections in the connection pool  | H      | AR   | Minor          | JDBC |
| 61  | I061_JDBCConPoolWt          | Average number of threads waiting for a connection from connection pools                          | H      | G    | &nbsp;         | JDBC |
| 261 | I261_JDBCConnPoolWaiters    | Average number of threads waiting for a connection from connection pools (drill down)             | H      | AR   | Major Warning  | JDBC |
| 62  | I062_JDBCConPoolWtTm        | Average time that a client waited for a connection in milliseconds                                | M      | G    | &nbsp;         | JDBC |
| 262 | I262_JDBCConnPoolWaitTime   | Average time that a client waited for a connection in milliseconds (drill down)                   | M      | AR   | Major Warning  | JDBC |
| 263 | I263_JDBCConnPoolUtil       | Percentage of connection pool in use  | H      | AR   | Critical Major | JDBC |
| 264 | I264_JDBCConnPoolMaxPct     | Percentage of time that all connections are in use  | H      | A    | Critical Major | JDBC |
| 65  | I065_JDBConPIToutRt         | Number of times a client timed out waiting for a connection from the pool per minute              | L      | G    | &nbsp;         | JDBC |
| 265 | I265_JDBCConnPoolTimeoutRts | Number of times a client timed out waiting for a connection from the pool per minute (drill down) | L      | AR   | Critical       | JDBC |
| 66  | I066_JDBCConPIThru          | Number of connections allocated and returned by applications per second                           | L      | GR   | &nbsp;         | JDBC |
| 266 | I266_JDBCConnPoolThroughput | Number of connections allocated and returned by applications per second (drill down)              | L      | AR   | Warning        | JDBC |

## Transactions Metrics

| ID | Metric Name          | Description  | Impact | Type | Severity | Area         |
|----|----------------------|--|--------|------|----------|--------------|
| 70 | I070_TransGlobDur    | Average duration of global transactions                                | H      | AG   | Warning  | Transactions |
| 71 | I071_TransLocDur     | Average duration of local transactions                                 | H      | AG   | Warning  | Transactions |
| 72 | I072_TrGlbComDurNew  | Average duration of commits for global transactions                    | M      | AG   | Warning  | Transactions |
| 73 | I073_TransLocCommDur | Average duration of commits for local transactions                     | M      | AG   | Warning  | Transactions |
| 74 | I074_TransRollbackRt | Number of global and local transactions rolled back per second         | L      | AG   | Warning  | Transactions |
| 75 | I075_TransTimeoutRt  | Number of global and local transactions that timed out per second      | L      | AG   | Warning  | Transactions |
| 76 | I076_TransCommitRt   | Number of global and local transactions that were committed per second | L      | AG   | Warning  | Transactions |
| 77 | I077_TransThruput    | Number of global and local transactions that were completed per second | L      | R    | &nbsp;   | Transactions |
| 78 | I078_TransStartRt    | Number of global and local transactions that were begun per second     | L      | AG   | Warning  | Transactions |

### Related Topics:

- Golden Metrics
- Metric Naming/Numbering Conventions
- Metric Overhead
- Metrics by Number



- [Monitors](#)
- [Logfiles](#)

# Golden Metrics

Golden metrics are a set of metrics which monitor the basic functionality of your WebSphere Application server. The golden metrics cover the critical areas (such as server status) for which you would like to receive messages as a critical or major event happens on the WebSphere Application server. Implementing golden metrics and taking action against the events generated by these metrics ensure the smooth functioning of the WebSphere Application server.

WebSphere SPI contains the following golden metrics:

| <b>Metric Type</b> | <b>Metric Name</b>                |
|--------------------|-----------------------------------|
| Availability       | Metric I001_ServerStatus          |
| JVM                | Metric I005_JVMMemUtilPct         |
|                    | Metric I006_ClusterStatus         |
| Servlets           | Metric I041_ServSessActSes        |
| Transactions       | Metric I074_TransRollbackRt       |
|                    | Metric I075_TransTimeoutRt        |
| Performance        | Metric I212_ThreadPoolUtilPct     |
| EJB                | Metric I220_EJBPoolUtil           |
|                    | Metric I221_EJBMethRespTime       |
| Web Applications   | Metric I245_WebAppServletReqRt    |
|                    | Metric I247_WebAppServletErrorRt  |
| JDBC               | Metric I261_JDBConnPoolWaiters    |
|                    | Metric I263_JDBConnPoolUtil       |
|                    | Metric I266_JDBConnPoolThroughput |

## Related Topics:

- Metrics
- Monitors
- Logfiles
- Metrics Naming/Numbering Conventions
- Metric Overhead

## Metric I001\_ServerStatus

|   |  |
|---|--|
| <u>Policy Name</u>                        | WBSSPI_0001  |
| <u>Metric Name</u>                        | I001_ServerStatus  |
| <u>Metric Type</u>                        | Alarming   |
| <u>Description</u>                        | Status of a server, monitors whether running or not.   |
| <u>Impact</u>                             | Low  |
| <u>PMI Module</u>                         | JMX MBean  |
| <u>Severity: Condition with Threshold</u> | WBSSPI-0001.1: Critical threshold, 4.5   |
| <u>Collection Interval</u>                | 5m   |
| <u>Message Group</u>                      | WebSphere  |
| <u>Message Text</u>                       | WBSSPI-0001.10: Server status is down<br>[Policy: <\$NAME>]<br>WBSSPI-0001.11: Server status is up<br>[Policy: <\$NAME>]   |
| <u>Instruction Text</u>                   | <b>Probable Cause</b> : The server is not started.<br><b>Potential Impact</b> : Performance monitoring for the server is not possible, and all the deployed applications will not work, until the server is started.<br><b>Suggested Action</b> : Start the server using the WebSphere StartServer script. |
| <u>Report Type</u>                        | N/A  |
| <u>Area</u>                               | Availability   |

## Metric I006\_ClusterStatus

|                                    |   |
|------------------------------------|---|
| Policy Name                        | WBSSPI_0006   |
| Metric Name                        | I006_ClusterStatus  |
| Metric Type                        | Alarming  |
| Description                        | Status of the cluster.  |
| Impact                             | Low   |
| PMI Module                         | jvmRuntimeModule  |
| Severity: Condition with Threshold | WBSSPI-0006.10: Critical threshold, 1.0<br>WBSSPI-0006.20: Major threshold, 2.0   |
| Collection Interval                | 15m   |
| Message Group                      | WebSphere   |
| Message Text                       | WBSSPI-0006.10:Cluster is stopped [Policy: <\$NAME>].<br><br>WBSSPI-0006.11:Cluster is started [Policy: <\$NAME>].<br><br>WBSSPI-0006.20:Cluster is partially stopped [[Policy: <\$NAME>].  |
| Instruction Text                   | <b>Probable Cause</b> : Cluster is stopped.<br><br><b>Potential Impact</b> : The cluster and all servers in this cluster is stopped.<br><br><b>Suggested action</b> : For IBM i and distributed platforms, click <b>Servers</b> → <b>Server Types</b> → <b>WebSphere Application Servers</b> → <server_name >. In the Server Infrastructure section, click <b>Java and process management</b> → <b>Process definition</b> → To restart the cluster from the admin console, click <b>Servers</b> → <b>Clusters</b> → <b>WebSphere Application Servers clusters</b> → <cluster_name > and issue the <code>start</code> command. |

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|             |       |
|-------------|-------|
| Report Type | ASCII |
| Area        | JVM   |

# Metric I074\_TransRollbackRt

|   |   |
|---|---|
| <u>Policy Name</u>                                    | WBSSPI_0074   |
| <u>Metric Name</u>                                    | I074_TransRollbackRt  |
| <u>Metric Type</u>                                    | Alarming and Graphing   |
| <u>Description</u>                                    | Number of global and local transactions rolled back per second.   |
| <u>Impact</u>   | Low   |
| <u>PMI Module</u>                                     | transactionModule   |
| <u>Severity:<br/>Condition<br/>with<br/>Threshold</u> | WBSSPI-0074.1: Warning threshold, 1000  |
| <u>Collection<br/>Interval</u>                        | 5m  |
| <u>Message<br/>Group</u>                              | WebSphere   |
| <u>Message Text</u>                                   | WBSSPI-0074.10: # of global and local transactions rolled back (<\$VALUE>/sec) too high (>=<\$THRESHOLD>/sec) [Policy: <\$NAME>]<br>WBSSPI-0074.11: # of global and local transactions rolled back (<\$VALUE>/sec) is within the threshold (<\$THRESHOLD>/sec) [Policy: <\$NAME>]   |
| <u>Instruction<br/>Text</u>                           | <p><b>Probable Cause</b> : The number of global and local transactions rolled back per second has exceeded a threshold value.</p> <p><b>Potential Impact</b> : This indicates the number of transaction failed, either due to resource contention and deadlock, or due to timeouts. Increased transaction roll backs impacts the application performance.</p> <p><b>Suggested action</b> : This metric includes both global and local transactions. Local transactions are limited to a single server and its associated resource manager. Global transactions are controlled by an external transaction manager and can span multiple servers.</p> |

|                    |  |
|--------------------|--|
|                    | <p>When a transaction commits, all actions associated with that transaction are written to a log. In the event of system problems, those actions are repeated if necessary when the system's recovery mechanism replays the log.</p> <p>When a transaction aborts, any changes made by the transaction are undone. After a transaction is undone (rolled back), the only remaining evidence of the transaction is in the transaction processing system's log.</p> <p>Timeouts associated with transactions usually prevent any one transaction from holding resources at a server for too long. For example, if two transactions are competing for the same resource (one holds a lock on a resource and the other is requesting that lock, and the lock modes conflict), timeouts will eventually abort one of the transactions. The idle timeout will abort a transaction that is inactive too long, and the operation timeout will abort an active transaction that is taking too long.</p> |
| <b>Report Type</b> | ASCII  |
| <b>Area</b>        | Transactions   |



# Metric I075\_TransTimeoutRt

|   |  |
|---|--|
| <u>Policy Name</u>                                    | WBSSPI_0075  |
| <u>Metric Name</u>                                    | I075_TransTimeoutRt  |
| <u>Metric Type</u>                                    | Alarming and Graphing  |
| <u>Description</u>                                    | Number of global and local transactions that timed out per second.   |
| <u>Impact</u>   | Low  |
| <u>PMI Module</u>                                     | transactionModule  |
| <u>Severity:<br/>Condition<br/>with<br/>Threshold</u> | WBSSPI-0075.1: Warning threshold, 1000   |
| <u>Collection<br/>Interval</u>                        | 5m   |
| <u>Message<br/>Group</u>                              | WebSphere  |
| <u>Message Text</u>                                   | WBSSPI-0075.10: # of global and local transactions that timed out (<\$VALUE>/sec) too high (>=<\$THRESHOLD>/sec) [Policy: <\$NAME>]<br>WBSSPI-0075.11: # of global and local transactions that timed out (<\$VALUE>/sec) is within the threshold (<\$THRESHOLD>/sec) [Policy: <\$NAME>]  |
| <u>Instruction<br/>Text</u>                           | <p><b>Probable Cause</b> : The number of global and local transactions that timed out per second has exceeded a threshold value.</p> <p><b>Potential Impact</b> : Timed out transactions result in the rolling back of transactions. Increased number of timed out transactions impacts the performance of the applications.</p> <p><b>Suggested action</b> : This metric includes both global and local transactions. Local transactions are limited to a single server and its associated resource manager. Global transactions are controlled by an external transaction manager and can span multiple servers.</p> |

|                    |  |
|--------------------|--|
|                    | <p>When a transaction commits, all actions associated with that transaction are written to a log. In the event of system problems, those actions are repeated if necessary when the system's recovery mechanism replays the log.</p> <p>When a transaction aborts, any changes made by the transaction are undone. After a transaction is undone (rolled back), the only remaining evidence of the transaction is in the transaction processing system's log.</p> <p>Timeouts associated with transactions usually prevent any one transaction from holding resources at a server for too long. For example, if two transactions are competing for the same resource (one holds a lock on a resource and the other is requesting that lock, and the lock modes conflict), timeouts will eventually abort one of the transactions. The idle timeout will abort a transaction that is inactive too long, and the operation timeout will abort an active transaction that is taking too long.</p> |
| <b>Report Type</b> | ASCII  |
| <b>Area</b>        | Transactions   |

# Metric I245\_WebAppServletReqRt

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0245   |
| <u>Metric Name</u>                                | I245_WebAppServletReqRt   |
| <u>Metric Type</u>                                | Alarming and Reporting  |
| <u>Description</u>                                | Number of requests for a servlet per second (drill down).   |
| <u>Impact</u>                                     | Low   |
| <u>PMI Module</u>                                 | webAppModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0245.1: Warning threshold, 10000   |
| <u>Collection<br/>Interval</u>                    | 1h  |
| <u>Message Group</u>                              | N/A   |
| <u>Message Text</u>                               | WBSSPI-0245.10: Average request rate for a web application servlet (<\$VALUE>/sec) too high (>=<\$THRESHOLD>/sec) [Policy: <\$NAME>]<br>WBSSPI-0245.11: Average request rate for a web application servlet (<\$VALUE>/sec) is within the threshold (<\$THRESHOLD>/sec) [Policy: <\$NAME>]   |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The number of requests for a servlet per second has exceeded a threshold value.</p> <p><b>Potential Impact</b> : As the number of concurrent users for the application increases, the thread pool utilization of the servlet engine also increases and the new requests may not be serviced immediately. This increases the response time of the application.</p> <p><b>Suggested action</b> : Check the application server or servlet engine documentation for information about thread pool and its configurations to handle increased number of concurrent users or requests.</p> |
| <u>Report Type</u>                                | ASCII   |

---

|             |                  |
|-------------|------------------|
| <u>Area</u> | Web Applications |
|-------------|------------------|

# Metric I266\_JDBConnPoolThroughput

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0266   |
| <u>Metric Name</u>                                | I266_JDBConnPoolThroughput  |
| <u>Metric Type</u>                                | Alarming and Reporting  |
| <u>Description</u>                                | Number of connections allocated and returned by applications per second (drill down).   |
| <u>Impact</u>                                     | Low   |
| <u>PMI Module</u>                                 | connectionPoolModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0266.1: Warning, 10000   |
| <u>Collection<br/>Interval</u>                    | 5m  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | WBSSPI-0266.10: # of connections allocated and returned by applications (<\$VALUE>/sec) too high (>=<\$THRESHOLD>/sec) [Policy: <\$NAME>]<br>WBSSPI-0266.11: # of connections allocated and returned by applications (<\$VALUE>/sec) is within the threshold (<\$THRESHOLD>/sec) [Policy: <\$NAME>]   |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The number of connections allocated and returned by applications per second has exceeded a threshold value.</p> <p><b>Potential Impact</b> :</p> <ul style="list-style-type: none"> <li>• This indicates an increased number of JDBC requests.</li> <li>• Results in increase in CPU Usage.</li> </ul> <p><b>Suggested action</b> : To modify or view the JDBC settings, in the administration console, click <b>Resources</b> → <b>JDBC</b> → <b>JDBC providers</b> → <b>&lt;JDBC_provider_name &gt;</b> → <b>Datasources</b> → <b>&lt;datasource_name &gt;</b> → <b>Connection Pools</b> and configure the properties appropriately.</p> |

|                    |       |
|--------------------|-------|
| <b>Report Type</b> | ASCII |
| <b>Area</b>        | JDBC  |

# Metric Naming/Numbering Conventions

The Smart Plug-in for WebSphere Application Server (WebSphere SPI) metrics are identified by a metric name/number. These numbers also appear in the policies and reports (if either exists for the parallel metric). The naming/numbering conventions are as follows:

- *metric names/numbers* : The "I" preceding each metric number designates the metric as an IBM WebSphere SPI metric. WebSphere SPI metrics can then be identified as IXXX, where XXX represents the number assigned to the metric; for example, I005.
- *metric number ranges* : WebSphere SPI metric numbers range from 0000 to 0999

In addition, metrics defined by the user, or User Defined Metrics, range from 0700 to 0799 range and are reserved.

- *report names* : If available for a specific WebSphere SPI metric, the report name is the metric number followed by an underscore and the abbreviated metric name; for example, I005\_JVMMemUtilPct.
- *policy names* : If a policy is available for a metric, the policy name omits the "I" and begins with WBSSPI followed by an underscore and the metric number. Zeroes are used as necessary to total a four-digit number; for example, metric number I005 = policy WBSSPI\_0005

## Metric Specification Description

|             |   |
|-------------|---|
| Policy Name | Always begins with "WBSSPI," followed by the metric number. Within the policy you can change settings as described in the definition; for example, threshold value and severity   |
| Metric Name | The name assigned to the metric.  |
| Metric Type | Shows how the metric is used, such as: <ul style="list-style-type: none"> <li>• <i>Alarming</i> (using policy settings)</li> <li>• <i>Reporting</i> (within a report of the separately purchased HP Reporter)</li> <li>• <i>Graphing</i> (within a graph of the separately purchased HP Performance Manager)</li> </ul> |
| Description | What the metric represents.   |
| Impact      | Overhead cost rating:   |

|                                    |   |
|------------------------------------|---|
|                                    | <ul style="list-style-type: none"> <li>• <i>H (High)</i> : Data counters (metrics) with the highest impact on system performance</li> <li>• <i>M (Medium)</i> : Data counters with moderate impact on system performance</li> <li>• <i>L (Low)</i> : Data counters with nominal impact on system performance</li> </ul> |
| PMI Module                         | PMI module mapped to the metric.  |
| Severity: Condition with Threshold | The severity of the exceeded threshold condition. (Critical, Major, Minor, Warning, Normal). If multiple conditions--for example, graduated thresholds--are defined within the metric, severity levels are identified according to the specific condition.  |
| Collection Interval                | How often the metric is collected and analyzed (for example, 5 min, 15 min, 1 hour, 1 time daily).  |
| Min/Max Threshold                  | Because this setting is the same for all WebSphere metrics, which have maximum thresholds, it is omitted.   |
| Default Threshold                  | Shows the default threshold for metrics with parallel policies. (*=Metrics that should have been assigned a threshold value of 0 are set at 0.5 because alarms must occur at <= or >= values. Since a 0 value would always trigger an alarm, the threshold is set to 0.5).  |
| Threshold Type                     | Because this setting is the same for all WebSphere metrics, which are without reset, it is omitted.   |
| Message Group                      | The message group to which the metric belongs: <ul style="list-style-type: none"> <li>• <i>WBSSPI</i> : conditions occurring in the WebSphere SPI</li> <li>• <i>WebSphere</i> : conditions occurring in WebSphere.</li> </ul>   |
| Message Text                       | The message displayed for each condition.   |
| Instruction Text                   | Problem-solving information (Probable causes, Potential impact, Suggested actions, and Reports).  |
| Report Type                        | Indicates if an ASCII report is available or if no report is planned (N/A).   |
| Area                               | The logical area to which the metric belongs (Availability, JVM, Performance, Servlets, EJB, Servlets, Web Applications, J2C, JDBC, Transactions).  |

### Related Topics:

- Metrics



- [Monitors](#)
- [Logfiles](#)
- [Golden Metrics](#)
- [Metric Overhead](#)
- [Metrics by Number](#)

# Overhead Generated Through Data Collection

All data collection affects performance in some way, with impact varying according to metric (counter). The overhead cost associated with each WebSphere SPI metric is represented with a rating of low, medium, or high. A metric with a low rating involves only a minor performance cost since its calculation requires just a single addition or subtraction. Metrics with medium or high ratings have higher performance impacts. The calculations required for the collected data generally require multiplication, division, or both.

The WebSphere SPI alarming metrics are grouped for deployment in policy groups according to the impact that their data collection has on system performance. The three groups are Low-Impact, Medium-Impact, and High-Impact. All alarming metrics are contained in each group. The collector policies determine which metrics are collected.

When deployed and collected, the Low-Impact group deploys only low impact policies and the collector policies collect only low impact metrics; the Medium-Impact group deploys low and medium impact policies and the collector policies collect low and medium impact metrics; and the High-Impact group deploys all policies and the collector policies collect all metrics.

Click the Metric Number in the metric table to display individual metric details for every WebSphere metric and, when available, its policy settings. For metrics used for reporting or graphing only, no settings exist, hence the setting is labeled “N/A” (not applicable).

## Low Impact Metrics

| Metric Number | Metric Name                       | Metric Type |   |   | PMI Module       |
|---------------|-----------------------------------|-------------|---|---|------------------|
|               |                                   | A           | R | G |                  |
| WBSSPI_0001   | Server Status                     | X           |   |   | JMX MBean        |
| WBSSPI_0002   | Server Status Report              |             | X |   | JMX MBean        |
| WBSSPI_0005   | JVM Memory Utilization            | X           |   |   | jvmRuntimeModule |
| WBSSPI_0006   | Cluster Status                    | X           |   |   | jvmRuntimeModule |
| WBSSPI_0014   | Thread Pool Creation Rate         |             |   | X | threadPoolModule |
| WBSSPI_0022   | EJB Method Calls Rate             |             | X | X | beanModule       |
| WBSSPI_0222   | EJB Method Calls Rate, Drill Down | X           | X |   | beanModule       |

|             |  |   |   |   |                       |
|-------------|--|---|---|---|-----------------------|
| WBSSPI_0024 | EJB Data Loads/Stores Rate                       |   | X | X | beanModule            |
| WBSSPI_0224 | EJB Data Loads/Stores Rate, Drill Down           | X | X |   | beanModule            |
| WBSSPI_0025 | Web Application Servlet Request Rate, Drill Down |   |   | X | beanModule            |
| WBSSPI_0225 | Web Application Servlet Request Rate             |   | X |   | beanModule            |
| WBSSPI_0042 | Server Invalidated Session Rate                  | X |   | X | servletSessionsModule |
| WBSSPI_0045 | Web Application Servlet Request Rate             |   | X | X | webAppModule          |
| WBSSPI_0245 | Web Application Servlet Request Rate, Drill Down | X | X |   | webAppModule          |
| WBSSPI_0047 | Web Application Servlet Error Rate               |   |   | X | webAppModule          |
| WBSSPI_0247 | Web Application Servlet Error Rate               | X |   |   | webAppModule          |
| WBSSPI_0048 | Web Application Servlet Load Rate                | X |   | X | webAppModule          |
| WBSSPI_0049 | Web Application Servlet Reload Rate              |   |   | X | webAppModule          |
| WBSSPI_0065 | JDBC Connection Pool Timeout Rate                |   |   | X | connectionPoolModule  |
| WBSSPI_0265 | JDBC Connection Pool Timeout Rate, Drill Down    | X | X |   | connectionPoolModule  |
| WBSSPI_0066 | JDBC Connection Pool Throughput                  |   | X | X | connectionPoolModule  |
| WBSSPI_0266 | JDBC Connection Pool Throughput                  | X | X |   | connectionPoolModule  |
| WBSSPI_0074 | Transaction Rollback Rate                        | X |   | X | transactionModule     |
| WBSSPI_0075 | Transaction Timeout Rate                         | X |   | X | transactionModule     |
| WBSSPI_0076 | Transaction Commit Rate                          | X |   | X | transactionModule     |
| WBSSPI_0077 | Transaction Throughput                           |   | X |   | transactionModule     |
| WBSSPI_0078 | Transaction Start Rate                           | X |   | X | transactionModule     |
| WBSSPI_0807 | JVM Memory Free Percent                          |   |   | X | jvmRuntimeModule      |
| WBSSPI_0808 | JVM CPU Usage Percent                            |   |   | X | jvmRuntimeModule      |
| WBSSPI_0809 | GCIntervalTime                                   |   |   | X | jvmRuntimeModule      |
| WBSSPI_0810 | Message Backout Rate                             | X | X | X | beanModule            |
| WBSSPI_0811 | Return Discard Rate                              | X | X | X | beanModule            |
| WBSSPI_0812 | Thread Pool Hung Rate                            | X |   | X | threadPoolModule      |

|             |                                   |   |                  |
|-------------|-----------------------------------|---|------------------|
| WBSSPI_0813 | Concurrent Thread Pool Hung Count | X | threadPoolModule |
|-------------|-----------------------------------|---|------------------|

## Medium Impact Metrics

| Metric Number | Metric Name                                | Metric Type |   |   | PMI Module            |
|---------------|--|-------------|---|---|-----------------------|
|               |  | A           | R | G |                       |
| WBSSPI_0221   | EJB Method Response Time                   | X           | X |   | beanModule            |
| WBSSPI_0040   | Servlet Session Average Life               | X           |   | X | servletSessionsModule |
| WBSSPI_0246   | Web Applications Servlet Response Time     | X           | X |   | webAppModule          |
| WBSSPI_0062   | JDBC Connection Pool Wait Time             |             |   | X | connectionPoolModule  |
| WBSSPI_0262   | JDBC Connection Pool Wait Time, Drill Down | X           | X |   | connectionPoolModule  |
| WBSSPI_0072   | Transaction Global Commit Duration         | X           |   | X | transactionModule     |
| WBSSPI_0073   | Transaction Local Commit Duration          | X           |   | X | transactionModule     |
| WBSSPI_0807   | JVM Memory Free Percent                    |             |   | X | jvmRuntimeModule      |
| WBSSPI_0808   | JVM CPU Usage Percent                      |             |   | X | jvmRuntimeModule      |
| WBSSPI_0809   | GCIntervalTime                             |             |   | X | jvmRuntimeModule      |
| WBSSPI_0810   | Message Backout Rate                       | X           | X | X | beanModule            |
| WBSSPI_0811   | Return Discard Rate                        | X           | X | X | beanModule            |
| WBSSPI_0812   | Thread Pool Hung Rate                      | X           |   | X | threadPoolModule      |
| WBSSPI_0813   | Concurrent Thread Pool Hung Count          |             |   | X | threadPoolModule      |
| WBSSPI_0814   | PrdstechdsrdRt                             | X           | X | X | connectionPoolModule  |

## High Impact Metrics

| Metric Number | Metric Name                                | Metric Type |   |   | PMI Module            |
|---------------|--|-------------|---|---|-----------------------|
|               |  | A           | R | G |                       |
| WBSSPI_0210   | Thread Pool Active Threads                 |             | X |   | threadPoolModule      |
| WBSSPI_0211   | Thread Pool Average Size                   |             | X |   | threadPoolModule      |
| WBSSPI_0212   | Thread Pool Utilization Percentage         | X           |   |   | threadPoolModule      |
| WBSSPI_0013   | Thread Pool Percentage Maximum             |             |   | X | threadPoolModule      |
| WBSSPI_0213   | Thread Pool Percentage Maximum, Drill Down | X           |   |   | threadPoolModule      |
| WBSSPI_0020   | EJB Pool Utilization                       |             |   | X | beanModule            |
| WBSSPI_0220   | EJB Pool Utilization, Drill Down           | X           | X |   | beanModule            |
| WBSSPI_0223   | EJB Pool Size                              |             | X |   | beanModule            |
| WBSSPI_0026   | EJB Concurrent Lives                       | X           |   | X | beanModule            |
| WBSSPI_0041   | Servlet Session Active Sessions            | X           | X | X | servletSessionsModule |
| WBSSPI_0260   | JDBC Connection Pool Size                  | X           | X |   | connectionPoolModule  |
| WBSSPI_0061   | JDBC Connection Pool Waiters               |             |   | X | connectionPoolModule  |
| WBSSPI_0261   | JDBC Connection Pool Waiters, Drill Down   | X           | X |   | connectionPoolModule  |
| WBSSPI_0263   | JDBC Connection Pool Utilization           | X           | X |   | connectionPoolModule  |
| WBSSPI_0264   | JDBC Connection Pool Percentage Maximum    | X           |   |   | connectionPoolModule  |
| WBSSPI_0070   | Transaction Global Duration                | X           |   | X | transactionModule     |
| WBSSPI_0071   | Transaction Local Duration                 | X           |   | X | transactionModule     |
| WBSSPI_0809   | GCIntervalTime                             |             |   | X | jvmRuntimeModule      |
| WBSSPI_0811   | Return Discard Rate                        | X           | X | X | beanModule            |
| WBSSPI_0812   | Thread Pool Hung Rate                      | X           |   | X | threadPoolModule      |
| WBSSPI_0813   | Concurrent Thread Pool Hung Count          |             |   | X | threadPoolModule      |
| WBSSPI_0814   | PrdstchdsrdRt                              | X           | X | X | connectionPoolModule  |

## PMI Modules Not Used

The following PMI modules are not used by the SPI (PMI module settings should be set to N, none, for these modules):

- [cacheModule](#)
- [orbPerfModule](#)
- [systemModule](#)
- [webServicesModule](#)

**Related Topics:**

- [Metrics](#)
- [Monitors](#)
- [Logfiles](#)
- [Golden Metrics](#)
- [Metrics Naming/Numbering Conventions](#)
- [Metrics by Number](#)

# Metrics by Number

| 1 - 26 | 40 - 66 | 70 - 78 | 210 - 225 | 245 - 266 | 807 - 814 |
|--------|---------|---------|-----------|-----------|-----------|
| I001   | I040    | I070    | I210      | I245      | I807      |
| I002   | I041    | I071    | I211      | I246      | I808      |
| I005   | I042    | I072    | I212      | I247      | I809      |
| I006   | I045    | I073    | I213      | I260      | I810      |
| I013   | I047    | I074    | I220      | I261      | I811      |
| I014   | I048    | I075    | I221      | I262      | I812      |
| I020   | I049    | I076    | I222      | I263      | I813      |
| I022   | I061    | I077    | I223      | I264      | I814      |
| I024   | I062    | I078    | I224      | I265      |           |
| I025   | I065    |         | I225      | I266      |           |
| I026   | I066    |         |           |           |           |
|        |         |         |           |           |           |

## Related Topics:

- Metrics
- Monitors
- Logfiles
- Golden Metrics
- Metrics Naming/Numbering Conventions
- Metric Overhead

## Metric I002\_ServerStatusRep

|                                    |   |
|------------------------------------|---|
| Policy Name                        | N/A--Used for reporting (HP Reporter) only. |
| Metric Name                        | I002_ServerStatusRep                        |
| Metric Type                        | Reporting                                   |
| Description                        | Status of a server--reporting.              |
| Impact                             | Low   |
| PMI Module                         | JMX MBean                                   |
| Severity: Condition with Threshold | N/A   |
| Collection Interval                | 5m  |
| Message Group                      | WebSphere                                   |
| Message Text                       | N/A   |
| Instruction Text                   | N/A   |
| Report Type                        | N/A   |
| Area                               | Availability                                |



## Metric I003\_AdminServerStat

|                                    |  |
|------------------------------------|--|
| Policy Name                        | WBSSPI_0003  |
| Metric Name                        | I003_AdminServerStat   |
| Metric Type                        | Alarming   |
| Description                        | Status of the Admin server.  |
| Impact                             | Low  |
| PMI Module                         | WAS 4.x Specific   |
| Severity: Condition with Threshold | WBSSPI-0003.1: Critical threshold, 4.5   |
| Collection Interval                | 5m   |
| Message Group                      | WebSphere  |
| Message Text                       | WBSSPI-0003.1: Admin Server status is down<br>[Policy: <\$NAME>]                           |
| Instruction Text                   | <b>Probable Cause</b> : NA<br><b>Potential Impact</b> : NA<br><b>Suggested Action</b> : NA |
| Report Type                        | N/A  |
| Area                               | Availability   |

## Metric I004\_AdminServerStatusRep

|                                    |   |
|------------------------------------|---|
| Policy Name                        | N/A--Used for reporting (HP Reporter) only. |
| Metric Name                        | I004_AdminServerStatusRep                   |
| Metric Type                        | Reporting                                   |
| Description                        | Status of the Admin Server-reporting.       |
| Impact                             | Low   |
| PMI Module                         | WAS 4.x Specific                            |
| Severity: Condition with Threshold | N/A   |
| Collection Interval                | 5m  |
| Message Group                      | WebSphere                                   |
| Message Text                       | N/A   |
| Instruction Text                   | N/A   |
| Report Type                        | N/A   |
| Area                               | Availability                                |

## Metric I013\_ThreadPoolPctMax

|                                    |   |
|------------------------------------|---|
| Policy Name                        | N/A--Used for reporting (HP Reporter) only.                                   |
| Metric Name                        | I013_ThreadPoolPctMax   |
| Metric Type                        | Graphing  |
| Description                        | Percentage of time number of threads in pool reached configured maximum size. |
| Impact                             | High  |
| PMI Module                         | threadPoolModule  |
| Severity: Condition with Threshold | N/A   |
| Collection Interval                | 15m   |
| Message Group                      | N/A   |
| Message Text                       | N/A   |
| Instruction Text                   | N/A   |
| Report Type                        | N/A   |
| Area                               | Performance   |

## Metric I014\_ThrdPoolCrtRt

|                                    |   |
|------------------------------------|---|
| Policy Name                        | N/A--Used for reporting (HP Reporter) only. |
| Metric Name                        | I014_ThrdPoolCrtRt                          |
| Metric Type                        | Graphing                                    |
| Description                        | Number of threads created per minute.       |
| Impact                             | Low   |
| PMI Module                         | threadPoolModule                            |
| Severity: Condition with Threshold | N/A   |
| Collection Interval                | 15m   |
| Message Group                      | N/A   |
| Message Text                       | N/A   |
| Instruction Text                   | N/A   |
| Report Type                        | N/A   |
| Area                               | Performance                                 |

## Metric I020\_EJBPoolUtil

|                                    |   |
|------------------------------------|---|
| Policy Name                        | N/A--Used for reporting (HP Reporter) only. |
| Metric Name                        | I020_EJBPoolUtil                            |
| Metric Type                        | Graphing                                    |
| Description                        | Percentage of active beans in the pool.     |
| Impact                             | High  |
| PMI Module                         | beanModule                                  |
| Severity: Condition with Threshold | N/A   |
| Collection Interval                | 1h  |
| Message Group                      | N/A   |
| Message Text                       | N/A   |
| Instruction Text                   | N/A   |
| Report Type                        | N/A   |
| Area                               | EJB   |

## Metric I022\_EJBMethCallsRt

|                                    |  |
|------------------------------------|--|
| Policy Name                        | N/A—Used for graphing (HP Performance Manager) and reporting (HP Reporter) only. |
| Metric Name                        | I022_EJBMethCallsRt  |
| Metric Type                        | Graphing and Reporting   |
| Description                        | Number of EJB method calls per minute.   |
| Impact                             | Low  |
| PMI Module                         | beanModule   |
| Severity: Condition with Threshold | N/A  |
| Collection Interval                | 5m   |
| Message Group                      | N/A  |
| Message Text                       | N/A  |
| Instruction Text                   | N/A  |
| Report Type                        | N/A  |
| Area                               | EJB  |

## Metric I024\_EJBEntDataLdStRt

|                                    |  |
|------------------------------------|--|
| Policy Name                        | N/A—Used for graphing (HP Performance Manager) and reporting (HP Reporter) only. |
| Metric Name                        | I024_EJBEntDataLdStRt  |
| Metric Type                        | Graphing and Reporting   |
| Description                        | Number of times an EJB was written to or loaded from the database per minute.    |
| Impact                             | Low  |
| PMI Module                         | beanModule   |
| Severity: Condition with Threshold | N/A  |
| Collection Interval                | 5m   |
| Message Group                      | N/A  |
| Message Text                       | N/A  |
| Instruction Text                   | N/A  |
| Report Type                        | N/A  |
| Area                               | EJB  |

## Metric I025\_EJBPoolMissPct

|                                    |  |
|------------------------------------|--|
| Policy Name                        | N/A—Used for graphing (HP Performance Manager) only.                       |
| Metric Name                        | I025_EJBPoolMissPct  |
| Metric Type                        | Graphing   |
| Description                        | Average percentage of time a call to retrieve an EJB from the pool failed. |
| Impact                             | Low  |
| PMI Module                         | beanModule   |
| Severity: Condition with Threshold | Warning: WBSSPI-0025.1, threshold 10.                                      |
| Collection Interval                | 5m   |
| Message Group                      | N/A  |
| Message Text                       | N/A  |
| Instruction Text                   | N/A  |
| Report Type                        | N/A  |
| Area                               | EJB  |



## Metric I026\_EJBConcLives

|                                    |  |
|------------------------------------|--|
| Policy Name                        | WBSSPI_0026  |
| Metric Name                        | I026_EJBConcLives  |
| Metric Type                        | Alarming and Graphing  |
| Description                        | Average number of bean objects in the pool.  |
| Impact                             | High   |
| PMI Module                         | beanModule   |
| Severity: Condition with Threshold | WBSSPI-0026.1: Warning threshold, 1000   |
| Collection Interval                | 5m   |
| Default Threshold                  | 10   |
| Message Group                      | WebSphere  |
| Message Text                       | <p>WBSSPI-0026.10: Average # of bean objects in the pool (&lt;\$VALUE&gt;) too high (&gt;=&lt;\$THRESHOLD&gt;) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0026.11: Average # of bean objects in the pool (&lt;\$VALUE&gt;) is within the threshold (&lt;\$THRESHOLD&gt;) [Policy: &lt;\$NAME&gt;]</p>  |
| Instruction Text                   | <p><b>Probable Cause</b> : The average number of bean objects in the pool has exceeded a threshold value.</p> <p><b>Potential Impact</b> : The pool is coming close to being full. Once the pool is full, it lowers the performance of the applications.</p> <p><b>Suggested action</b> : Modify the thread pool settings accordingly :</p> <p>In the administrative console page, click <b>Servers</b> → <b>Server Types</b> → <b>WebSphere Application Servers</b> → <b>&lt;server &gt;</b> → <b>EJB Container Settings</b> → <b>EJB Container</b> .</p> |

---

|             |       |
|-------------|-------|
| Report Type | ASCII |
| Area        | EJB   |

# Metric I045\_WebApServReqRt

|   |  |
|---|--|
| <u>Policy Name</u>                        | WBSSPI_0045                                  |
| <u>Metric Name</u>                        | I045_WebApServReqRt                          |
| <u>Metric Type</u>                        | Graphing and Reporting                       |
| <u>Description</u>                        | Number of requests for a servlet per second. |
| <u>Impact</u>                             | Low  |
| <u>PMI Module</u>                         | webAppModule                                 |
| <u>Severity: Condition with Threshold</u> | N/A  |
| <u>Collection Interval</u>                | 1h   |
| <u>Message Group</u>                      | WebSphere                                    |
| <u>Message Text</u>                       | N/A  |
| <u>Instruction Text</u>                   | N/A  |
| <u>Report Type</u>                        | N/A  |
| <u>Area</u>                               | Web Applications                             |

# Metric I047\_WebAppServErRt

|   |  |
|---|--|
| <u>Policy Name</u>                        | N/A—Used for graphing (HP Performance Manager) only. |
| <u>Metric Name</u>                        | I047_WebAppServErRt                                  |
| <u>Metric Type</u>                        | Graphing   |
| <u>Description</u>                        | Number of errors in a servlet per second.            |
| <u>Impact</u>                             | Low  |
| <u>PMI Module</u>                         | webAppModule   |
| <u>Severity: Condition with Threshold</u> | N/A  |
| <u>Collection Interval</u>                | 1h   |
| <u>Message Group</u>                      | N/A  |
| <u>Message Text</u>                       | N/A  |
| <u>Instruction Text</u>                   | N/A  |
| <u>Report Type</u>                        | N/A  |
| <u>Area</u>                               | Web Applications                                     |

# Metric I048\_WebAppServLoad

|                                    |  |
|------------------------------------|--|
| Policy Name                        | N/A—Used for graphing (HP Performance Manager) only.   |
| Metric Name                        | I048_WebAppServLoad  |
| Metric Type                        | Alarming and Graphing  |
| Description                        | Number of servlets currently loaded for a web application.   |
| Impact                             | Low  |
| PMI Module                         | webAppModule   |
| Severity: Condition with Threshold | WBSSPI-0048.1: Warning threshold, 100  |
| Collection Interval                | 1h   |
| Message Group                      | N/A  |
| Message Text                       | <p>WBSSPI-0048.10: # of servlets currently loaded for a web application (&lt;\$VALUE&gt;) too high (&gt;=&lt;\$THRESHOLD&gt;) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0048.11: # of servlets currently loaded for a web application (&lt;\$VALUE&gt;) is within the threshold (&lt;\$THRESHOLD&gt;) [Policy: &lt;\$NAME&gt;]</p>  |
| Instruction Text                   | <p><b>Probable Cause :</b> The number of servlets currently loaded for a web application has exceeded a threshold value.</p> <p><b>Potential Impact :</b> Loading a large number of servlets may increase the CPU usage and affect the performance</p> <p><b>Suggested action :</b></p> <p><i>Web Applications</i></p> <p>You can also set parameters specific to each Web application you deploy. The settings can affect performance.</p> <p><i>Servlet Reload Interval and Reloading Enabled</i></p> <p>Short description: WebSphere Application Server offers an auto reload capability. The default automatically reloads</p> |

servlets in the Web application when the class files change.

The auto reload capability can simplify the testing and management of your Web site's applications by enabling you to quickly modify your site without restarting the WebSphere Application Server. (Be sure that your Reload Interval is short). However, this ability to reload servlets dynamically and the associated polling affects performance negatively. When the application's resources (such as servlets and enterprise beans) are fully deployed, it is not as necessary to aggressively reload these resources as during development.

**When to try adjusting:** When you are in a stable production mode, you need to either set a long Reload Interval or disable Reloading. For a production system, it is common to reload resources only a few times a day.

**How to see or set:**

The Reload Interval and Reloading Enabled can be set for your application by using the Application Assembler from the administrative console. When creating a new Web module, these parameters can be configured by selecting the IBM Extensions and:

1. Unchecking the Reloading Enabled box.
2. Updating the Reload Interval field.

**Default value:** Reload Interval = three seconds Reloading Enabled=true

**How to see or set:**

The Reload Interval and Reloading Enabled can be set. In the administrative console page, click **Applications** → **Application Types** → **Enterprise Applications** → **<application\_name>** → **Class loader** and modify the "Class reloading options".

|             |                  |
|-------------|------------------|
| Report Type | ASCII            |
| Area        | Web Applications |

## Metric I049\_WebApServRelRt

|                                    |   |
|------------------------------------|---|
| Policy Name                        | N/A—Used for graphing (HP Performance Manager) only.          |
| Metric Name                        | I049_WebApServRelRt   |
| Metric Type                        | Graphing  |
| Description                        | Number of servlets reloaded for a web application per minute. |
| Impact                             | Low   |
| PMI Module                         | webAppModule  |
| Severity: Condition with Threshold | N/A   |
| Collection Interval                | 1h  |
| Message Group                      | WebSphere   |
| Message Text                       | N/A   |
| Instruction Text                   | N/A   |
| Report Type                        | N/A   |
| Area                               | Web Applications  |

## Metric I061\_JDBCConPoolWt

|                                    |   |
|------------------------------------|---|
| Policy Name                        | N/A—Used for graphing (HP Performance Manager) only.                      |
| Metric Name                        | I061_JDBCConPoolWt  |
| Metric Type                        | Graphing  |
| Description                        | Average number of threads waiting for a connection from connection pools. |
| Impact                             | High  |
| PMI Module                         | connectionPoolModule  |
| Severity: Condition with Threshold | Warning: WBSSPI-0061.1, threshold 100                                     |
| Collection Interval                | 5m  |
| Message Group                      | WebSphere   |
| Message Text                       | N/A   |
| Instruction Text                   | N/A   |
| Report Type                        | ASCII   |
| Area                               | JDBC  |



## Metric I062\_JDBConPoolWtTm

|   |   |
|---|---|
| <u>Policy Name</u>                        | N/A—Used for graphing (HP Performance Manager) only.                |
| <u>Metric Name</u>                        | I062_JDBConPoolWtTm   |
| <u>Metric Type</u>                        | Graphing  |
| <u>Description</u>                        | Average time that a client waited for a connection in milliseconds. |
| <u>Impact</u>                             | Medium  |
| <u>PMI Module</u>                         | connectionPoolModule  |
| <u>Severity: Condition with Threshold</u> | N/A   |
| <u>Collection Interval</u>                | 5m  |
| <u>Message Group</u>                      | N/A   |
| <u>Message Text</u>                       | N/A   |
| <u>Instruction Text</u>                   | N/A   |
| <u>Report Type</u>                        | N/A   |
| <u>Area</u>                               | JDBC  |

## Metric I065\_JDBConPIToutRt

|   |   |
|---|---|
| <u>Policy Name</u>                        | N/A—Used for graphing (HP Performance Manager) only.                                  |
| <u>Metric Name</u>                        | I065_JDBConPIToutRt   |
| <u>Metric Type</u>                        | Graphing  |
| <u>Description</u>                        | Number of times a client timed out waiting for a connection from the pool per minute. |
| <u>Impact</u>                             | Low   |
| <u>PMI Module</u>                         | connectionPoolModule  |
| <u>Severity: Condition with Threshold</u> | N/A   |
| <u>Collection Interval</u>                | 5m  |
| <u>Message Group</u>                      | N/A   |
| <u>Message Text</u>                       | N/A   |
| <u>Instruction Text</u>                   | N/A   |
| <u>Report Type</u>                        | ASCII   |
| <u>Area</u>                               | JDBC  |

## Metric I066\_JDBConPIThru

|   |  |
|---|--|
| <u>Policy Name</u>                        | N/A—Used for graphing (HP Performance Manager) and reporting (HP Reporter) only. |
| <u>Metric Name</u>                        | I066_JDBConPIThru  |
| <u>Metric Type</u>                        | Graphing and Reporting   |
| <u>Description</u>                        | Number of connections allocated and returned by applications per second.         |
| <u>Impact</u>                             | Low  |
| <u>PMI Module</u>                         | connectionPoolModule   |
| <u>Severity: Condition with Threshold</u> | N/A  |
| <u>Collection Interval</u>                | 5m   |
| <u>Message Group</u>                      | N/A  |
| <u>Message Text</u>                       | N/A  |
| <u>Instruction Text</u>                   | N/A  |
| <u>Report Type</u>                        | N/A  |
| <u>Area</u>                               | JDBC   |

# Metric I070\_TransGlobDur

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0070   |
| <u>Metric Name</u>                                | I070_TransGlobDur   |
| <u>Metric Type</u>                                | Alarming and Graphing   |
| <u>Description</u>                                | Average duration of global transactions.  |
| <u>Impact</u>                                     | High  |
| <u>PMI Module</u>                                 | transactionModule   |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0070.1: Warning threshold, 1000  |
| <u>Collection<br/>Interval</u>                    | 5m  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | WBSSPI-0070.10: Average duration of a global transaction (<\$VALUE>ms) too high (>=<\$THRESHOLD>ms) [Policy: <\$NAME>]<br>WBSSPI-0070.11: Average duration of a global transaction (<\$VALUE>ms) is within the threshold (<\$THRESHOLD>ms) [Policy: <\$NAME>]   |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The average duration of global transactions has exceeded a threshold value.</p> <p><b>Potential Impact</b> : Transaction durations indicate the server load and/or resource contentions.</p> <p><b>Suggested action</b> : Use this metric to monitor the server load over time. Slower transaction durations may indicate either increased server load or increased resource contention or both.</p> <p>WebSphere keeps transaction performance data separately for global and local transactions. Local transactions are limited to a single server and its associated resource manager. Global transactions are controlled by an external transaction manager and can span multiple servers.</p> |

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|                    |              |
|--------------------|--------------|
| <b>Report Type</b> | ASCII        |
| <b>Area</b>        | Transactions |

# Metric I071\_TranLocDur

|   |  |
|---|--|
| <u>Policy Name</u>                                | WBSSPI_0071  |
| <u>Metric Name</u>                                | I071_TranLocDur  |
| <u>Metric Type</u>                                | Alarming and Graphing  |
| <u>Description</u>                                | Average duration of local transactions.  |
| <u>Impact</u>                                     | High   |
| <u>PMI Module</u>                                 | transactionModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0071.1: Warning threshold, 1000   |
| <u>Collection<br/>Interval</u>                    | 5m   |
| <u>Message Group</u>                              | WebSphere  |
| <u>Message Text</u>                               | WBSSPI-0071.10: Average duration of a local transaction (<\$VALUE>ms) too high (>=<\$THRESHOLD>ms) [Policy: <\$NAME>]<br>WBSSPI-0071.11: Average duration of a local transaction (<\$VALUE>ms) is within the threshold (<\$THRESHOLD>ms) [Policy: <\$NAME>]  |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The average duration of local transactions has exceeded a threshold value.</p> <p><b>Potential Impact</b> : Transaction durations indicate the server load and/or resource contentions.</p> <p><b>Suggested action</b> : Use this metric to monitor the server load over time. Slower transaction durations may indicate either increased server load or increased resource contention or both.</p> <p>WebSphere keeps transaction performance data separately for global and local transactions. Local transactions are limited to a single server and its associated resource manager. Global transactions are controlled by an external transaction manager and can span multiple servers.</p> |

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|                    |              |
|--------------------|--------------|
| <b>Report Type</b> | ASCII        |
| <b>Area</b>        | Transactions |

# Metric I072\_TrGlbComDurNew

|   |  |
|---|--|
| <u>Policy Name</u>                                | WBSSPI_0072  |
| <u>Metric Name</u>                                | I072_TrGlbComDurNew  |
| <u>Metric Type</u>                                | Alarming and Graphing  |
| <u>Description</u>                                | Average duration of commits for global transactions.   |
| <u>Impact</u>                                     | Medium   |
| <u>PMI Module</u>                                 | transactionModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0072.1: Warning threshold, 1000   |
| <u>Collection<br/>Interval</u>                    | 5m   |
| <u>Message Group</u>                              | WebSphere  |
| <u>Message Text</u>                               | WBSSPI-0072.10: Average duration of a commit for a global transaction (<\$VALUE>ms) too high (>=<\$THRESHOLD>ms) [Policy: <\$NAME>]<br>WBSSPI-0072.11: Average duration of a commit for a global transaction (<\$VALUE>ms) is within the threshold (<\$THRESHOLD>ms) [Policy: <\$NAME>]  |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The average duration of commits for global transactions has exceeded a threshold value.</p> <p><b>Potential Impact</b> : Transaction commit durations indicate the server load and/or resource contentions.</p> <p><b>Suggested action</b> : Use this metric to monitor the server load over time. Slower transaction durations may indicate either increased server load or increased resource contention or both.</p> <p>WebSphere keeps transaction performance data separately for global and local transactions. Local transactions are limited to a single server and its associated resource manager. Global transactions are controlled by an external transaction manager and can span multiple servers.</p> |



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|                    |              |
|--------------------|--------------|
| <b>Report Type</b> | ASCII        |
| <b>Area</b>        | Transactions |

# Metric I073\_TransLocCommDur

|   |   |
|---|---|
| <u>Policy Name</u>                                | WBSSPI_0073   |
| <u>Metric Name</u>                                | I073_TransLocCommDur  |
| <u>Metric Type</u>                                | Alarming and Graphing   |
| <u>Description</u>                                | Average duration of commits for local transactions.   |
| <u>Impact</u>                                     | Medium  |
| <u>PMI Module</u>                                 | transactionModule   |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0073.1: Warning threshold, 1000  |
| <u>Collection<br/>Interval</u>                    | 5m  |
| <u>Message Group</u>                              | WebSphere   |
| <u>Message Text</u>                               | WBSSPI-0073.10: Average duration of a commit for a local transaction (<\$VALUE>ms) too high (>=<\$THRESHOLD>ms) [Policy: <\$NAME>]<br>WBSSPI-0073.11: Average duration of a commit for a local transaction (<\$VALUE>ms) is within the threshold (<\$THRESHOLD>ms) [Policy: <\$NAME>]   |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The average duration of commits for local transactions has exceeded a threshold value.</p> <p><b>Potential Impact</b> : Transaction commit durations indicate the server load and/or resource contentions.</p> <p><b>Suggested action</b> : Use this metric to monitor the server load over time. Slower transaction durations may indicate either increased server load or increased resource contention or both.</p> <p>WebSphere keeps transaction performance data separately for global and local transactions. Local transactions are limited to a single server and its associated resource manager. Global transactions are controlled by an external transaction manager and can span multiple servers.</p> |

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|                    |              |
|--------------------|--------------|
| <b>Report Type</b> | ASCII        |
| <b>Area</b>        | Transactions |

# Metric I076\_TransCommitRt

|   |  |
|---|--|
| <u>Policy Name</u>                                | WBSSPI_0076  |
| <u>Metric Name</u>                                | I076_TransCommitRt   |
| <u>Metric Type</u>                                | Alarming and Graphing  |
| <u>Description</u>                                | Number of global and local transactions that were committed per second.  |
| <u>Impact</u>                                     | Low  |
| <u>PMI Module</u>                                 | transactionModule  |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0076.1: Warning threshold, 1000   |
| <u>Collection<br/>Interval</u>                    | 5m   |
| <u>Message Group</u>                              | WebSphere  |
| <u>Message Text</u>                               | WBSSPI-0076.10: # of global and local transactions that were committed (<\$VALUE>/sec) too high (>=<\$THRESHOLD>/sec) [Policy: <\$NAME>]<br>WBSSPI-0076.11: # of global and local transactions that were committed (<\$VALUE>/sec) is within the threshold (<\$THRESHOLD>/sec) [Policy: <\$NAME>]  |
| <u>Instruction Text</u>                           | <p><b>Probable Cause</b> : The number of global and local transactions that were committed per second has exceeded a threshold value.</p> <p><b>Potential Impact</b> : Increased number of committed transactions impacts the performance of the applicaiton.</p> <p><b>Suggested action</b> : This metric indicates the rate (number per second) of transactions that are successfully committed on the server. Use this information for capacity planning.</p> <p>This metric includes both global and local transactions. Local transactions are limited to a single server and its associated resource manager. Global transactions are controlled by an external transaction manager and can span multiple servers.</p> |

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|                    |              |
|--------------------|--------------|
| <b>Report Type</b> | ASCII        |
| <b>Area</b>        | Transactions |

# Metric I077\_TransThruput

|   |   |
|---|---|
| <u>Policy Name</u>                        | WBSSPI_0077   |
| <u>Metric Name</u>                        | I077_TransThruput   |
| <u>Metric Type</u>                        | Reporting   |
| <u>Description</u>                        | Number of global and local transactions that were committed per second. |
| <u>Impact</u>                             | Low   |
| <u>PMI Module</u>                         | transactionModule   |
| <u>Severity: Condition with Threshold</u> | N/A   |
| <u>Collection Interval</u>                | 5m  |
| <u>Message Group</u>                      | N/A   |
| <u>Message Text</u>                       | N/A   |
| <u>Instruction Text</u>                   | N/A   |
| <u>Report Type</u>                        | N/A   |
| <u>Area</u>                               | Transactions  |

# Metric I078\_TransStartRt

|   |  |
|---|--|
| <u>Policy Name</u>                        | WBSSPI_0078  |
| <u>Metric Name</u>                        | I078_TransStartRt  |
| <u>Metric Type</u>                        | Alarming and Graphing  |
| <u>Description</u>                        | Number of global and local transactions that were started per second.  |
| <u>Impact</u>                             | Low  |
| <u>PMI Module</u>                         | transactionModule  |
| <u>Severity: Condition with Threshold</u> | WBSSPI-0078.1: Warning threshold, 1000   |
| <u>Collection Interval</u>                | 5m   |
| <u>Message Group</u>                      | WebSphere  |
| <u>Message Text</u>                       | WBSSPI-0078.10: # of global and local transactions that were begun (<\$VALUE>/sec) too high (>=<\$THRESHOLD>/sec) [Policy: <\$NAME>]<br>WBSSPI-0078.11: # of global and local transactions that were begun (<\$VALUE>/sec) is within the threshold (<\$THRESHOLD>/sec) [Policy: <\$NAME>]  |
| <u>Instruction Text</u>                   | <b>Probable Cause</b> : The number of global and local transactions that were begun per second has exceeded a threshold value.<br><br><b>Potential Impact</b> : Increased number of transactions impacts the performance of the server.<br><br><b>Suggested action</b> : This metric indicates the rate (number per second) of transactions that are begun on this server. Use this information for capacity planning. |
| <u>Report Type</u>                        | ASCII  |
| <u>Area</u>                               | Transactions   |

# Metric I210\_ThreadPoolActThreads

|   |   |
|---|---|
| <u>Policy Name</u>                        | N/A--Used for reporting (HP Reporter) only.     |
| <u>Metric Name</u>                        | I210_ThreadPoolActThreads                       |
| <u>Metric Type</u>                        | Reporting                                       |
| <u>Description</u>                        | Number of concurrently active threads in a pool |
| <u>Impact</u>                             | High  |
| <u>PMI Module</u>                         | threadPoolModule                                |
| <u>Severity: Condition with Threshold</u> | N/A   |
| <u>Collection Interval</u>                | 15m   |
| <u>Message Group</u>                      | N/A   |
| <u>Message Text</u>                       | N/A   |
| <u>Instruction Text</u>                   | N/A   |
| <u>Report Type</u>                        | N/A   |
| <u>Area</u>                               | Performance                                     |



# Metric I211\_ThreadPoolAveSize

|   |   |
|---|---|
| <u>Policy Name</u>                        | N/A--Used for reporting (HP Reporter) only. |
| <u>Metric Name</u>                        | I211_ThreadPoolAveSize                      |
| <u>Metric Type</u>                        | Reporting                                   |
| <u>Description</u>                        | Average number of threads in a pool         |
| <u>Impact</u>                             | High  |
| <u>PMI Module</u>                         | threadPoolModule                            |
| <u>Severity: Condition with Threshold</u> | N/A   |
| <u>Collection Interval</u>                | 15m   |
| <u>Message Group</u>                      | N/A   |
| <u>Message Text</u>                       | N/A   |
| <u>Instruction Text</u>                   | N/A   |
| <u>Report Type</u>                        | N/A   |
| <u>Area</u>                               | Performance                                 |

## Metric I223\_EJBPoolSize

|   |  |
|---|--|
| <u>Policy Name</u>                        | N/A—Used for reporting (HP Reporter) only. |
| <u>Metric Name</u>                        | I223_EJBPoolSize                           |
| <u>Metric Type</u>                        | Reporting                                  |
| <u>Description</u>                        | Average size of the EJB pool.              |
| <u>Impact</u>                             | High                                       |
| <u>PMI Module</u>                         | beanModule                                 |
| <u>Severity: Condition with Threshold</u> | N/A  |
| <u>Collection Interval</u>                | 5m   |
| <u>Message Group</u>                      | N/A  |
| <u>Message Text</u>                       | N/A  |
| <u>Instruction Text</u>                   | N/A  |
| <u>Report Type</u>                        | N/A  |
| <u>Area</u>                               | EJB  |

The metric WBSSPI\_0223 returns a valid value only if Entity Beans are present in the application(s) deployed on the WebSphere Application Server(s).

## Metric I225\_EJBPoolMissPct

|   |   |
|---|---|
| <u>Policy Name</u>                        | N/A   |
| <u>Metric Name</u>                        | I225_EJBPoolMissPct   |
| <u>Metric Type</u>                        | Reporting   |
| <u>Description</u>                        | Average percentage of time a call to retrieve an EJB from the pool failed (drill down). |
| <u>Impact</u>                             | Low   |
| <u>PMI Module</u>                         | beanModule  |
| <u>Severity: Condition with Threshold</u> | N/A   |
| <u>Collection Interval</u>                | 5m  |
| <u>Default Threshold</u>                  | 10  |
| <u>Message Group</u>                      | WebSphere   |
| <u>Message Text</u>                       | N/A   |
| <u>Instruction Text</u>                   | N/A   |
| <u>Report Type</u>                        | N/A   |
| <u>Area</u>                               | EJB   |

The metric WBSSPI\_0225 returns a valid value only if Entity Beans are present in the application(s) deployed on the WebSphere Application Server(s).

# Metric I260\_JDBCConnPoolSize

|   |  |
|---|--|
| <u>Policy Name</u>                                | WBSSPI_0260  |
| <u>Metric Name</u>                                | I260_JDBCConnPoolSize  |
| <u>Metric Type</u>                                | Alarming and Reporting   |
| <u>Description</u>                                | Average number of connections in the connection pool.  |
| <u>Impact</u>                                     | High   |
| <u>PMI Module</u>                                 | connectionPoolModule   |
| <u>Severity:<br/>Condition with<br/>Threshold</u> | WBSSPI-0260.1: Minor, 100  |
| <u>Collection<br/>Interval</u>                    | 5m   |
| <u>Message Group</u>                              | WebSphere  |
| <u>Message Text</u>                               | WBSSPI-0260.10: Average # of connections in the connection pool (<\$VALUE>) too high (>=<\$THRESHOLD>) [Policy: <\$NAME>]<br>WBSSPI-0260.11: Average # of connections in the connection pool (<\$VALUE>) is within the threshold (<\$THRESHOLD>) [Policy: <\$NAME>]  |
| <u>Instruction Text</u>                           | <p><b>Probable Cause :</b> The average number of connections in the connection pool has exceeded a threshold value.</p> <p><b>Potential Impact :</b></p> <ul style="list-style-type: none"> <li>• Connection pool saturation condition may occur.</li> <li>• Applications may block on connection objects.</li> </ul> <p><b>Suggested action :</b></p> <ul style="list-style-type: none"> <li>• To fix a saturated thread pool, keep changing the pool size in steps until number of blocked applications is significantly reduced.</li> <li>• To modify or view the JDBC settings, in the administration console click</li> </ul> |

|                    |   |
|--------------------|---|
|                    | <b>Resources → JDBC → JDBC providers → &lt;JDBC_provider_name &gt; →<br/>Data sources → Default Datasource → Connection pools .</b> |
| <u>Report Type</u> | ASCII   |
| <u>Area</u>        | JDBC  |

## Metric I807\_JVMMemFreePct

|                                    |  |
|------------------------------------|--|
| Policy Name                        | WBSSPI_0807                            |
| Metric Name                        | I807_JVMMemFreePct                     |
| Metric Type                        | Graphing                               |
| Description                        | Percent of JVM Free Memory available . |
| Impact                             | Medium and Low                         |
| PMI Module                         | jvmRuntimeModule                       |
| Severity: Condition with Threshold | N/A                                    |
| Collection Interval                | 15m                                    |
| Message Group                      | WebSphere                              |
| Message Text                       | N/A                                    |
| Instruction Text                   | N/A                                    |
| Report Type                        | N/A                                    |
| Area                               | JVM                                    |

## Metric I808\_JVMCpuUsagePct

|                                    |  |
|------------------------------------|--|
| Policy Name                        | WBSSPI_0808                                |
| Metric Name                        | I808_JVMCpuUsagePct                        |
| Metric Type                        | Graphing                                   |
| Description                        | The CPU Usage of the Java virtual machine. |
| Impact                             | Medium and Low                             |
| PMI Module                         | jvmRuntimeModule                           |
| Severity: Condition with Threshold | N/A  |
| Collection Interval                | 15m  |
| Message Group                      | WebSphere                                  |
| Message Text                       | N/A  |
| Instruction Text                   | N/A  |
| Report Type                        | N/A  |
| Area                               | JVM  |

## Metric I809\_GCIntervalTime

|                                    |  |
|------------------------------------|--|
| Policy Name                        | WBSSPI_0809  |
| Metric Name                        | I809_GCIntervalTime  |
| Metric Type                        | Graphing   |
| Description                        | The average garbage collection value in seconds between two garbage collections. . |
| Impact                             | High, Medium, and Low  |
| PMI Module                         | jvmRuntimeModule   |
| Severity: Condition with Threshold | N/A  |
| Collection Interval                | 1h   |
| Message Group                      | WebSphere  |
| Message Text                       | N/A  |
| Instruction Text                   | N/A  |
| Report Type                        | N/A  |
| Area                               | JVM  |



# Metric I812\_ThrdPoolHungRt

|                                    |  |
|------------------------------------|--|
| Policy Name                        | WBSSPI_0812  |
| Metric Name                        | I812_ThrdPoolHungRt  |
| Metric Type                        | Alarming and Graphing  |
| Description                        | The rate at which the threads are declared hung.   |
| Impact                             | High, Medium, and Low  |
| PMI Module                         | threadPoolModule   |
| Severity: Condition with Threshold | WBSSPI-0812.1: Warning threshold, 10   |
| Collection Interval                | 15m  |
| Message Group                      | WebSphere  |
| Message Text                       | <p>WBSSPI-0812.10: The rate at which the threads are declared hung (&lt;\$VALUE&gt;/min) too high (&gt;=&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p> <p>WBSSPI-0812.11: The rate at which the threads are declared hung (&lt;\$VALUE&gt;/min) is within the threshold (&lt;\$THRESHOLD&gt;/min) [Policy: &lt;\$NAME&gt;]</p>  |
| Instruction Text                   | <p><b>Probable Cause</b> : The rate at which the threads are declared hung has exceeded a threshold value.</p> <p><b>Potential Impact</b> : A hung thread can result from a simple software defect (such as an infinite loop) or a more complex cause (for example, a resource deadlock). System resources, such as CPU time, might be consumed by this hung transaction when threads run unbounded code paths, such as when the code is running in an infinite loop. Alternately, a system can become unresponsive even though all resources are idle, as in a deadlock scenario.</p> <p><b>Suggested action</b> : Check the code for hung thread scenarios and fix them.</p> |

---

|             |            |
|-------------|------------|
| Report Type | N/A        |
| Area        | ThreadPool |

## Metric I813\_CcrtThdPIHngCt

|                                    |   |
|------------------------------------|---|
| Policy Name                        | WBSSPI_0813                               |
| Metric Name                        | I813_CcrtThdPIHngCt                       |
| Metric Type                        | Graphing                                  |
| Description                        | The number of concurrently hung threads . |
| Impact                             | High, Medium, and Low                     |
| PMI Module                         | threadPoolModule                          |
| Severity: Condition with Threshold | N/A                                       |
| Collection Interval                | High - 1h, Med - 15m                      |
| Message Group                      | WebSphere                                 |
| Message Text                       | N/A                                       |
| Instruction Text                   | N/A                                       |
| Report Type                        | N/A                                       |
| Area                               | ThreadPool                                |

# Data Store Table for WebSphere Application Server

The WebSphere SPI creates the following data tables for WebSphere AS SPI metrics in the data store on the node to facilitate the data-collection procedure.

| Table Name   | Area                                 | Metric Description   | Column Name                            |
|--|--------------------------------------|--|--|
| WBSSPI_RPT_METRICS   | Server                               | Status of a server-reporting   | I002_ServerStatusRep                   |
| WBSSPI_METRICS   | JVM                                  | Percentage of heap space used in the JVM                                     | I005_JVMMemUtilPct                     |
|  | ThreadPool                           | Percentage of time number of threads in pool reached configured maximum size | I013_ThrdPoolPctMax                    |
|  |                                      | Number of threads created per minute   | I014_ThrdPoolCrtRt                     |
|  | WBSSPI_METRICS<br>WBSSPI_RPT_METRICS | EJB  | Percentage of active beans in the pool |
| Number of EJB method calls per minute  |                                      |  | I022_EJBMethCallsRt                    |
| Number of times an EJB was written to or loaded from the database per minute |                                      |  | I024_EJBEntDtLdStRt                    |
| Average percentage of time a call to retrieve an EJB from the pool failed    |                                      |  | I025_EJBPoolMissPct                    |

|                                      |           |  |  |
|--------------------------------------|-----------|--|--|
| WBSSPI_METRICS                       |           | Average number of bean objects in the pool   | I026_EJBConcLives  |
|                                      |           | Average servlet session lifetime in milliseconds                                     | I040_ServSessAveLfe  |
| WBSSPI_METRICS<br>WBSSPI_RPT_METRICS |           | Number of sessions currently being accessed  | I041_ServSessActSes  |
| WBSSPI_METRICS                       |           | Number of sessions being invalidated per second                                      | I042_ServInvSessRt   |
| WBSSPI_METRICS<br>WBSSPI_RPT_METRICS | WebModule | Number of requests for a servlet per second  | I045_WebApServReqRt  |
|                                      |           | Number of errors in a servlet per second   | I047_WebAppServErRt  |
|                                      |           | Number of servlets currently loaded for a web application                            | I048_WebAppServLoad  |
|                                      |           | Number of servlets reloaded for a web application per minute                         | I049_WebApServRelRt  |
|                                      |           |  | Average number of threads waiting for a connection from connection pools |
|                                      |           | Average time that a client waited for a connection in milliseconds                   | I062_JDBConPoolWtTm  |
|                                      |           | Number of times a client timed out waiting for a connection from the pool per minute | I065_JDBConPIToutRt  |
| WBSSPI_METRICS                       |           |  |  |

|                                      |      |   |                      |
|--------------------------------------|------|---|----------------------|
| WBSSPI_METRICS<br>WBSSPI_RPT_METRICS |      | Number of connections allocated and returned by applications per second | I066_JDBCConPIThru   |
| WBSSPI_METRICS                       | JDBC | Average duration of global transactions                                 | I070_TransGlobDur    |
|                                      |      | Average duration of local transactions                                  | I071_TransLocDur     |
|                                      |      | Average duration of commits for global transactions                     | I072_TrGlbComDurNew  |
|                                      |      | Average duration of commits for local transactions                      | I073_TransLocCommDur |
|                                      |      | Number per second of global and local transactions rolled back          | I074_TransRollbackRt |
|                                      |      | Number per second of timed out global and local transactions            | I075_TransTimeoutRt  |
|                                      |      | Number per second of global and local transactions that were committed  | I076_TransCommitRt   |
| WBSSPI_METRICS<br>WBSSPI_RPT_METRICS |      | Number per second of global and local transactions that were committed  | I077_TransThroughput |
| WBSSPI_METRICS                       |      | Number per second of global and local transactions that were started    | I078_TransStartRt    |
|                                      |      | Average number of   |                      |

|                    |            |   |                            |
|--------------------|------------|---|----------------------------|
| WBSSPI_RPT_METRICS | ThreadPool | Number of concurrently active threads in a pool   | I210_ThreadPoolActThreads  |
|                    |            | Average number of threads in a pool   | I211_ThreadPoolAveSize     |
|                    | EJB        | Percentage of active beans in the pool (drill down)                                       | I220_EJBPoolUtil           |
|                    |            | Average EJB response time in milliseconds   | I221_EJBMethRespTime       |
|                    |            | Number of EJB method calls per minute (drill down)  | I222_EJBMethodCallsRate    |
|                    |            | Average size of the EJB pool  | I223_EJBPoolSize           |
|                    |            | Number of times an EJB was written to or loaded from the database per minute (drill down) | I224_EJBEntDataLdStRt      |
|                    |            | Average percentage of time a call to retrieve an EJB from the pool failed (drill down)    | I225_EJBPoolMissPct        |
|                    | WebModule  | Number of requests for a servlet per second (drill down)                                  | I245_WebAppServletReqRt    |
|                    |            | Average response time in milliseconds for a servlet                                       | I246_WebAppServletRespTime |
|                    |            |   | Average number of          |

|                |      |   |                             |
|----------------|------|---|-----------------------------|
|                |      | connections in the connection pool  | I260_JDBCConnPoolSize       |
|                |      | Average # of threads waiting for a connection from connection pools (drill down)                          | I261_JDBCConnPoolWaiters    |
|                | JDBC | Average time that a client waited for a connection in msec (drill down)                                   | I262_JDBCConnPoolWaitTime   |
|                |      | % of connection pool in use   | I263_JDBCConnPoolUtil       |
|                |      | # of times a client timed out waiting for a connection from the pool per minute (drill down)              | I265_JDBCConnPoolTimeoutRts |
|                |      | # of connections allocated and returned by applications   | I266_JDBCConnPoolThroughput |
| WBSSPI_METRICS | JVM  | Percent of JVM Free Memory available  | I807_JVMMemFreePct          |
|                |      | The CPU Usage of the Java virtual machine   | I808_JVMCpuUsagePct         |
|                |      | The average garbage collection value in seconds between two garbage collections                           | I809_GCIntervalTime         |
| WBSSPI_METRICS | EJB  | The rate at which the messages failed to be delivered to the bean onMessage method (message driven beans) | I810_MsgBackoutRate         |



|                                      |            |   |                     |
|--------------------------------------|------------|---|---------------------|
| WBSSPI_RPT_METRICS                   |            | The rate at which the returning object was discarded because the pool was full (entity and stateless)                     | I811_ReturnDiscrdRt |
| WBSSPI_METRICS                       | ThreadPool | The rate at which the threads are declared hung   | I812_ThrdPoolHungRt |
|                                      |            | The number of concurrently hung threads   | I813_CcrtThdPIHngCt |
| WBSSPI_METRICS<br>WBSSPI_RPT_METRICS | JDBC       | The rate at which the prepared statements are discarded by the least recently used (LRU) algorithm of the statement cache | I814_PrdstcchdsrdRt |

### Related Topics:

- Metrics
- JBoss AS SPI Golden Metrics
- JBSSPI Logfiles
- JBSSPI Policies

# Monitors

Smart Plug-in for WebSphere Application Server (WebSphere SPI) Monitors policy group contains:

- collector policies
- WBSSPI-ConfigCheck policy
- WBSSPI-Performance policy

## Collector Policies

Collector policies control what metrics are collected by running the collector/analyzer at the specified polling interval and defining the metrics that are collected.

| Impact | Collector Policy Name | Polling Interval | Metrics Collected   |
|--------|-----------------------|------------------|---|
| High   | WBSSPI-High-05min     | 5m               | 1-2, 22, 24, 26, 61-2, 65-6, 70-6, 78, 221-5, 260-6       |
|        | WBSSPI-High-15m       | 14m              | 5, 13-4, 210-3, 811-12, 814                               |
|        | WBSSPI-High-1h        | 59m              | 20 40-2, 45, 47-9, 220, 245-7, 809, 813                   |
| Medium | WBSSPI-Medium-05m     | 5m               | 1-2, 22, 24, 62, 65-6, 72-6, 78, 221-2, 224-5, 262, 265-6 |
|        | WBSSPI-Medium-15m     | 14m              | 5, 14, 807-8, 810-14                                      |
|        | WBSSPI-Medium-1h      | 59m              | 40, 42, 45, 47-9, 245-7, 809                              |
| Low    | WBSSPI-Low-05m        | 5m               | 1-2, 22, 24, 65-6, 74-6, 78, 222, 224-5, 265              |
|        | WBSSPI-Low-15m        | 14m              | 5-6, 14, 807-8, 810-14                                    |
|        | WBSSPI-Low-1h         | 59m              | 42, 45, 47-9, 245, 247, 809                               |

## WBSSPI-ConfigCheck

WBSSPI-ConfigCheck is a single policy that checks if the managed node is configured.

## WBSSPI-Performance

WBSSPI-Performance is a single policy that logs performance data.

**Related Topics:**

- [Metrics](#)
- [Logfiles](#)
- [Golden Metrics](#)
- [Metric Naming/Numbering Conventions](#)
- [Metrics Overhead](#)
- [Metrics by Number](#)

# Logfiles

The Smart Plug-in for WebSphere Application Server (WebSphere SPI) logfile policies monitor WebSphere-generated and WebSphere SPI-generated logfiles. The information captured from these logfiles includes changes to WebSphere configurations and errors that occur in the operation of WebSphere Application Server or WebSphere SPI.

| <b>Logfiles Policy Name</b>                 | <b>Description</b>  |
|---|---|
| WBSSPI Error Log                            | Monitors the WebSphere SPI error log and sends the error messages to the message browser. |
| WebSphere Activity Log via JMX Notification | Monitors the WebSphere activity log file.   |
| WebSphere Text Logs                         | Detects critical errors and warnings in the WebSphere log file.                           |
| WBSSPI Java Discovery Error Log             | Monitors the WBSSPI Java Discovery error log.   |
| WBSSPI Java Collector Error Log             | Monitors the WBSSPI Java Discovery error log.   |

## Related Topics:

- Metrics
- Monitors
- Policies
- Golden Metrics
- Metric Naming/Numbering Conventions
- Metrics by Number
- Metrics Overhead

# WBSSPI Error Log

This logfile policy monitors the WBSSPI log file located at  
%OvAgentdir%\wasspi\wbs\log\wasspi\_per1.log .

|                         |   |
|-------------------------|---|
| <b>Description</b>      | Monitors the WebSphere SPI error log and sends critical errors to the message browser.                              |
| <b>Polling Interval</b> | 30s   |
| <b>Help Text</b>        | Refer to the specific error message listed in WebSphere SPI error messages for information about the error message. |

# WebSphere Activity Log via JMX Notification

|                         |   |
|-------------------------|---|
| <u>Description</u>      | Monitors the WebSphere activity log file.   |
| <u>Polling Interval</u> | 30s   |
| <u>Severity</u>         | Critical<br>Warning   |
| <u>Message Group</u>    | WebSphere   |
| <u>Help Text</u>        | <p><b>Probable Cause :</b></p> <p>Critical - A message with the indicator "ERROR" or "FATAL" was detected in the WebSphere activity log.</p> <p>Warning - A message with the indicator "WARNING" or any non-critical message was detected in the WebSphere activity log.</p> <p><b>Suggested Action :</b> Refer to the WebSphere documentation (manuals or online help) for more information about the error.</p> |

# WebSphere Text Logs

|                         |   |
|-------------------------|---|
| <u>Description</u>      | Detects critical errors and warnings in the WebSphere log file.   |
| <u>Polling Interval</u> | 30s   |
| <u>Severity</u>         | Critical<br>Warning<br>Normal   |
| <u>Message Group</u>    | WebSphere   |
| <u>Help Text</u>        | <p><b>Probable Cause :</b></p> <p>Critical - A message with the indicator "ERROR" or "FATAL" was detected in the WebSphere log file.</p> <p>Warning - A message with the indicator "WARNING" was detected in the WebSphere log file.</p> <p>Normal - A message with the indicator "INFORMATIONAL" or "AUDIT" was detected in the WebSphere log file.</p> <p><b>Suggested Action :</b> Refer to the WebSphere documentation (manuals or online help) for more information about the error.</p> |

# WBSSPI Java Discovery Error Log

This logfile policy monitors the WBSSPI discovery error log file located at  
%OvAgentdir%\wasspi\wbs\log\Discovery.log .

|                         |  |
|-------------------------|--|
| <b>Description</b>      | Monitors the WBSSPI Java Discovery Error Log.  |
| <b>Polling Interval</b> | 30s  |
| <b>Severity</b>         | Normal<br>Major<br>Critical<br>Warning   |
| <b>Message Group</b>    | WBSSPI   |
| <b>Help Text</b>        | Available for each error as detected: WASSPI-1 through WASSPI-241. For detailed help text for all error messages, see the specific error message listed in WebSphere SPI error messages for information about the error message. |



# WBSSPI Java Collector Error Log

This logfile policy monitors the WBSSPI collector error log file located at  
%OvAgentdir%\wasspi\wbs\log\Collector.log .

|                         |  |
|-------------------------|--|
| <b>Description</b>      | Monitors the WBSSPI Java Collector Error Log.  |
| <b>Polling Interval</b> | 30s  |
| <b>Severity</b>         | Normal<br>Major<br>Critical<br>Warning   |
| <b>Message Group</b>    | WBSSPI   |
| <b>Help Text</b>        | Available for each error as detected: WASSPI-1 through WASSPI-241. For detailed help text for all error messages, see the specific error message listed in WebSphere SPI error messages for information about the error message. |

# Configuration editor

The Smart Plug-in for WebSphere Application Server (WebSphere SPI) maintains a configuration that consists of property value assignments. The configuration editor is a graphical user interface used to view and edit the configuration.

The configuration editor is used by the Discover or Configure WBSSPI tool.

## **Related Topics:**

- [The configuration](#)
- [Using the configuration editor](#)
- [Example configurations](#)
- [Configuration properties](#)

# Configuration editor- getting started

The Smart Plug-in for WebSphere Application Server (WebSphere SPI) maintains a configuration that consists of property value assignments.

On the HPOM management server, the configuration maintains information for your entire environment and contains information for all WebSphere servers on all managed nodes.

On a managed node, the configuration contains only information for the WebSphere servers running on that node. This information is extracted from the configuration on the management server.

## Structure

The structure of the configuration is (lines beginning with "#" are treated as comments and ignored):

```
# Global Properties

  <config_property >=<value > ...

# GROUP Block

GROUP <group_name >
{
  <nodename > ...
}

# NODE Block

NODE [<group_name > | <nodename >]
{
  <config_property >=<value > ...
}
```

- **Global Properties**

```
# Global Properties

  <config_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.

Using the configuration editor, view, set, or edit global properties by selecting the Default Properties item in the Defaults folder.

- **GROUP Block**

```
# GROUP Block

GROUP <group_name >
{
    <nodename > ...
}
```

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 file, the last definition takes precedence.

<nodename > lists the nodes in the group and is the primary node names configured in HPOM.

Set the common properties 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 [<group_name > | <nodename >]
{
    <config_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 <nodename > (to set properties for a single node).

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

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

<nodename > is the primary node name configured in HPOM.

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>\_config\_property* refers to a specific WebSphere server instance. When more than one WebSphere server is running on a given managed node, the number *<n>* differentiates the servers. Numbering begins at "1" and each WebSphere server instance is assigned a unique number.

Using the configuration editor, view, set, or edit server-specific properties by selecting the *<Application\_Server\_Name>* item in the Application Servers folder.

## Configuration property precedence

The order of precedence of properties defined in the configuration file are:

1. *SERVER<n>\_config\_property* (server-specific)
2. *NODE nodename* block *config\_property*
3. *NODE group\_name* block *config\_property*
4. Global *config\_property*

## Primary node name

The *<nodename >* specified in a GROUP and NODE block is the primary node name configured in HPOM. To display the primary node name, do the following:

1. From the HPOM console, select **Operations Manager** → **Nodes** .
2. Right-click the node and select **Properties** .
3. Select the **Network** tab.

## Configuration location

The location of the configuration file is listed for your convenience. Edit the configuration using the configuration editor only.

- **Management server**

*<ShareInstallDir>* \SPI-Share\wasspi\wbs\conf\SiteConfig

where *<ShareInstallDir>* by default is `C:\Documents and Settings\All Users\Application Data\HP\HP BTO Software\shared`

This file contains all configuration information for all managed nodes on which WebSphere is running.

- **Windows managed node**

*<OvAgentDir>* `\wasspi\wbs\conf\SiteConfig`

where *<AgentDir>* is typically `\Program Files\HP\HP BTO Software\` (for HTTPS managed nodes)

or

`C:\Program Files\HP OpenView\Installed Packages\{790C06B4-844E-11D2-972B-080009EF8C2A}` (for DCE managed nodes)

This file contains the local configuration information for this managed node on which WebSphere is running.

- **Unix managed node**

*<OvAgentDir>* `/conf/wbsspi/SiteConfig`

where *<OvAgentDir>* is typically `/var/opt/OV/` or `/var/lpp/OV/`

This file contains the local configuration information for this managed node on which WebSphere is running.

### **Related Topics:**

- Using the configuration editor
- Example configurations
- Configuration properties

# Components of configuration editor

The configuration editor is provided by the Smart Plug-in for WebSphere Application Server (WebSphere SPI) to view and edit the configuration. You must update the configuration using this editor only.

The configuration editor has three components:

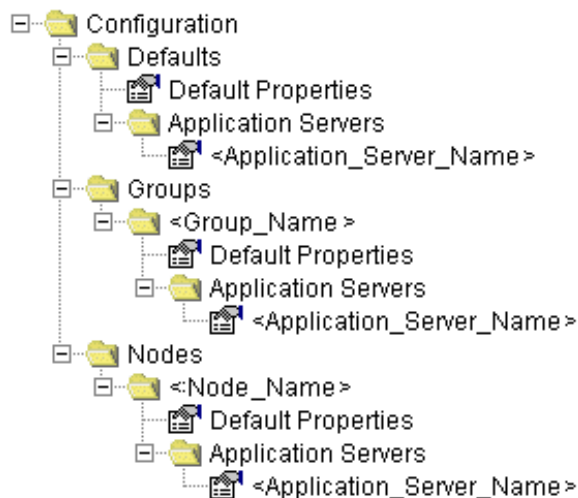
- **The configuration editor - Tree**


The Configuration Editor - Tree, displayed in the left pane of the Discover or Configure WBSSPI Tool main window, displays the WebSphere SPI configuration file in a tree structure.

The following is an example of the tree.

 **NOTE:**

If no application servers or groups are configured, the "Application Servers" and "Groups" folders are not displayed. If you are running Discover or Configure WBSSPI for the first time and you did not select any nodes when you launched the tool, the "Nodes" folder is not displayed.



The  icon denotes that you can view configuration properties.

The  icon denotes that you can view and set configuration properties.

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










| Item Name                  | Description  |
|----------------------------|--|
| Application Servers        | A folder that contains a list of all the application servers. This folder can appear under Defaults (global properties level ), Group_Name(s) (GROUP level ), or Node_Name(s) (NODE level ). |
| <Application_Server_Name > | The server name as defined in WebSphere.   |
| Configuration              | A folder that contains all WebSphere SPI configuration information for the WebSphere environment.  |
| Default Properties         | Lists the configuration properties that have been set. This item appears under Defaults (global properties level ), Group_Name(s) (GROUP level ), or Node_Name(s) (NODE level ).             |
| Defaults                   | A folder that represents the global properties level .   |
| Groups                     | A folder that represents the GROUP level .   |
| <Group_Name >              | A folder that identifies the name of a group of nodes with common properties.  |
| Nodes                      | A folder that represents the NODE level .  |
| <Node_Name >               | A folder that represents a single node whose name must match the primary node name configured in HPOM.   |

- **Actions to perform**

Actions that you can perform depend on the item that is selected in the tree. The following actions are available either using the Actions menu or by right-clicking on an item in the tree.

In the table below, click the action for a more detailed description (if available) of how to perform that action.



| Action   | Description   | Selected Tree Item   |
|--|---|--|
| Add Application Server                           | Add an application server.  |  Application Servers<br> Defaults<br> <Group_Name ><br> <Node_Name > |
| Add Group  | Create a group to which you can assign nodes that have common properties.   |  Any item in the tree<br> Any item in the tree   |
| Add Node   | Add a managed node to the Nodes folder.   |  Any item in the tree<br> Any item in the tree   |
| Exit   | Exit the Discover or Configure WBSSPI tool. This action is available from the File menu. If any changes were made that have not been saved, the "Confirm Cancel" window displays. |  Any item in the tree<br> Any item in the tree   |
| Remove Application Server/Remove ALL App Servers | Remove an application server or all listed application servers.   |  Application Servers<br> <Application_Server_Name ><br>>   |
| Remove Group/Remove ALL Groups                   | Remove a WebSphere SPI group or all listed WebSphere SPI groups.  |  Groups<br> <Group_Name >   |
| Remove Node/Remove ALL Nodes                     | Remove a managed node or remove all managed nodes.  |  Nodes<br> <Node_Name >  |
| Save   | Save changes to the configuration file. This action is available from the File menu only if changes were made to the configuration file.  |  Any item in the tree<br> Any item in the tree   |
| Set Configuration Properties tab                 | Set WebSphere SPI configuration properties.   |  <Application_Server_Name ><br>><br> Default Properties  |
| View Configuration Settings tab                  | View WebSphere SPI configuration properties.  |  Any item in the tree<br> Any item in the tree   |

- **The configuration editor buttons**

The following buttons are available in Discover or Configure WBSSPI:

| Button | Description  |
|--------|--|
| Cancel | <p>Exit Discover or Configure WBSSPI.</p> <p>If you have set configuration properties without saving them, these changes are not saved.</p> <p>If you added or removed an application server, node, or group without saving the change or if you have modified a configuration property, a "Confirm Cancel" window displays. Select <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 file (changes are not saved).</p>                                    |
| Finish | <p>Exit Discover or Configure WBSSPI. Appears instead of the <b>Next</b> button if you launched Discover or Configure WBSSPI without selecting any nodes.</p>  |
| Next   | <p>Exit Discover or Configure WBSSPI. Takes you to the "Confirm Operation" window that lists the nodes you selected when Discover or Configure WBSSPI was started. The selected managed nodes' configuration files 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 file, but to make the changes to those managed node's configuration file, you must restart Discover or Configure WBSSPI, select those nodes, and then exit.</p> |
| Save   | <p>Save changes to the HPOM management server's configuration file and continue editing the configuration file. You may also select <b>File</b> → <b>Save</b> to save your changes.</p>  |

### Related Topics:

- The configuration
- Example configurations
- Configuration properties

# Add Application Server

Add an application server at the global properties , GROUP , or NODE level in the WebSphere SPI configuration file.

To add an application server, do the following:

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

The "Configure WBSSPI Tool: Add App Server" window displays.

2. Enter the "Application Server Name." This is the name of the application server as defined in WebSphere and is case-sensitive.
3. Enter the "Server Port."

If the "Use inherited Server Port" check box is selected, you may not enter a port number in the "Server Port" field.

4. If available, select the "Use inherited Server Port: XXX " check box if you want to use the specified port number ("XXX ").

If the PORT property is not set, the check box is not available.

If you do NOT want to use the specified port number, unselect the check box and enter a port number in the "Server Port" field.

If you select the check box, you may not enter a port number in the "Server Port" field.

The specified port number is determined by the value set for the PORT property at the global properties , GROUP , and NODE level.

## **If the PORT property is set at the global properties level ...**

WebSphere SPI uses this same port number on all nodes and groups for all WebSphere version 4 administrative servers or for all WebSphere version 5 application servers. For WebSphere version 5, if there is more than one application server per node, only one server can use the inherited server port. You must edit the PORT property for the other application servers.

## **If the PORT property is set at the GROUP level ...**

WebSphere SPI uses this same port number for the group for all WebSphere version 4 administrative servers or for all WebSphere version 5 application servers. For WebSphere version 5, if there is more than one application server per node in the group, only one server can use the inherited server port. The PORT property must be edited for the other application servers.

The port number set at the GROUP level takes precedence over the port number set at the global properties level.

#### **If the PORT property is set at the NODE level ...**

WebSphere SPI uses this same port number for that node for all WebSphere version 4 administrative servers or for all WebSphere version 5 application servers. For WebSphere version 5, if there is more than one application server per node, only one server can use the inherited server port. The PORT property must be edited for the other application servers.

The port number set at the NODE level takes precedence over the port number set at the global properties level.

#### 5. Select **OK** .

The NAME and PORT properties are set.

The application server is added and its properties are displayed. You may also set additional configuration properties for this server. Refer to Set Configuration Properties tab for more information.

#### 6. Select **Save** to save your changes.

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

#### **Related Topics:**

- Add Group
- Add Node
- Remove Application Server/Remove ALL App Servers
- Remove Group/Remove ALL Groups
- Remove Node/Remove ALL Nodes
- Set Configuration Properties tab
- View Configuration Settings tab

- Using the configuration editor

# Add Group

Assign nodes to a group that have common properties in the WebSphere SPI configuration file.

To add a group, do the following:

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

The "Configure WBSSPI Tool: Add Group" window displays.

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

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

4. Select **Add Node to Group** , select one node from the list to add to the group, and then select **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. Refer to Set Configuration Properties tab for more information.
6. Select **Save** to save your changes.

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

## Related Topics:

- Add Application Server
- Add Node
- Remove Application Server/Remove ALL App Servers
- Remove Group/Remove ALL Groups
- Remove Node/Remove ALL Nodes
- Set Configuration Properties tab
- View Configuration Settings tab
- Using the configuration editor



# Add Node

Add a managed node to the WebSphere SPI configuration file.

To add a node, do the following:

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

If no additional managed nodes are available to add to the configuration file, the message "All available managed nodes have been added to the configuration." displays. Click **OK** to exit this action.

Otherwise, the "Configure WBSPI Tool: Add Node" window displays.

2. From the pulldown menu, select a node to add.
3. Select **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. Refer to Set Configuration Properties tab for more information.
5. Select **Save** to save your changes.

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

## Related Topics:

- Add Application Server
- Add Group
- Remove Application Server/Remove ALL App Servers
- Remove Group/Remove ALL Groups
- Remove Node/Remove ALL Nodes
- Set Configuration Properties tab
- View Configuration Settings tab
- Using the configuration editor





# Remove Application Server/Remove ALL App Servers

Remove a WebSphere server or all listed WebSphere servers from the WebSphere SPI configuration file.

To remove an application server, do the following:

1. Right-click the application server name and select **Remove Application Server** .

The selected application server name is removed from the list and its configuration properties are removed from the configuration file.

2. Select **Cancel** to cancel the removal of the application server (the application server name appears the next time you run Discover or Configure WBSSPI). In the "Confirm Cancel" window, select **Exit without Save** .

Otherwise, select **Save** to permanently remove the application server.

To remove ALL application servers, do the following:

1. Right-click the Application Servers folder and select **Remove ALL App Servers** .

The selected Application Servers folder and all application servers listed in the selected folder are removed (all configuration properties for the listed application servers are removed from the configuration file).

2. Select **Cancel** to cancel the removal of all application servers (the Application Servers folder and all application server names listed in the folder appear the next time you run Discover or Configure WBSSPI). In the "Confirm Cancel" window, select **Exit without Save** .

Otherwise, select **Save** to permanently remove the application servers.

## Related Topics:

- Add Application Server
- Add Group
- Add Node
- Remove Group/Remove ALL Groups

- Remove Node/Remove ALL Nodes
- Set Configuration Properties tab
- View Configuration Settings tab
  
- Using the configuration editor

# Remove Group/Remove ALL Groups

Remove a WebSphere SPI group or all listed WebSphere SPI groups from the WebSphere SPI configuration file.

To remove a group, do the following:

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 file.

2. Select **Cancel** to cancel the removal of the group (the group name appears the next time you run Discover or Configure WBSSPI). In the "Confirm Cancel" window, select **Exit without Save** .

Otherwise, select **Save** to permanently remove the group.

To remove ALL groups, do the following:

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

The selected Groups folder and all groups listed in the selected folder are removed (all configuration properties for the listed groups are removed from the configuration file).

2. Select **Cancel** to cancel the removal of all groups (the Groups folder and all group names listed in the folder appear the next time you run Discover or Configure WBSSPI). In the "Confirm Cancel" window, select **Exit without Save** .

Otherwise, select **Save** to permanently remove the groups.

## Related Topics:

- Add Application Server
- Add Group
- Add Node
- Remove Application Server/Remove ALL App Servers
- Remove Node/Remove ALL Nodes
- Set Configuration Properties tab

- View Configuration Settings tab
- Using the configuration editor

# Remove Node/Remove ALL Nodes

Remove a managed node or all listed managed nodes from the WebSphere SPI configuration file.

To remove a node, do the following:

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 file.

2. Select **Cancel** to cancel the removal of the node (the node name appears the next time you run Discover or Configure WBSSPI). In the "Confirm Cancel" window, select **Exit without Save** .

Otherwise, select **Save** to permanently remove the node.

To remove ALL nodes, do the following:

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 file).

2. Select **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 Discover or Configure WBSSPI). In the "Confirm Cancel" window, select **Exit without Save** .

Otherwise, select **Save** to permanently remove the nodes.


## Related Topics:

- Add Application Server
- Add Group
- Add Node
- Remove Application Server/Remove ALL App Servers
- Remove Group/Remove ALL Groups
- Set Configuration Properties tab
- View Configuration Settings tab

- Using the configuration editor

# Set Configuration Properties tab

Set WebSphere SPI configuration properties at the global properties level or for the selected application server(s), group(s) (GROUP level ), or node(s) (NODE level ).

Items with the  icon are the only items for which you can set the configuration properties (Default Properties and *<Application\_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 file, do the following:

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 - 3 for each property to set.
5. Click **Save** .

### NOTE:

For the `LOGIN` and `PASSWORD` properties, when you select **Set Property** , a separate window displays. Enter the login and password values in this window.

For more information about individual properties, refer to Configuration properties .

## Modifying a property

To modify a property (except `LOGIN` ) in the configuration file, do the following:

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



5. Click **Save** .

To modify the `LOGIN` property in the configuration file, do the following:

1. Select `LOGIN/PASSWORD` from the "Select a Property to add" pulldown menu.
2. Select **Set Property** . The "Set Access Info for Default Properties" window displays.
3. Enter the new password and verify password.
4. Click **OK** .
5. Click **Save** .

For more information about individual properties, refer to Configuration properties .

## Removing a property

To remove a property from the configuration file, do the following:

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

### Related Topics:

- Add Application Server
- Add Group
- Add Node
- Remove Application Server/Remove ALL App Servers
- Remove Group/Remove ALL Groups
- Remove Node/Remove ALL Nodes
- View Configuration Settings tab
  
- Using the configuration editor

# View Configuration Settings tab

View all WebSphere SPI configuration properties set in the configuration file on the HPOM management server or the WebSphere SPI configuration properties for the selected application 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   |
|----------------------------|---|
| Application Servers        | View all configuration properties set for all the listed application servers.   |
| <Application_Server_Name > | View all configuration properties set for the application server (these properties can be modified by selecting the Set Configuration Properties tab ). |
| Configurations             | View all configuration properties saved in the configuration file on the HPOM management server.  |
| Default Properties         | View all set configuration properties (these properties can be modified by selecting the Set Configuration Properties tab )                             |
| Defaults                   | View all configuration properties set at the global properties level .  |
| Groups                     | View all configuration properties set for all the listed groups.  |
| <Group_Name >              | View all configuration properties set for the specific group.   |
| Nodes                      | View all configuration properties set for all 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, it 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

#### **Related Topics:**

- Add Application Server
- Add Group
- Add Node
- Remove Application Server/Remove ALL App Servers
- Remove Group/Remove ALL Groups
- Remove Node/Remove ALL Nodes
- Set Configuration Properties tab
  
- Using the configuration editor

# Example Configurations

The sample Smart Plug-in for WebSphere Application Server (WebSphere SPI) configuration files illustrate various features and utilization methods. Lines preceded by "#" are treated as comments and are ignored.

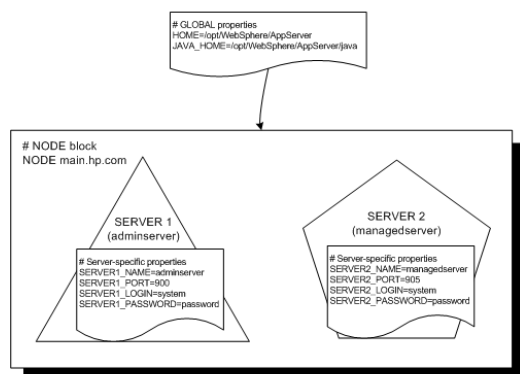
This sample configuration would be displayed at the Defaults level by selecting the View Configuration Settings tab .

Select an example to view:

Single node/two servers

Click the image to zoom in or out.

This example shows a single node running two servers, the Administration Server and a Managed Server. The properties HOME and JAVA\_HOME are global defaults that apply to all servers and nodes. When the file is saved, passwords are encrypted.



```
HOME = /opt/WebSphere/AppServer
JAVA_HOME = /opt/WebSphere/AppServer/java
```

```
NODE main.hp.com
{
  SERVER1_NAME = adminserver
  SERVER1_PORT = 900
  SERVER1_LOGIN = system
  SERVER1_PASSWORD = password

  SERVER2_NAME = managedserver
  SERVER2_PORT = 905
  SERVER2_LOGIN = system
  SERVER2_PASSWORD = password
```

```
}
```

**Related Topics:**

- [The configuration](#)
- [Using the configuration editor](#)
- [Configuration properties](#)

# Configuration properties

The Smart Plug-in for WebSphere Application Server (WebSphere SPI) maintains a configuration that consists of property value assignments.

If you are not using the discovery process, configure all the required properties.

The table lists, in this order, required configuration properties , conditional configuration properties , and optional configuration properties . To display a description of the property, Click the property name in the table below, or use the pull-down menu at the bottom of the page. To display the descriptions of all properties based on configuration requirements (required, conditional, or optional), use the pull-down menu at the bottom of the page.

Do not use the "Back" button to navigate to any properties viewed previously. Instead, use the pull-down menu at the bottom of the page.

| Property         | Configuration      | Automatically Discovered | Discovery       | Level of Configuration |                    |
|------------------|--------------------|--------------------------|-----------------|------------------------|--------------------|
|                  |                    |                          |                 | Default Properties     | Application Server |
| HOME             | <b>Required</b>    | ✓                        | <b>Required</b> | ✓                      | ✓                  |
| JAVA_HOME        | <b>Required</b>    | ✓                        | <b>Required</b> | ✓                      | ✓                  |
| NAME             | <b>Required</b>    | ✓                        | N/A             |                        | ✓                  |
| PORT             | <b>Required</b>    | ✓ *                      | Conditional     | ✓                      | ✓                  |
| ADDRESS          | Conditional        |                          | Optional        |                        | ✓                  |
| ALIAS            | Conditional        |                          | N/A             |                        | ✓                  |
| COLLECT_METADATA | Conditional        |                          | Optional        | ✓                      | ✓                  |
| JMX_CLASSPATH    | Conditional        |                          | N/A             | ✓                      | ✓                  |
| LOGFILE          | Conditional        |                          | N/A             |                        | ✓                  |
| LOGIN            | <b>Required</b>    |                          | <b>Required</b> | ✓                      | ✓                  |
| PASSWORD         | <b>Required</b>    |                          | <b>Required</b> | ✓                      | ✓                  |
| JMB_JAVA_HOME    | <b>Conditional</b> |                          | Optional        | ✓                      | ✓                  |
| RMID_PORT        | Conditional        |                          | N/A             | ✓                      |                    |
| RMID_START_TIME  | Conditional        |                          | N/A             | ✓                      |                    |

|              |             |     |   |   |
|--------------|-------------|-----|---|---|
| START_CMD    | Conditional | N/A |   | ✓ |
| STOP_CMD     | Conditional | N/A |   | ✓ |
| TYPE         | Conditional | N/A | ✓ | ✓ |
| USER         | Conditional | N/A | ✓ | ✓ |
| VERSION      | Conditional | N/A |   | ✓ |
| GRAPH_SERVER | Optional    | N/A | ✓ |   |
| GRAPH_URL    | Optional    | N/A | ✓ |   |
| TIMEOUT      | Optional    | N/A | ✓ | ✓ |

**Related Topics:**

- The configuration
- Using the configuration editor
- Editing the Configuration File
- Example configurations

# Reports and graphs

In addition to metric reports and operator-initiated graphs, the Smart Plug-in for WebSphere Application Server (WebSphere SPI) provides a limited version of HP Reporter reports and HP Performance Manager graphs. These reports and graphs show consolidated data on server performance and availability on all WebSphere application server systems.

Reports are:

- generated daily at 2 A.M.
- not available until after one full day of metric collection (the "SPI for WebSphere" folder does not appear until then).

Graphs are:

- generated at the time they are run.
- are available after installing the WebSphere SPI (the "SPI for WebSphere" folder is available), but display an error message if they are run before data has been collected.

The WebSphere SPI can be integrated with HP Reporter and HP Performance Manager (both products must be purchased separately) to provide additional reporting and graphing flexibility and capabilities.

For more information about integrating the WebSphere SPI with HP Reporter and HP Performance Manager, refer to the *HP Operations Smart Plug-in for WebSphere Application Server Installation and Configuration Guide* located on the HP Operations Smart Plug-ins DVD in the file

`\Documentation\SPI Guides\WebSphere_AppServer_Install_Config.pdf`.

## Related Topics:

- Tools
- Policies



# HP Reporter Reports for the WebSphere SPI

The reports available through the integration of HP Reporter and the WebSphere SPI show consolidated data on server performance and availability on all WebSphere Server systems. In addition, other reports show data for single systems. These reports are available the day following your installation of the WebSphere SPI report package on the HP Reporter Windows system.

The following tables show all pre-defined reports.

## All/Group Reports

| Report Title                                   | Description  | Metric |
|--|--|--------|
| Availability                                   | Shows the percent uptime for all WebSphere Servers by day.   | 2      |
| Top 20 Servers— Transaction Throughput         | Shows the average throughput for the top 20 execute queues of all servers.                                     | 77     |
| Top 20 Servers—JDBC Connection Pool Throughput | Shows the average throughput for all connections pools on the server for the top 20 servers.                   | 66     |
| Top 20 Servers—Servlet Request Rate            | Shows the total servlet request rate for the top 20 servers.   | 45     |
| Top 20 Servers— Servlet Sessions               | Shows the total servlet sessions being handled by the top 20 servers.  | 41     |
| Top 20 Servers— Servlet Average Response Time  | Shows the average response time for the top 20 requested servlets for all servers for the reporting period.    | 245    |
| Top 20 Servers— EJB Method Calls Rate          | Shows the number of all EJB method calls per minute for the top 20 servers.                                    | 22     |
| Top 20 Servers— Entity EJB Load/Stores Rate    | Shows the number of all Entity EJB loads and stores to or from the database per minute for the top 20 servers. | 24     |

## Single System Reports

| <b>Report Title</b>                                     | <b>Description</b>  | <b>Metric</b> |
|---|---|---------------|
| Server Availability Details                             | Contains spectrum graphs showing minutes of uptime by day and hour for each WebSphere Server.   | 2             |
| Admin Server Availability Details                       | Shows the uptime percent for each WebSphere Admin server by day.  | 4             |
| EJB Average Response Time                               | Shows the average response time for the top 20 EJBs for a server for the reporting period.  | 221           |
| EJB Method Calls Rate                                   | Shows the number of all EJB method calls per minute for the top 20 EJBs for a server.   | 22            |
| Entity EJB Load/ Stores Rate                            | Shows the number of all EJB loads and stores to or from the database per minute for the top 20 EJBs on a server.  | 224           |
| EJB Pool Utilization                                    | Shows the EJB pool utilization as a percent for the top 20 EJBs on a server.  | 220           |
| EJB Pool Misses Percent                                 | Shows the percent of time that a call to retrieve an EJB from the pool was not successful during the collection interval for the top 20 EJBs.   | 225           |
| EJB Pool Size   | Shows average pool size for the top 20 EJBs for one server for each day.  | 223           |
| JDBC Connection Pools Throughput vs. Utilization        | Charts throughput against utilization for the JDBC connection pools on the selected server, one chart for each connection pool.   | 263           |
| JDBC Connection Pools - Size vs. Wait Time              | Charts connection pool size against the average wait time for a connection for the JDBC connection pools on the selected server, one chart for each connection pool.  | 260           |
| JDBC Connection Pools - Clients Waiting vs. TimeoutRate | Charts the number of clients waiting for a database connection from the pool against the timeout rate for waiting clients for the DB connection pools on the selected server, one chart for each connection pool. | 265           |
| JCA Connections Utilization - Top 20 Resources          | Shows the JCA resource connection pool utilization as a percent.  | 250           |

|   |  |     |
|---|--|-----|
| Transaction Throughput                          | Shows the average transaction throughput for the selected server by day.   | 77  |
| Thread Pool Activity                            | Charts the average size of the thread pool against the average number of active threads for all thread pools on the selected server, one chart for each thread pool. | 211 |
| Servlet Request Rate                            | Shows the request rate (per second) for the top 20 servlets for one server for each day..  | 245 |
| Servlet Average Response Time - Top 20 Servlets | Show the average response time for the top 20 requested servlets for one server for the reporting period.  | 246 |

# HP Performance Insight Reports for the WebSphere SPI

The reports available through the integration of HP Performance Insight and the WebSphere SPI show consolidated data on server performance and availability on WebSphere application server systems.

The following table shows all pre-defined reports.

| Report Title                       | Description  | Metric       |
|------------------------------------|--|--------------|
| Server Availability—Throughput     | The server availability chart plots the availability status of the application server on an hourly, daily, and monthly basis. The transaction throughput chart displays the number of transactions processed by the application server per second. | 2, 77        |
| EJB Pool Utilization               | The percentage of EJB pool utilization.  | 20           |
| JDBC Throughput—Utilization        | The percentage of available JDBC connection in the connection pool and the number of clients serviced by the connection pool per second.   | 66, 263      |
| Near Real Time Server Availability | The server status for the last six hours.  | 2, 77        |
| Servlet Request Rate—Response Time | The servlet request rate measures the number of requests for a servlet per second. The servlet response time chart shows the average execution time for an individual servlet  | 45, 246      |
| EJB Load-Stores Rate               | The number of all entity EJB loads and stores to and from the database per minute for the top 20 servers. For the selected server, lists the top 20 EJBs   | 24           |
| EJB Method Calls Rate              | The number of all EJB method calls per minute for the top 20 servers.  | 22           |
| EJB Top 20                         | The percentage of EJB retrievals that were not successful during the collection interval, average pool size, and average response time in milliseconds for the top 20 EJBs.  | 25, 221, 223 |

|                              |   |                  |
|------------------------------|---|------------------|
| JDBC Connection Pool Details | The average number of connections allocated per day for the top 20 servers. The DB pool is shown along with clients waiting, client timeout rate, average pool size, and average wait time. | 61, 65, 260, 266 |
| Servlet Sessions             | The total number of servlet sessions being handled by the top 20 servers.   | 41               |
| Thread Pool Activity         | Comparison of the average size of thread pools with the average number of active threads on the selected server.  | 210, 211         |
| Transaction Throughput       | The average number of transactions processed per second by the top 20 servers for the previous day.   | 77               |

## Data Store Details for Reports

The WebSphere SPI creates the following data store details for reports for WebSphere Application Server.

| Report Name  | Report Table Name <i>and</i> Data Store Class Name | Report Table Attributes | Policy Logging Data                                       |
|--|--|-------------------------|---|
| a_wbs_availability.rpt<br>g_wbs_availability.rpt<br>s_wbs_availability_details.rpt             |  |                         | WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |
| a_wbs_ejb_meth_call_rate_top.rpt<br>g_wbs_ejb_meth_call_rate_top.rpt                           |  |                         | WBSSPI_High_05min   |
| a_wbs_ejb_ent_load_str_rate_top.rpt<br>g_wbs_ejb_ent_load_str_rate_top.rpt                     |  |                         | WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |
| a_wbs_servlet_sessions_top.rpt<br>g_wbs_servlet_sessions_top.rpt                               |  |                         | WBSSPI_0041<br>WBSSPI_High_1h                             |
| a_wbs_servlet_request_top.rpt<br>g_wbs_servlet_request_top.rpt                                 |  |                         | WBSSPI_Low_1h<br>WBSSPI_High_1h<br>WBSSPI_Med_1h          |
| a_wbs_db_con_pool_tput_top.rpt<br>g_wbs_db_con_pool_tput_top.rpt                               |  |                         | WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |
| a_wbs_transaction_tput_top.rpt<br>g_wbs_transaction_tput_top.rpt<br>s_wbs_trans_throughput.rpt |  |                         | WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |
| s_wbs_thread_pool_activity.rpt   |  |                         | WBSSPI_High_15min   |

|   |            |  |  |
|---|------------|--|--|
| s_wbs_ejb_pool_util_top.rpt   | WEBSPIHERE | ID<br>SYSTEMNAME<br>DATETIME<br>GMT<br>SHIFTNAME<br>METRICID<br>OBJECTNAME<br>SERVERNAME<br>SORTID<br>VALUE<br>VALUEID | WBSSPI_0220<br>WBSSPI_High_1h  |
| s_wbs_ejb_meth_call_rate_top.rpt<br>s_wbs_ejb_resp_time_top.rpt   |            |  | WBSSPI_0221<br>WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |
| s_wbs_ejb_meth_call_rate_top.rpt<br>s_wbs_ejb_resp_time_top.rpt   |            |  | WBSSPI_0222<br>WBSSPI_High_05min   |
| s_wbs_ejb_pool_size_top.rpt   |            |  | WBSSPI_High_05min  |
| s_wbs_ejb_ent_load_str_rate_top.rpt   |            |  | WBSSPI_0224<br>WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |
| s_wbs_ejb_pool_miss_top.rpt   |            |  | WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min                |
| a_wbs_servlet_resp_time_top.rpt<br>g_wbs_servlet_resp_time_top.rpt<br>s_wbs_servlet_request_rate.rpt<br>s_wbs_servlet_resp_time.rpt |            |  | WBSSPI_0245<br>WBSSPI_Low_1h<br>WBSSPI_High_1h<br>WBSSPI_Med_1h          |
| a_wbs_servlet_resp_time_top.rpt<br>g_wbs_servlet_resp_time_top.rpt<br>s_wbs_servlet_request_rate.rpt<br>s_wbs_servlet_resp_time.rpt |            |  | WBSSPI_0246<br>WBSSPI_High_1h<br>WBSSPI_Med_1h                           |
| s_wbs_db_conn_pools_size_wtime.rpt  |            |  | WBSSPI_0260<br>WBSSPI_High_05min   |
| s_wbs_db_conn_pools_clnwt_trate.rpt   |            |  | WBSSPI_0261<br>WBSSPI_High_05min   |

|                                     |  |  |
|-------------------------------------|--|--|
| s_wbs_db_conn_pools_size_wtime.rpt  |  | WBSSPI_0262<br>WBSSPI_High_05min   |
| s_wbs_db_conn_pools_tput_util.rpt   |  | WBSSPI_0263<br>WBSSPI_High_05min   |
| s_wbs_db_conn_pools_clnwt_trate.rpt |  | WBSSPI_0265<br>WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |
| s_wbs_db_conn_pools_tput_util.rpt   |  | WBSSPI_0266<br>WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |



# Graphing Metrics

The following tables show the graphs available for mapping collected metric values. Use HP Performance Manager to view any one of the metrics included in any of these tables.

## JVM

| <b>Metric Number/Name</b> | <b>Metric Description</b>   |
|---------------------------|---|
| I005_JVMMemUtilPct        | Percentage of heap space used in the JVM.                                       |
| I807_JVMMemFreePct        | Percent of JVM Free Memory available  |
| I808_JVMCpuUsagePct       | The CPU Usage of the Java virtual machine                                       |
| I809_GCInterval Time      | The average garbage collection value in seconds between two garbage collections |

## Server Performance

| <b>Metric Number/Name</b> | <b>Metric Description</b>   |
|---------------------------|---|
| I013_ThrdPoolPctMax       | Percentage of time Number of threads in pool reached configured maximum size. |
| I014_ThrdPoolCrtRt        | Number of threads created per minute.   |

## Enterprise Java Beans (EJB)

| <b>Metric Number/Name</b> | <b>Metric Description</b>   |
|---------------------------|---|
| I020_EJBPoolUtil          | Percentage of active beans in the pool.   |
| I022_EJBMethCallsRt       | Number of EJB method calls per minute.  |
| I024_EJBEntDtLdStRt       | Number of times an EJB was written to or loaded from the database per minute.   |
| I025_EJBPoolMissPct       | Average Percentage of time a call to retrieve an EJB from the pool failed.  |
| I026_EJBConcLives         | Average Number of bean objects in the pool.   |
| I810_MsgBackoutRate       | The rate at which the messages failed to be delivered to the bean onMessage method (message driven beans)                 |
| I811_ReturnDiscrdRt       | The rate at which the returning object was discarded because the pool was full (entity and stateless)                     |
| I814_PrdstcchdsrdRt       | The rate at which the prepared statements are discarded by the least recently used (LRU) algorithm of the statement cache |

## Servlets

| <b>Metric Number/Name</b> | <b>Metric Description</b>                              |
|---------------------------|--|
| I040_ServSessAveLfe       | Average lifetime of a servlet session in milliseconds. |
| I041_ServSessActSes       | Number of sessions currently being accessed.           |
| I042_ServInvSessRt        | Number of sessions being invalidated per second.       |

## Web Applications

| <b>Metric Number/Name</b> | <b>Metric Description</b>                                     |
|---------------------------|---|
| I045_WebApServReqRt       | Number of requests for a servlet per second.                  |
| I047_WebAppServErRt       | Number of errors in a servlet per second.                     |
| I048_WebAppServLoad       | Number of servlets currently loaded for a web application.    |
| I049_WebApServRelRt       | Number of servlets reloaded for a web application per minute. |

## JDBC

| <b>Metric Number/Name</b> | <b>Metric Description</b>   |
|---------------------------|---|
| I061_JDBCConPoolWt        | Average number of threads waiting for a connection from connection pools              |
| I062_JDBConPoolWtTm       | Average time that a client waited for a connection in milliseconds.                   |
| I065_JDBConPITRt          | Number of times a client timed out waiting for a connection from the pool per minute. |
| I066_JDBCConPIThru        | Number of connections allocated and returned by applications per second.              |

## Transactions

| <b>Metric Number/Name</b> | <b>Metric Description</b>   |
|---------------------------|---|
| I070_TransGlobDur         | Average duration of global transactions.                                |
| I071_TransLocDur          | Average duration of local transactions.                                 |
| I072_TrGlbComDurNew       | Average duration of commits for global transactions.                    |
| I073_TransLocCommDur      | Average duration of commits for local transactions.                     |
| I075_TransTimeoutRt       | Number of timed out global and local transactions per second.           |
| I076_TransCommitRt        | Number of global and local transactions that were committed per second. |
| I078_TransStartRtt        | Number of global and local transactions that were begun per second.     |

## ThreadPool

| <b>Metric Number/Name</b> | <b>Metric Description</b>   |
|---------------------------|---|
| I013_ThrdPoolPctMax       | Percentage of time number of threads in pool reached configured maximum size. |
| I014_ThrdPoolCrtRt        | Number of threads created per minute.   |
| I812_ThrdPoolHungRt       | The rate at which the threads are declared hung                               |
| I813_CcrtThdPIHngCt       | The number of concurrently hung threads                                       |

## Data Store Details for Graphs

The WebSphere SPI creates the following data store details for graphs for WebSphere Application Server.

| Graph Name               | Policy Logging Data  | Spec File | Data StoreData Class |
|--------------------------|--|-----------|----------------------|
| JVM Utilization          | WBSSPI_0005<br>WBSSPI_High_15min   |           |                      |
| ThreadPool               | WBSSPI_0013<br>WBSSPI_High_15min   |           |                      |
|                          | WBSSPI_0014<br>WBSSPI_High_15min   |           |                      |
| EJB Activity             | WBSSPI_0024<br>WBSSPI_High_05min   |           |                      |
|                          | WBSSPI_0025<br>WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |           |                      |
| EJB Pool                 | WBSSPI_0040<br>WBSSPI_High_1hn   |           |                      |
| EJB Pool Size            | WBSSPI_0026<br>WBSSPI_High_05min   |           |                      |
| Servlet Session Activity | WBSSPI_0041<br>WBSSPI_High_1h  |           |                      |
|                          | WBSSPI_0042<br>WBSSPI_High_1h<br>WBSSPI_Med_1h                           |           |                      |

|                               |  |
|-------------------------------|--|
| Servlet Session Invalidations | WBSSPI_0045<br>WBSSPI_Low_1h<br>WBSSPI_High_1h<br>WBSSPI_Med_1h          |
|                               | WBSSPI_0047<br>WBSSPI_Low_1h<br>WBSSPI_High_1h<br>WBSSPI_Med_1h          |
| WebApplication                | WBSSPI_0048<br>WBSSPI_Low_1h<br>WBSSPI_High_1h<br>WBSSPI_Med_1h          |
|                               | WBSSPI_0049<br>WBSSPI_Low_1h<br>WBSSPI_High_1h<br>WBSSPI_Med_1h          |
| JDBC Pool Waits               | WBSSPI_0061<br>WBSSPI_High_05min   |
|                               | WBSSPI_0062<br>WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |
| JDBC Pool Performance         | WBSSPI_0065<br>WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |
|                               | WBSSPI_0066<br>WBSSPI_Med_05min<br>WBSSPI_High_05min<br>WBSSPI_Low_05min |
|                               | WBSSPI_0070<br>WBSSPI_Med_05min<br>WBSSPI_High_05min                     |

|                                   |  |                            |                         |
|-----------------------------------|--|----------------------------|-------------------------|
| <p>Transaction Duration Times</p> | <p>WBSSPI_0071<br/>WBSSPI_Med_05min<br/>WBSSPI_High_05min</p>                      | <p>wasspi_wbs_graph.sp</p> | <p>wasspi_wbs_graph</p> |
|                                   | <p>WBSSPI_0072<br/>WBSSPI_Med_05min<br/>WBSSPI_High_05min</p>                      |                            |                         |
|                                   | <p>WBSSPI_0073<br/>WBSSPI_Med_05min<br/>WBSSPI_High_05min</p>                      |                            |                         |
|                                   | <p>WBSSPI_0074<br/>WBSSPI_Med_05min<br/>WBSSPI_High_05min<br/>WBSSPI_Low_05min</p> |                            |                         |
|                                   | <p>WBSSPI_0075<br/>WBSSPI_Med_05min<br/>WBSSPI_High_05min<br/>WBSSPI_Low_05min</p> |                            |                         |
| <p>Transaction Activity</p>       | <p>WBSSPI_0076<br/>WBSSPI_Med_05min<br/>WBSSPI_High_05min<br/>WBSSPI_Low_05min</p> |                            |                         |
|                                   | <p>WBSSPI_0077<br/>WBSSPI_Med_05min<br/>WBSSPI_High_05min<br/>WBSSPI_Low_05min</p> |                            |                         |
|                                   | <p>WBSSPI_0078<br/>WBSSPI_Med_05min<br/>WBSSPI_High_05min<br/>WBSSPI_Low_05min</p> |                            |                         |
|                                   | <p>WBSSPI_0807<br/>WBSSPI_Low_15min<br/>WBSSPI_Med_15min</p>                       |                            |                         |

|                     |  |  |  |
|---------------------|--|--|--|
| JVM Utilization     | WBSSPI_0808<br>WBSSPI_Low_15min<br>WBSSPI_Med_15min                      |  |  |
|                     | WBSSPI_0809<br>WBSSPI_Low_1h<br>WBSSPI_High_1h<br>WBSSPI_Med_1h          |  |  |
| EJB Activity        | WBSSPI_0810<br>WBSSPI_Low_15min<br>WBSSPI_Med_15min                      |  |  |
|                     | WBSSPI_0811<br>WBSSPI_Low_15min<br>WBSSPI_High_15min<br>WBSSPI_Med_15min |  |  |
| ThreadPool          | WBSSPI_0812<br>WBSSPI_Low_15min<br>WBSSPI_High_15min<br>WBSSPI_Med_15min |  |  |
|                     | WBSSPI_0813<br>WBSSPI_Low_15min<br>WBSSPI_Med_15min<br>WBSSPI_High_1h    |  |  |
| JDBC SQL Statistics | WBSSPI_0814<br>WBSSPI_High_15min<br>WBSSPI_Med_15min                     |  |  |



# Error Messages

The listed error messages result from conditions detected in the operation of the Smart Plug-in for WebSphere Application Server (WebSphere SPI), not WebSphere itself. Click on the error message number to display detailed information about that error message.

| <b>1 - 21</b> | <b>23 - 43</b> | <b>201 - 225</b> | <b>226 - 303</b> |
|---------------|----------------|------------------|------------------|
| WASSPI-1      | WASSPI-23      | WASSPI-201       | WASSPI-226       |
| WASSPI-2      | WASSPI-24      | WASSPI-202       | WASSPI-227       |
| WASSPI-3      | WASSPI-25      | WASSPI-203       | WASSPI-228       |
| WASSPI-4      | WASSPI-26      | WASSPI-204       | WASSPI-229       |
| WASSPI-5      | WASSPI-27      | WASSPI-205       | WASSPI-230       |
| WASSPI-6      | WASSPI-28      | WASSPI-206       | WASSPI-231       |
| WASSPI-7      | WASSPI-29      | WASSPI-207       | WASSPI-232       |
| WASSPI-8      | WASSPI-30      | WASSPI-208       | WASSPI-234       |
| WASSPI-9      | WASSPI-31      | WASSPI-209       | WASSPI-235       |
| WASSPI-10     | WASSPI-32      | WASSPI-210       | WASSPI-236       |
| WASSPI-11     | WASSPI-33      | WASSPI-211       | WASSPI-237       |
| WASSPI-12     | WASSPI-34      | WASSPI-213       | WASSPI-238       |
| WASSPI-13     | WASSPI-35      | WASSPI-214       | WASSPI-241       |
| WASSPI-14     | WASSPI-36      | WASSPI-216       | Unknown          |
| WASSPI-15     | WASSPI-37      | WASSPI-218       |                  |

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|           |           |            |  |
|-----------|-----------|------------|--|
| WASSPI-16 | WASSPI-38 | WASSPI-219 |  |
| WASSPI-18 | WASSPI-39 | WASSPI-221 |  |
| WASSPI-19 | WASSPI-40 | WASSPI-222 |  |
| WASSPI-20 | WASSPI-41 | WASSPI-223 |  |
| WASSPI-21 | WASSPI-42 | WASSPI-224 |  |
| WASSPI-22 | WASSPI-43 | WASSPI-225 |  |

# WASSPI-1

|                    |  |
|--------------------|--|
| <b>Description</b> | Unable to create the lock file <filename> . File already exists.   |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>Temporary lock files are used to avoid collisions when multiple WebSphere 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 it already exists.</p> <p><b>Suggested Action</b><br/>If a file by the same name already exists, it may not have been deleted by a previous run of the WebSphere 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 WebSphere 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 WebSphere SPI has been configured correctly by running the SPI Admin Verify tool. If the configuration is not correct, run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool.</li><li>2. Refer to the text following the error message in the WBSSPI error log to help identify the underlying cause of the problem, for example, an I/O exception. You can view the SPI error log for a managed node by using the <b>SPI Admin → View Error File</b> tool. 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><br/>The WebSphere SPI data collector command line is incorrectly specified in a schedule policy.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Refer to the text following the error message in the WBSPI error log to help identify the underlying cause of the problem, for example an I/O exception. You can view the SPI error log for a managed node by using the <b>SPI Admin</b> → <b>View Error File</b> tool. The error message can be identified by the date/time stamp.</li><li>2. Correct the policy that contains the incorrect command line and redeploy. Refer to the <i>HP Operations Smart Plug-in for WebSphere SPI Installation and Configuration Guide</i> for more information on the WebSphere SPI data collector command line.</li></ol> |

# WASSPI-4

|                    |   |
|--------------------|---|
| <u>Description</u> | Error getting the metric definitions  |
| <u>Severity</u>    | Critical  |
| <u>Help Text</u>   | <p><b>Probable Cause</b></p> <p>The WBSSPI 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. Refer to the text following the error message in the WBSSPI error log to help identify the underlying cause of the problem, for example, an I/O exception. You can view the SPI error log for a managed node by using the <b>SPI Admin → View Error File</b> tool. The error message can be identified by the date/time stamp.</li> <li>2. If the UDM_DEFINITIONS_FILE property is missing from the WBSSPI configuration file, run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool and set the value for this property.</li> <li>3. If the problem is with the metric definitions file (<code>MetricDefinitions.xml</code>) that is shipped with the SPI for WebSphere, then reinstall the SPI for WebSphere. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool.</li> <li>4. If the problem is with a user-defined metric definitions file that is not shipped with the SPI for WebSphere, verify that this XML file adheres to the <code>MetricDefinitions.dtd</code> specification. Refer to the <i>HP Operations Smart Plug-in for WebSphere Installation and Configuration Guide</i> for more information on writing user-defined metrics. Reinstall your user-defined metric definition file. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool and verify that the UDM_DEFINITIONS_FILE property in the SPI configuration, is specified correctly.</li> <li>5. If the underlying error is 'ClassNotFound', this is an internal error. Report the problem to HP support.</li> </ol> |

# WASSPI-5

|                    |   |
|--------------------|---|
| <u>Description</u> | Error processing metric <i>&lt;metric_number&gt;</i> .  |
| <u>Severity</u>    | Major   |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>An error occurred while trying to collect data or perform calculations for the specified metric.</p> <p><b>Suggested Action</b><br/>Refer to the text following the error message in the WBSSPI error log to help identify the underlying cause of the problem. The error messages previous to this one may also provide more information about the problem. You can view the WBSSPI error log for a managed node by using the <b>SPI Admin</b> → <b>View Error File</b> tool. 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 WBSSPI configuration.   |
| <b>Severity</b>    | Major  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>The specified required property is missing from the WBSSPI configuration file.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool. Verify that you have specified the correct server information for the WebSphere servers on this managed node.</li><li>2. Verify the property is specified correctly in the WBSSPI configuration file (/var/opt/OV/conf/wbsspi/SiteConfig on UNIX platforms or %OvAgentDir%\wasspi\wbs\conf\SiteConfig on Windows platforms) on the managed node in question.</li></ol> |



# WASSPI-7

|                    |  |
|--------------------|--|
| <u>Description</u> | Unable to contact server < <i>server_name</i> > at url=< <i>URL</i> > , port=< <i>port</i> >   |
| <u>Severity</u>    | Critical   |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>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. <b>SPI Admin</b> → <b>View Error File</b> tool. Verify that you have specified the correct server name and port information for the WebSphere servers on this managed node.</li> <li>2. Verify that the properties, SERVERx_NAME and SERVERx_PORT, are specified correctly in the WBSSPI configuration file (/var/opt/OV/conf/wbsspi/SiteConfig on UNIX platforms or %OvAgentDir%\wasspi\wbs\conf\SiteConfig on Windows platforms) on the managed node in question.</li> <li>3. Verify that the WebSphere 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. Refer to the text following the error message in the WebSphere SPI error log to help identify the underlying cause of the problem. You can view the SPI error log for a managed node by using the <b>SPI Admin → View Error File</b> tool . The error message can be identified by the date/time stamp.</li><li>2. Identify the steps to reproduce the problem.</li><li>3. Run the <b>SPI Admin → Start Tracing</b> tool to turn on tracing. Try to reproduce the problem.</li><li>4. Run the <b>SPI Admin → Self-Healing Info</b> tool. Contact HP support with the information gathered by this tool.</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><br/>A required property is missing from one of the WebSphere SPI configuration files.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"> <li>1. Refer to the text following the error message in the WebSphere SPI error log to help identify the missing property. You can view the SPI error log for a managed node by using the <b>SPI Admin → View Error File</b> tool . The error message can be identified by the date/time stamp.</li> <li>2. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool. Verify that you have specified the correct information for the WebSphere servers on the managed node in question.</li> <li>3. Verify that the missing property is now specified in the WBSSPI configuration file (<code>/var/opt/OV/conf/wbsspi/SiteConfig</code> on UNIX platforms or <code>\%OvAgentDir%\wasspi\wbs\conf\SiteConfig</code> on Windows platforms) on the managed node in question.</li> </ol> |

# WASSPI-10

|                    |   |
|--------------------|---|
| <b>Description</b> | Encountered problem accessing file <filename>   |
| <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. Refer to the text following the error message in the WebSphere SPI error log to help identify the file in question and the underlying cause of the problem. You can view the SPI error log for a managed node by using the <b>SPI Admin</b> → <b>View Error File</b> tool. 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 WebSphere SPI configuration file.   |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>The number of WebSphere servers specified in the WBSSPI configuration file for the managed node in question is 0.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool. Verify that you have specified the correct server name and port information for the WebSphere servers on this managed node.</li><li>2. Verify that the property, NUM_SERVERS, in the WBSSPI configuration file (/var/opt/OV/conf/wbsspi/SiteConfig on UNIX platforms or %OvAgentDir%\wasspi\wbs\conf\SiteConfig on Windows platforms) is set to the number of WebSphere servers on this managed node.</li></ol> |

# WASSPI-12

|                    |  |
|--------------------|--|
| <b>Description</b> | Command <i>&lt;command&gt;</i> returned an error exit code <i>&lt;exit code&gt;</i>  |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>A command started by the WBSSPI 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. Run the <b>SPI Admin</b> → <b>Start Tracing</b> tool to turn on tracing.</li><li>3. Reproduce the problem.</li><li>4. Run the <b>SPI Admin</b> → <b>Stop Tracing</b> tool to turn off tracing.</li><li>5. Run the <b>SPI Admin</b> → <b>Self-Healing Info</b> tool. Contact HP support with the information gathered by this tool.</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><br/>The WebSphere SPI data collector attempted to run a process to execute an opcmn call. Either the process could not be created or was interrupted.</p> <p><b>Suggested Action</b><br/>For UNIX systems make sure the kernel configurable parameters NPROC and MAXUPRC are set high enough to allow process creation.</p> |

# WASSPI-14

|                    |   |
|--------------------|---|
| <b>Description</b> | Unable to find file <file_name>   |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>A file required by the WebSphere SPI data collector could not be found.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Refer to the text following the error message in the WebSphere SPI error log to help identify the file in question and the underlying cause of the problem. You can view the SPI error log for a managed node by using the <b>SPI Admin → View Error File</b> tool. The error message can be identified by the date/time stamp.</li><li>2. <b>SPI Admin → View Error File</b> tool on this managed node.</li></ol> |



# WASSPI-15

|                    |   |
|--------------------|---|
| <b>Description</b> | Error parsing XML document <i>&lt;file_name&gt;</i> .   |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>An error occurred while parsing the specified XML document.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Refer to the text following the error message in the WebSphere SPI error log to help identify the underlying cause of the problem. You can view the SPI error log for a managed node by using the <b>SPI Admin → View Error File</b> tool. 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. Refer to the <i>SPI for WebSphere Installation and Configuration Guide</i> for more information on writing user-defined metrics.</li><li>3. If the XML document is a document that is shipped with the WBSSPI, run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool to reinstall the WBSSPI configuration files.</li></ol> |

# WASSPI-16

|                    |   |
|--------------------|---|
| <b>Description</b> | A bad filter ( <code>&lt;filter_value&gt;</code> ) was specified for metric <code>&lt;metric_number&gt;</code> .  |
| <b>Severity</b>    | Major   |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>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. Refer to the <i>HP Operations Smart Plug-in for WebSphere Installation and Configuration Guide</i> for more information about the correct format for a user-defined metric definition document.</li><li>2. If the metric is a pre-defined metric that is shipped with the WebSphere SPI, run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool to reinstall the WBSSPI configuration files.</li></ol> |

# WASSPI-18

|                    |   |
|--------------------|---|
| <b>Description</b> | Data logging failed: ddflog returned error <i>&lt;error_number&gt;</i> .  |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>The ddflog process started by the WebSphere 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. Run the <b>SPI Admin</b> → <b>Start Tracing</b> tool to turn on tracing. Try to reproduce the problem.</li><li>3. Run the <b>SPI Admin</b> → <b>Self-Healing Info</b> tool. Contact HP support with the information gathered by this tool.</li></ol> |

# WASSPI-19

|                    |  |
|--------------------|--|
| <u>Description</u> | Encountered problem instantiating XSLT transformer with <i>&lt;file_name&gt;</i>   |
| <u>Severity</u>    | Major  |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>The XSL document that specifies the auto action report output contains errors.</p> <p><b>Suggested Action</b><br/>Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool with the managed node selected.</p> |

# WASSPI-20

|                    |  |
|--------------------|--|
| <u>Description</u> | Encountered problem creating report for metric <i>&lt;metric_number&gt;</i>  |
| <u>Severity</u>    | Major  |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>An error occurred while producing a text report for the specified metric.</p> <p><b>Suggested Action</b></p> <p>Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool with the managed node selected.</p> |

# WASSPI-21

|                    |   |
|--------------------|---|
| <b>Description</b> | Encountered problem instantiating factory implementation <i>&lt;class name&gt;</i> .  |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>The java property specifying the class name is incorrect or the class does not implement the AppServerFactory interface.</p> <p><b>Suggested Action</b><br/>Verify java property, appserver.implementation is set to the fully qualified name of the class which implements the AppServerFactory interface.</p> <p>For example, if set on the java command-line:</p> <pre>'-Dappserver.implementation=<br/>com.hp.openview.wasspi.WBSAppServerFactory' .</pre> |

## WASSPI-22

|                    |  |
|--------------------|--|
| <u>Description</u> | The PMI instrumentation level was changed from <i>&lt;old_level&gt;</i> to <i>&lt;new_level&gt;</i> for module <i>&lt;module_name&gt;</i> in server <i>&lt;server_name&gt;</i> .   |
| <u>Severity</u>    | Warning  |
| <u>Help Text</u>   | <p><b>Probable Cause</b></p> <p>A requested metric's impact rating exceeded the instrumentation level settings of the application server. The instrumentation level of the appropriate PMI module was raised to enable collection of the requested metric.</p> <p><b>Suggested Action : NA</b></p> |

## WASSPI-23

|                    |   |
|--------------------|---|
| <b>Description</b> | Error initializing collector analyzer for server <i>&lt;server_name&gt;</i> .   |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>An exception was encountered while preparing to monitor server <i>&lt;server_name&gt;</i> .</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Refer to the text following the error message in the WBSSPI error log to help identify the underlying cause of the problem. You can view the SPI error log for a managed node by using the <b>SPI Admin</b> → <b>View Error File</b> tool. The error message can be identified by the date/time stamp.</li><li>2. Identify the steps to reproduce the problem.</li><li>3. Run the <b>SPI Admin</b> → <b>Start Tracing</b> tool to turn on tracing. Try to reproduce the problem.</li><li>4. Run the <b>SPI Admin</b> → <b>Self-Healing Info</b> tool. Contact HP support with the information gathered by this tool.</li></ol> |



# WASSPI-24

|                    |  |
|--------------------|--|
| <b>Description</b> | Error logging in to server < <i>server_name</i> > with login < <i>login</i> >  |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>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 <b>SPI Admin → Discover or Configure WBSSPI</b> tool on the managed node on which the error occurred and verify that you have specified the correct login and password properties.</li><li>2. Verify the login has appropriate permissions.</li></ol> |

## WASSPI-25

|                    |  |
|--------------------|--|
| <b>Description</b> | Performance monitoring service is not enabled on server <server_name>  |
| <b>Severity</b>    | Warning  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>PMI service is not enabled on server &lt;server_name&gt; .</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Use the WebSphere Administrative Console to enable PMI on server &lt;server_name&gt; .</li><li>2. Restart the server &lt;server_name&gt; .</li></ol> |

# WASSPI-26

|                    |  |
|--------------------|--|
| <u>Description</u> | The data logging process for server <code>&lt;server_name&gt;</code> timed-out.  |
| <u>Severity</u>    | Major  |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>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 CODA using command <code>opcagt -start .</code></li><li>2. Restart HP Performance Agent using command <code>mwa restart .</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><br/>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. Refer to the text following the error message in the WBSSPI error log to help identify the underlying cause of the problem. You can view the SPI error log for a managed node by using the <b>SPI Admin</b> → <b>View Error File</b> tool. The error message can be identified by the date/time stamp.</li><li>2. Identify the steps to reproduce the problem.</li><li>3. Run the <b>SPI Admin</b> → <b>Start Tracing</b> tool to turn on tracing. Try to reproduce the problem.</li><li>4. Run the <b>SPI Admin</b> → <b>Self-Healing Info</b> tool. Contact HP support with the information gathered by this tool.</li></ol> |

# WASSPI-28

|                    |   |
|--------------------|---|
| <b>Description</b> | RMID on port <port> has been <status> . |
| <b>Severity</b>    | Normal                                  |

## WASSPI-29

|                    |   |
|--------------------|---|
| <b>Description</b> | Collector server <i>&lt;server id&gt;</i> for Java home <i>&lt;path&gt;</i> has been started. |
| <b>Severity</b>    | Normal  |

# WASSPI-30

|                    |  |
|--------------------|--|
| <u>Description</u> | Failed to start <i>&lt;rmid_path&gt;</i> on port <i>&lt;port&gt;</i> .   |
| <u>Severity</u>    | Critical   |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>The specified port is already in use.</p> <p><b>Suggested Action</b></p> <p>Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool. Set the RMID_PORT property to a port number which is not currently in use.</p> |

# WASSPI-31

|                    |  |
|--------------------|--|
| <b>Description</b> | Lost connection to RMI collector while processing <i>&lt;command&gt;</i> . |
| <b>Severity</b>    | Warning  |



## WASSPI-32

|                    |   |
|--------------------|---|
| <b>Description</b> | Unable to retrieve metadata for MBean < <i>JMX-ObjectName</i> > . |
| <b>Severity</b>    | Warning   |

# WASSPI-33

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

# WASSPI-34

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

# WASSPI-35

|             |   |
|-------------|---|
| Description | Error executing action <i>&lt;action command-line&gt;</i> .   |
| Severity    | Major   |
| Help Text   | <p><b>Probable Cause</b><br/>An unexpected error occurred while executing the action.</p> <p><b>Suggested Action</b><br/>View the managed node's error log to determine the root cause which is logged following the error message.</p> |

## WASSPI-36

|             |  |
|-------------|--|
| Description | MBean <i>&lt;JMX objectname&gt;</i> on server <i>&lt;server name&gt;</i> , does not expose operation <i>&lt;operation name&gt;</i> .   |
| Severity    | Warning  |
| Help Text   | <p><b>Probable Cause</b><br/>An action's JMXCalls element defines an operation not exposed by the specified MBean.</p> <p><b>Suggested Action</b><br/>Correct the JMXCalls element or remove the operation from the element.</p> |

# WASSPI-37

|             |  |
|-------------|--|
| Description | MBean <i>&lt;JMX objectname&gt;</i> on server <i>&lt;server name&gt;</i> , does not expose attribute <i>&lt;attribute name&gt;</i> for write.  |
| Severity    | Warning  |
| Help Text   | <p><b>Probable Cause</b><br/>An action's JMXCalls element defines a write attribute exposed by the specified MBean as read-only.</p> <p><b>Suggested Action</b><br/>If it's a custom MBean, update the MBean's management interface so the attribute is writable, otherwise remove the attribute definition from the JMXCalls element.</p> |

# WASSPI-38

|             |   |
|-------------|---|
| Description | MBean <i>&lt;JMX objectname&gt;</i> on server <i>&lt;server name&gt;</i> , does not expose attribute <i>&lt;attribute name&gt;</i> .  |
| Severity    | Warning   |
| Help Text   | <p><b>Probable Cause</b><br/>An action's JMXCalls element defines an attribute not exposed by the specified MBean ObjectName.</p> <p><b>Suggested Action</b><br/>Correct the JMXCalls element or remove the attribute from the element.</p> |

## WASSPI-39

|             |   |
|-------------|---|
| Description | Error invoking operation <i>&lt;operation name&gt;</i> on MBean <i>&lt;JMX objectname&gt;</i> .   |
| Severity    | Major   |
| Help Text   | <p><b>Probable Cause</b></p> <p>An unexpected error occurred while invoking an operation on the specified MBean. The managed resource may have thrown an exception.</p> <p><b>Suggested Action</b></p> <p>View the managed node's errorlog to determine the root cause which is logged following the error message.</p> |



# WASSPI-40

|             |  |
|-------------|--|
| Description | Error setting attribute <i>&lt;attribute name&gt;</i> on MBean <i>&lt;JMX objectname&gt;</i> .   |
| Severity    | Major  |
| Help Text   | <p><b>Probable Cause</b></p> <p>An unexpected error occurred while setting an attribute on the specified MBean. The managed resource may have thrown an exception.</p> <p><b>Suggested Action</b></p> <p>View the managed node's errorlog to determine the root cause which is logged following the error message.</p> |

# WASSPI-41

|             |  |
|-------------|--|
| Description | Error getting attribute <i>&lt;attribute name&gt;</i> from MBean <i>&lt;JMX objectname&gt;</i> .   |
| Severity    | Major  |
| Help Text   | <p><b>Probable Cause</b></p> <p>An unexpected error occurred while getting an attribute from the specified MBean. The managed resource may have thrown an exception.</p> <p><b>Suggested Action</b></p> <p>View the managed node's errorlog to determine the root cause which is logged following the error message.</p> |

## WASSPI-42

|             |   |
|-------------|---|
| Description | Error running command <i>&lt;command&gt;</i> .  |
| Severity    | Critical  |
| Help Text   | <p><b>Probable Cause</b><br/>A command started by the WBSPI 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. Run the <b>SPI Admin</b> → <b>Start Tracing</b> tool to turn on tracing.</li><li>3. Reproduce the problem.</li><li>4. Run the <b>SPI Admin</b> → <b>Stop Tracing</b> tool to turn off tracing.</li><li>5. Run the <b>SPI Admin</b> → <b>Self-Healing Info</b> tool. Contact HP support with the information gathered by this tool.</li></ol> |

# WASSPI-43

|             |  |
|-------------|--|
| Description | Error publishing event <i>&lt;event-type&gt;</i> .   |
| Severity    | Major  |
| Help Text   | <p><b>Probable Cause</b><br/>An unexpected error occurred while a publisher was handling a metric or collect event.</p> <p><b>Suggested Action</b><br/>View the managed node's errorlog to determine the root cause which is logged following the error message.</p> |

# WASSPI-201

|                    |  |
|--------------------|--|
| <b>Description</b> | File <filename> not found  |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>A configuration file could not be found.</p> <p><b>Suggested Action</b></p> <p>Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool. Verify that the correct information has been specified for the WebSphere servers on the managed node on which the error occurred.</p> |

# WASSPI-202

|                    |  |
|--------------------|--|
| <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 may be incorrect or a directory may be corrupt.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool. Verify that you have specified the correct information for the WebSphere servers on the managed node on which the error occurred.</li><li>2. Verify that the permissions are correct for the HP Operations agent user to read this file.</li></ol> |

# WASSPI-203

|                    |  |
|--------------------|--|
| <b>Description</b> | Cannot write file <filename>   |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>Permissions may be incorrect, or a file or directory may be corrupt.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool. Verify that the correct information has been specified for the WebSphere servers on the managed node on which the error occurred.</li><li>2. Verify that the permissions are correct for the HP Operations agent user to read this file.</li></ol> |

# WASSPI-204

|                    |   |
|--------------------|---|
| <b>Description</b> | Error sending opcmsg < <i>message</i> >   |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>There was a problem running opcmsg. 'opcmsg' may be missing or not have permissions to execute (HPOM installation errors) or the system process table may be full.</p> <p><b>Suggested Action</b></p> <p>Confirm that the WBSSPI-Messages policy has been deployed on the managed node.</p> |



# 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' may be missing or not have permissions to execute (HPOM installation errors) or the system process table may be full.</p> <p><b>Suggested Action</b></p> <p>Confirm that HPOM is properly installed and deployed to the managed node. Ensure that the process table is not full. If it is, consider having the system administrator increase it.</p> |

# WASSPI-206

|                    |   |
|--------------------|---|
| <u>Description</u> | Cannot read directory < <i>directory</i> >  |
| <u>Severity</u>    | Critical  |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>The permissions on the directory prevent the HP Operations agent user from reading it or the directory is corrupt.</p> <p><b>Suggested Action</b><br/>Verify that the permissions are correct for the HP Operations agent 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 HP Operations agent user.</li><li>2. Verify that there is enough disk space to create files.</li><li>3. Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool.</li></ol> |

## WASSPI-208

|                    |   |
|--------------------|---|
| <b>Description</b> | The SPI must be configured before it can be used  |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>The SPI has not been configured on this node.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool. Verify that you have specified the correct information for the WebSphere servers on the managed node on which the error occurred.</li><li>2. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool. Verify that you have specified the correct information for the WebSphere servers on the managed node on which the error occurred.</li></ol> |

# WASSPI-209

|                    |  |
|--------------------|--|
| <b>Description</b> | Cannot contact WebSphere 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 SPI may be configured incorrectly.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Verify that WebSphere is up and running properly.</li><li>2. Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool.</li><li>3. Run the <b>SPI Admin</b> → <b>Verify</b> tool on the managed node to confirm that the SPI has been successfully configured.</li></ol> |

# WASSPI-210

|                    |   |
|--------------------|---|
| <b>Description</b> | Cannot configure the SPI  |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>The SPI configuration process failed.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Refer to the text following the error message in the WebSphere SPI error log to help identify the underlying cause of the problem. The error messages previous to this one will provide more information about the problem. You can view the SPI error log for a managed node by using the <b>SPI Admin → View Error File</b> tool. The error message can be identified by the date/time stamp.</li><li>2. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool.</li></ol> |

# WASSPI-211

|                    |  |
|--------------------|--|
| <b>Description</b> | Cannot create directory < <i>directory</i> >   |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>There are insufficient permissions for the HP Operations agent user to create the directory or there is insufficient disk space.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Verify that the permissions are correct for the HP Operations agent user for this directory.</li><li>2. Verify that there is enough disk space.</li></ol> |

# WASSPI-213

|                    |   |
|--------------------|---|
| <b>Description</b> | Improper parameters to program <i>&lt;name&gt;</i> . Usage: <i>&lt;usage&gt;</i>  |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <b>Probable Cause</b><br>The parameters to the program are incorrect.<br><br><b>Suggested Action</b><br>Correct the parameters. |



# WASSPI-214

|                    |  |
|--------------------|--|
| <b>Description</b> | Cannot run program < <i>program name</i> >   |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>The program failed to run. It may be missing, permissions may be incorrect, the process table may 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 SPI program and the file is missing, run the Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool with the managed node selected.</li><li>2. Verify that the permissions are correct for the HP Operations agent 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><br/>A required SPI configuration variable was not found.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool.</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

|                    |  |
|--------------------|--|
| <u>Description</u> | WebSphere monitoring has been turned OFF for <server_name>   |
| <u>Severity</u>    | Warning  |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>Collection has been turned off for the specified server.</p> <p><b>Suggested Action</b><br/>If desired, collection can be turned on by running the <b>SPI Admin</b> → <b>Start Monitoring</b> tool.</p> |

# WASSPI-219

|                    |   |
|--------------------|---|
| <u>Description</u> | WebSphere monitoring has been turned ON for <server_name>   |
| <u>Severity</u>    | Critical  |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>Collection has been turned on for the specified server</p> <p><b>Suggested Action</b><br/>If desired, collection can be turned off by running the <b>SPI Admin → Stop Monitoring</b> tool.</p> |

# WASSPI-221

|                    |   |
|--------------------|---|
| <b>Description</b> | < <i>file_name</i> > does not exist   |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>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 Action</b><br/>Log files: If there have never been any entries written to the file, no action is necessary. Otherwise, run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool.</p> <p>Property files: Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool.</p> |

# WASSPI-222

|                    |   |
|--------------------|---|
| <b>Description</b> | < <i>file_name</i> > is empty   |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>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><br/>If the file is a configuration file, run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool.</p> |

# WASSPI-223

|                    |  |
|--------------------|--|
| <b>Description</b> | Cannot read <file_name>  |
| <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 may be incorrect or a directory may be corrupt.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool. Verify that you have specified the correct information for the WebSphere servers on the managed node on which the error occurred.</li><li>2. Verify that the permissions are correct for the HP Operations agent user to read this file.</li></ol> |

# WASSPI-224

|                    |   |
|--------------------|---|
| <b>Description</b> | ddfcomp returned an error configuring <name>  |
| <b>Severity</b>    | Warning   |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>ddfcomp returned an error. This could be because neither OVPA nor CODA is installed on the system or because an error occurred while configuring the performance agent.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. If the performance agent is not installed, this error can be ignored.</li><li>2. Otherwise, identify the steps to reproduce the problem.</li><li>3. Run the <b>SPI Admin</b> → <b>Start Tracing</b> tool to turn on tracing. Try to reproduce the problem.</li><li>4. Run the <b>SPI Admin</b> → <b>Self-Healing Info</b> tool. Contact HP support with the information gathered by this tool.</li></ol> |



## WASSPI-225

|                    |  |
|--------------------|--|
| <b>Description</b> | No logfiles were found. Did you run 'Discover or Configure WBSSPI'?  |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <b>Probable Cause</b><br>The logfile list is empty.<br><br><b>Suggested Action</b><br><br>Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool. |

# WASSPI-226

|                    |   |
|--------------------|---|
| <b>Description</b> | Cannot read file <file_name>  |
| <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 may be incorrect or a directory may be corrupt.</li></ol> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool.</li><li>2. Verify that you have specified the correct information for the WebSphere servers on the managed node on which the error occurred.</li><li>3. Verify that the permissions are correct for the HP Operations agent user to read this file.</li></ol> |

# WASSPI-227

|                    |   |
|--------------------|---|
| <b>Description</b> | No Operations performance agent is installed. Data source will not be configured.   |
| <b>Severity</b>    | Warning   |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>If an Operations performance tool is available, the SPI will integrate with it. This warning indicates that none is available.</p> <p><b>Suggested Action</b><br/>If you should have a performance agent installed, verify that it is installed correctly and is running; reinstall it if necessary. Otherwise, this message can be ignored.</p> |

# WASSPI-228

|                    |   |
|--------------------|---|
| <b>Description</b> | ddflog returned an error logging <i>&lt;datasource&gt;</i> : <i>&lt;message&gt;</i>   |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>ddflog returned an error. This could be because the SPI was not properly configured to support logging performance data.</p> <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Redeploy SPI for WebSphere and SPI Data Collector instrumentation 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. Run the <b>SPI Admin</b> → <b>Start Tracing</b> tool to turn on tracing. Try to reproduce the problem.</li><li>4. Run the <b>SPI Admin</b> → <b>Self-Healing Info</b> tool. Contact HP support with the information gathered by this tool.</li></ol> |

# WASSPI-229

|                    |   |
|--------------------|---|
| <u>Description</u> | Cannot connect to directory < <i>directory-name</i> >   |
| <u>Severity</u>    | Critical  |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>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><br/>Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool.</p> |

# WASSPI-230

|                    |   |
|--------------------|---|
| <b>Description</b> | Cannot get lock <file> after <time>   |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>The lock file &lt;file&gt; was not cleared in the &lt;time&gt; indicated. This could be due to a very slow running or hung SPI process. Also could be a SPI process that had a lock was killed before the lock it had open had been cleared.</p> <p><b>Suggested Action</b><br/>Make sure no SPI processes are running. Manually remove the lock file.</p> |

# WASSPI-231

|                    |  |
|--------------------|--|
| <b>Description</b> | Error starting JRE <JVM_file> : <message>  |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <ul style="list-style-type: none"><li>• Some error occurred starting or running Java (the core of the SPI collector is written in Java). This could be that the specified JVM does not exist, or that the collector had some error.</li><li>• The JAVA_HOME variable in the SPI configuration is not set correctly.</li></ul> <p><b>Suggested Action</b></p> <p>Check for other errors generated at the same time, they may indicate the real cause. If the specified file does not exist, check your JAVA_HOME or HOME variables in the SPI configuration.</p> |

# 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> <p>There was a -i or -e specified on the collector command line which specified a server name that was not listed in the SPI configuration file. The collector only knows about servers listed in the configuration file.</p> <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. Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool.</li><li>3. Verify the WebSphere server names are correctly listed and spelled in the SPI configuration. Note that the server name is case-sensitive.</li></ol> |



# WASSPI-234

|                    |  |
|--------------------|--|
| <b>Description</b> | Error running program <i>&lt;file&gt;</i> , return value: <i>&lt;n&gt;</i>   |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>The SPI attempted to run some tool or auxiliary program and encountered an error doing so. The tools or program is shown in the message as <i>&lt;file&gt;</i> and the return code from attempting to run it is shown as <i>&lt;n&gt;</i> .</p> <p><b>Suggested Action</b></p> <p>If the tool is a SPI tool, make sure the SPI has been installed and configured correctly. If not reinstall or reconfigure. If it is a system tools, make sure there are no system problems that prevent the tool from running.</p> |

# WASSPI-235

|                    |   |
|--------------------|---|
| <b>Description</b> | Restart of PA agent failed  |
| <b>Severity</b>    | Warning   |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>The SPI attempted to automatically restart the PA agent and the automatic attempt failed.</p> <p><b>Suggested Action</b><br/>Restart the PA agent manually with the <code>mwa restart server</code> command.</p> |

# WASSPI-236

|                    |  |
|--------------------|--|
| <b>Description</b> | Failure when running XSLT on <code>&lt;xml&gt;</code> with stylesheet <code>&lt;xsl&gt;</code> : <code>&lt;message&gt;</code>  |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>As part of setting up graphing for user defined metrics, the UDM XML is translated. This message indicated that translation failed for some reason.</p> <p><b>Suggested Action</b><br/>Review the message shown. It is most likely that there is an error in the XML.</p> |

# WASSPI-237

|                    |  |
|--------------------|--|
| <b>Description</b> | Setting up Data Source < <i>datasource</i> >   |
| <b>Severity</b>    | Normal   |
| <b>Help Text</b>   | <b>Probable Cause</b><br>This is an informational message that an HP Performance Manager or PA datasource was setup. |

# WASSPI-238

|                    |  |
|--------------------|--|
| <u>Description</u> | No User Defined Metrics found  |
| <u>Severity</u>    | Warning  |
| <u>Help Text</u>   | <p><b>Probable Cause</b><br/>The <b>JMX Metric Builder</b> → <b>WBSSPI</b> → <b>UDM Graph Enable</b> tool was run, but no UDM metrics had been defined.</p> <p><b>Suggested Action</b><br/>Run the <b>SPI Admin</b> → <b>Discover or Configure WBSSPI</b> tool and check that the UDM XML file (UDM_DEFINITIONS_FILE property) has been named correctly.</p> |

# WASSPI-241

|                    |  |
|--------------------|--|
| <b>Description</b> | Cannot delete file < <i>file</i> >   |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b><br/>The SPI attempted to delete a file, but was unable to do so. It may be that the protection of the file is set so that the HP Operations agent user cannot delete it, or that there is some system problem preventing the file from being deleted.</p> <p><b>Suggested Action</b><br/>Make sure the protection of the file is correct.</p> |

# WASSPI-303

|             |  |
|-------------|--|
| Description | WBSSPI Configuration on the Server Updated.  |
| Severity    | Normal   |
| Help Text   | <b>Probable Cause</b> : NA<br><b>Potential Impact</b> : NA<br><b>Suggested Action</b> : NA |

# WASSPI-501

|                    |   |
|--------------------|---|
| <b>Description</b> | Retrieving configuration data from the HPOM server  |
| <b>Severity</b>    | Normal  |
| <b>Help Text</b>   | <p>This is a normal operation performed by the WBSSPI Discovery policy. The entry in the <i>A</i> (Action) column of the Active Messages view should change from <i>R</i> (running) to <i>S</i> (Success). If the entry in this column changes to <i>F</i> (Fail), the discovery operation cannot be completed successfully.</p> <p>Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool again and select this node when the tool is launched.</p> <p>If problem persists, select the <i>Help on HP Operations</i> option from the Help menu. The section titled <i>Smart Plug-in for WebSphere</i> provides instructions on how to use the <b>SPI Admin → Discover or Configure WBSSPI</b> tool to manually configure the SPI for WebSphere.</p> |




## WASSPI-502

|                    |   |
|--------------------|---|
| <b>Description</b> | Updating the WBSSPI configuration data with discovered information  |
| <b>Severity</b>    | Normal  |
| <b>Help Text</b>   | <p>This is a normal operation performed by the WBSSPI Discovery policy. The entry in the <i>A</i> (Action) column of the Active Messages view should change from <i>R</i> (running) to <i>S</i> (Success). If the entry in this column changes to <i>F</i> (Fail), the discovery operation cannot be completed successfully.</p> <p>Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool again and select this node when the tool is launched.</p> <p>If problem persists, select the <i>Help on HP Operations</i> option from the Help menu. The section titled <i>Smart Plug-in for WebSphere</i> provides instructions on how to use the <b>SPI Admin → Discover or Configure WBSSPI</b> tool to manually configure the SPI for WebSphere.</p> |


## WASSPI-503

|             |  |
|-------------|--|
| Description | SPI configuration on the management server has been updated by the Auto-Discovery.         |
| Help Text   | <b>Probable Cause</b> : NA<br><b>Potential Impact</b> : NA<br><b>Suggested Action</b> : NA |


# WASSPI-541

|                    |   |
|--------------------|---|
| <b>Description</b> | No application server found   |
| <b>Severity</b>    | Major   |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>WebSphere AdminServer 4.0 is not running on the node.</p> <p><b>Potential Impact : NA</b></p> <p><b>Suggested Action</b></p> <ul style="list-style-type: none"> <li>• Verify that the WebSphere 4.0 AdminServer is running by launching the administrative console on the node. If the administrative console fails to launch, start the WebSphere 4.0 AdminServer. Run the Discover or Configure WBSSPI tool again and select this node when the tool is launched.</li> <li>• Launch the <b>SPI Admin → Discover or Configure WBSSPI</b> tool from the HP Operations console and select the node from the list. Set the correct LOGIN/PASSWORD properties for the node (overwrite the existing encrypted data). Allow the WBSSPI Discovery process to run again on the selected node.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b><br/>A WebSphere 4.0 AdminServer is identified by the port number it uses. If the port number is not the default value (port 900) or if multiple instances of the AdminServer are present, verify that the correct information is entered for each specific instance of the AdminServer in the WebSphere SPI configuration file.</p> </div> |


# WASSPI-561

|                    |  |
|--------------------|--|
| <b>Description</b> | WBS Admin Server Error   |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>WebSphere Application Server versions 4: Unsuccessful login to the secured WebSphere environment.</p> <p><b>Potential Impact</b> : NA</p> <p><b>Suggested Action</b></p> <ul style="list-style-type: none"> <li>• Launch the WebSphere administrative console on the node and check if security is enabled. Also make sure that the LOGIN and PASSWORD variables (properties) for this node are present and valid in the WBSSPI configurations. Using the 'SPI Admin-&gt;Discover or Configure WBSSPI' Tool from the HP Operations Operations console, verify the accuracy of the information. The PASSWORD information is encrypted for security purposes.</li> <li>• Launch the <b>SPI Admin → Discover or Configure WBSSPI</b> tool from the HP Operations Operations console and select the node from the list. Set the correct LOGIN/PASSWORD properties for the node (overwrite the existing encrypted data). Allow the WBSSPI Discovery process to run again on the selected node.</li> </ul> <div data-bbox="305 1245 1450 1482" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b><br/>A WebSphere 4.0 AdminServer is identified by the port number it uses. If the port number is not the default value (port 900) or if multiple instances of the AdminServer are present, verify that the correct information is entered for each specific instance of the AdminServer in the WebSphere SPI configuration file.</p> </div> <p>If the suggested solutions fail and the problem persists, contact your HP Operations representative for assistance.</p> |


# WASSPI-562

|                    |  |
|--------------------|--|
| <b>Description</b> | Security access failure. Missing or invalid LOGIN/PASSWORD parameter for the WebSphere AdminServer on port: <port_number >   |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <ul style="list-style-type: none"> <li>• WebSphere Application Server versions 4: The values for the LOGIN and PASSWORD variables (properties) for this node are missing from the WBSSPI configurations, or incorrect information was entered.</li> </ul> <p><b>Potential Impact : NA</b></p> <p><b>Suggested Action</b></p> <ul style="list-style-type: none"> <li>• Launch the WebSphere administrative console on the node and check if security is enabled. Also make sure that the LOGIN and PASSWORD variables (properties) for this node are present and valid in the WBSSPI configurations. Using the <b>SPI Admin → Discover or Configure WBSSPI</b> tool from the HP Operations console, verify the accuracy of the information. The PASSWORD information is encrypted for security purposes.</li> <li>• Launch the <b>SPI Admin → Discover or Configure WBSSPI</b> tool from the HP Operations Operations console and select the node from the list. Set the correct LOGIN/PASSWORD properties for the node (overwrite the existing encrypted data). Allow the WBSSPI Discovery process to run again on the selected node.</li> </ul> <div data-bbox="331 1346 1446 1577" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p> <b>NOTE:</b><br/>A WebSphere 4.0 AdminServer is identified by the port number it uses. If the port number is not the default value (port 900) or if multiple instances of the AdminServer are present, verify that the correct information is entered for each specific instance of the AdminServer in the WebSphere SPI configuration file.</p> </div> <ul style="list-style-type: none"> <li>• If the suggested action does not fix the problem, contact your HP support representative.</li> </ul> |


# WASSPI-563

|                    |   |
|--------------------|---|
| <b>Description</b> | Security access failure. Invalid LOGIN/PASSWORD parameter for the WebSphere AdminServer on port: <i>&lt;port_number &gt;</i>  |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <ul style="list-style-type: none"> <li>• WebSphere Application Server versions 4: The LOGIN and PASSWORD properties for this node are missing from the WebSphere SPI configuration file or are incorrect.</li> </ul> <p><b>Potential Impact</b> : NA</p> <p><b>Suggested Action</b></p> <ul style="list-style-type: none"> <li>• Launch the WebSphere administrative console on the node and check if security is enabled. Also make sure that the LOGIN and PASSWORD variables (properties) for this node are present and valid in the WBSSPI configurations. Using the <b>SPI Admin → Discover or Configure WBSSPI</b> tool from the HP Operations Operations console, verify the LOGIN and PASSWORD information for the node. The PASSWORD information is encrypted for security purposes.</li> <li>• Launch the <b>SPI Admin → Discover or Configure WBSSPI</b> tool from the HP Operations console and select the node from the list. Set the correct LOGIN/PASSWORD properties for the node (overwrite the existing encrypted data). Allow the WBSSPI Discovery process to run again on the selected node.</li> </ul> <div data-bbox="331 1297 1448 1535" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p> <b>NOTE:</b><br/>A WebSphere 4.0 AdminServer is identified by the port number it uses. If the port number is not the default value (port 900) or if multiple instances of the AdminServer are present, verify that the correct information is entered for each specific instance of the AdminServer in the WebSphere SPI configuration file.</p> </div> <ul style="list-style-type: none"> <li>• If the suggested action does not fix the problem, contact your HP support representative.</li> </ul> |

# WASSPI-564


|                    |   |
|--------------------|---|
| <u>Description</u> | Security access failure. Unable to communicate with the WebSphere AdminServer on port: <i>&lt;port_number &gt;</i>  |
| <u>Severity</u>    | Critical  |
| <u>Help Text</u>   | <p><b>Probable Cause</b></p> <ul style="list-style-type: none"> <li>• WebSphere AdminServer 4.0 is not running on the node.</li> <li>• The LOGIN and PASSWORD properties for this node are missing from the WebSphere SPI configuration file or are incorrect.</li> </ul> <p><b>Potential Impact : NA</b></p> <p><b>Suggested Action</b></p> <ul style="list-style-type: none"> <li>• Launch the WebSphere administrative console on the node and check if security is enabled. Also make sure that the LOGIN and PASSWORD variables (properties) for this node are present and valid in the WBSSPI configurations. Using the <b>SPI Admin → Discover or Configure WBSSPI</b> tool from the HP Operations Operations console, verify the LOGIN and PASSWORD information for the node. The PASSWORD information is encrypted for security purposes.</li> <li>• Launch the <b>SPI Admin → Discover or Configure WBSSPI</b> tool from the HP Operations console and select the node from the list. Set the correct LOGIN/PASSWORD properties for the node (overwrite the existing encrypted data). Allow the WBSSPI Discovery process to run again on the selected node.</li> </ul> <div data-bbox="305 1339 1450 1570" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b><br/>A WebSphere AdminServer is identified by the port number it uses. If the port number is not the default value (port 900) or if multiple instances of the AdminServer are present, verify that the correct information is entered for each specific instance of the AdminServer in the WebSphere SPI configuration file.</p> </div> <p>If the suggested actions do not fix the problem, contact your HP support representative.</p> |

# WASSPI-565


|                    |  |
|--------------------|--|
| <b>Description</b> | Security access failure. Unable to login to the WebSphere AdminServer on port:<br><port_number >   |
| <b>Severity</b>    | Critical   |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>WebSphere Application Server versions 4: The LOGIN and PASSWORD properties for this node are missing from the WebSphere SPI configuration file or are incorrect.</p> <p><b>Potential Impact : NA</b></p> <p><b>Suggested Action</b></p> <ul style="list-style-type: none"> <li>• Launch the WebSphere administrative console on the node and check if security is enabled. Also make sure that the LOGIN and PASSWORD variables (properties) for this node are present and valid in the WBSSPI configurations. Using the <b>SPI Admin → Discover or Configure WBSSPI</b> tool from the HP Operations Operations console, verify the LOGIN and PASSWORD information for the node. The PASSWORD information is encrypted for security purposes.</li> <li>• Launch the <b>SPI Admin → Discover or Configure WBSSPI</b> tool from the HP Operations console and select the node from the list. Set the correct LOGIN/PASSWORD properties for the node (overwrite the existing encrypted data). Allow the WBSSPI Discovery process to run again on the selected node.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p> <b>NOTE:</b></p> <p>A WebSphere 4.0 AdminServer is identified by the port number it uses. If the port number is not the default value (port 900) or if multiple instances of the AdminServer are present, verify that the correct information is entered for each specific instance of the AdminServer in the WebSphere SPI configuration file.</p> </div> <ul style="list-style-type: none"> <li>• If the suggested action does not fix the problem, contact your HP support representative.</li> </ul> |




# WASSPI-571

|             |   |
|-------------|---|
| Description | Failed to Communicate with WebSphere 5 Application Server.  |
| Help Text   | <p><b>Probable Cause :</b> NA</p> <p><b>Potential Impact :</b> NA</p> <p><b>Suggested Action :</b></p> <ol style="list-style-type: none"> <li>1. Create or start one or more application servers on the node. Select the node and run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool again. Make sure that all of the application servers you want to monitor are running, before the WBSSPI Discovery policy is deployed or the <b>SPI Admin → Discover or Configure WBSSPI</b> tool is launched. Only the servers that are running will be automatically configured.</li> </ol> <p><i>WebSphere Application Server versions 5 :</i> Unsuccessful login to the secured WebSphere application server environment.</p> <p><i>Verification :</i> Launch the WebSphere administrative console on the node and check if security is enabled. Also, make sure that the LOGIN and PASSWORD variables (properties) for this node are present and valid in the WBSSPI configurations. Launch the <b>SPI Admin → Discover or Configure WBSSPI</b> tool and verify the accuracy of the information. The PASSWORD information is encrypted for security purposes.</p> <ol style="list-style-type: none"> <li>2. Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool and select the node from the list. Set the correct LOGIN/PASSWORD properties for the node (overwrite the existing encrypted data). Allow the WBSSPI Discovery process to run again on the selected node.</li> </ol> <div data-bbox="305 1486 1409 1726" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b><br/>If problem persists, refer to the document <i>HP Operations Smart Plug-in for WebSphere Application Server Installation and Configuration Guide</i> . The chapter called Configuring the WebSphere SPI provides instructions on how to manually configure the WebSphere SPI.</p> </div> |

# WASSPI-572

|             |   |
|-------------|---|
| Description | WebSphere 5 Login Error - Missing Login Data  |
| Help Text   | <p><b>Probable Cause :</b></p> <p><i>WebSphere Application Server versions 5</i><br/>The values for the LOGIN and PASSWORD variables (properties) for this node are missing from the WBSSPI configurations.</p> <p><i>Verification:</i><br/>Launch the WebSphere administrative console on the node and check if security is enabled. Make sure that the LOGIN and PASSWORD variables (properties) for this node are present and valid in the WBSSPI configurations. Launch the <b>SPI Admin → Discover or Configure WBSSPI</b> tool and verify the accuracy of the information. The PASSWORD information is encrypted for security purposes.</p> <p><b>Potential Impact :</b> NA</p> <p><b>Suggested Action :</b></p> <p>Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool and select the node from the list. Set the correct LOGIN/PASSWORD properties for the node (overwrite the existing encrypted data). Allow the WBSSPI Discovery process to run again on the selected node.</p> <div data-bbox="305 1224 1432 1459" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b><br/>If problem persists, refer to the document <i>HP Operations Smart Plug-in for WebSphere Application Server Installation and Configuration Guide</i> . The chapter called Configuring the WebSphere SPI provides instructions on how to manually configure the WebSphere SPI.</p> </div> |


# WASSPI-573

|             |   |
|-------------|---|
| Description | WebSphere 5 Login Error - Invalid Login Data  |
| Help Text   | <p><b>Probable Cause :</b></p> <p><i>WebSphere Application Server versions 5</i></p> <p>The discovery tool was unable to authenticate itself in a secured WebSphere server environment. This is likely due to incorrect values for the LOGIN and PASSWORD variables (properties) being provided in the WBSSPI configurations for this node.</p> <p><i>Verification:</i></p> <p>Launch the WebSphere administrative console on the node and check if security is enabled. Make sure that the LOGIN and PASSWORD variables (properties) for this node are present and valid in the WBSSPI configurations. Launch the <b>SPI Admin → Discover or Configure WBSSPI</b> tool and verify the accuracy of the information. The PASSWORD information is encrypted for security purposes.</p> <p><b>Potential Impact : NA</b></p> <p><b>Suggested Action :</b></p> <p>Run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool and select the node from the list. Set the correct LOGIN/PASSWORD properties for the node (overwrite the existing encrypted data). Allow the WBSSPI Discovery process to run again on the selected node.</p> <div data-bbox="305 1333 1393 1570" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b></p> <p>If problem persists, refer to the document <i>HP Operations Smart Plug-in for WebSphere Application Server Installation and Configuration Guide</i> . The chapter called Configuring the WebSphere SPI provides instructions on how to manually configure the WebSphere SPI.</p> </div> |


# WASSPI-581

|                    |   |
|--------------------|---|
| <b>Description</b> | Internal Error - Discovery fails to initialize: <i>&lt;error_message &gt;</i>   |
| <b>Severity</b>    | Critical  |
| <b>Help Text</b>   | <p><b>Probable Cause</b></p> <p>Read the [Error Message] that accompanies the message text to determine the cause of the problem. The <b>SPI Admin → Discover or Configure WBSSPI</b> tool may not function properly due to one (or more) of the following conditions on the managed node:</p> <ul style="list-style-type: none"> <li>• A <b>SPI Admin → Discover or Configure WBSSPI</b> tool, script, or data file is missing, has been removed, or is placed in non-standard directory paths.</li> <li>• There were problems with the Operations agent installation.</li> <li>• The Operations agents installation directory cannot be determined.</li> <li>• Operations operator account that runs the <b>SPI Admin → Discover or Configure WBSSPI</b> tool does not have the permission to open/read the specified file or execute the required script/command.</li> <li>• General network errors.</li> </ul> <p><b>Potential Impact</b> : NA</p> <p><b>Suggested Action</b></p> <ul style="list-style-type: none"> <li>• Check with the IT specialist in the organization on matters related to these issues. After the problems have been resolved, run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool again and select this node when the tool is launched.</li> <li>• Select the Help on HP Operations option from the Help menu. The section titled Smart Plug-in for WebSphere provides instructions on how to use the <b>SPI Admin → Discover or Configure WBSSPI</b> tool to manually configure the SPI for WebSphere.</li> <li>• If the suggested solutions fail and the problem persists, contact your HP Operations representative for assistance.</li> </ul> |

# WASSPI-585

|                    |  |
|--------------------|--|
| <u>Description</u> | SYSTEM ERROR - [Error Message]   |
| <u>Help Text</u>   | <p><b>Probable Cause</b></p> <ul style="list-style-type: none"> <li>• Read the [Error Message] that accompanies the message text to determine the cause of the problem. The <b>SPI Admin → Discover or Configure WBSSPI</b> tool may not function properly due to one (or more) of the following conditions on the managed node: <ul style="list-style-type: none"> <li>○ Operating system commands used by <b>SPI Admin → Discover or Configure WBSSPI</b> tool are missing, have been removed, or are placed in non-standard directory paths.</li> <li>○ The system's PATH variable has not been set for certain system commands.</li> <li>○ Required operating system file(s) or software installation registry cannot be found or is in a non-standard directory path.</li> <li>○ Operations operator account that runs the <b>SPI Admin → Discover or Configure WBSSPI</b> tool does not have the permission to open/read system files or execute the necessary system commands.</li> <li>○ General network errors.</li> </ul> </li> </ul> <p><b>Potential Impact</b> : NA</p> <p><b>Suggested Action</b></p> <p>Check with the Operations or the IT specialist in the organization on matters related to these issues. After the problems have been resolved, select the node and run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool again.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b><br/>If problem persists, refer to the document <i>HP Operations Smart Plug-in for WebSphere Application Server Installation and Configuration Guide</i> . The chapter called Configuring the WebSphere SPI provides instructions on how to manually configure the WebSphere SPI.</p> </div> |

# WASSPI-591

|                    |  |
|--------------------|--|
| <u>Description</u> | WBSSPI Discovery - WebSphere Error [Error Message]   |
| <u>Help Text</u>   | <p><b>Probable Cause</b></p> <ul style="list-style-type: none"> <li>• Read the [Error Message] that accompanies the message text to determine the cause of the problem. The <b>SPI Admin → Discover or Configure WBSSPI</b> tool may not function properly due to one (or more) of the following conditions on the managed node: <ul style="list-style-type: none"> <li>○ Operating system commands used by <b>SPI Admin → Discover or Configure WBSSPI</b> tool are missing, have been removed, or are placed in non-standard directory paths.</li> <li>○ Operations operator account that runs the <b>SPI Admin → Discover or Configure WBSSPI</b> tool does not have the permission to open/read system files or execute the necessary system commands.</li> </ul> </li> </ul> <p><b>Potential Impact</b> : NA</p> <p><b>Suggested Action</b></p> <p>Check with the Operations or the WebSphere application server specialist in the organization on matters related to these issues. After the problems have been resolved, select the node and run the <b>SPI Admin → Discover or Configure WBSSPI</b> tool again.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b><br/>If problem persists, refer to the document <i>HP Operations Smart Plug-in for WebSphere Application Server Installation and Configuration Guide</i> . The chapter called Configuring the WebSphere SPI provides instructions on how to manually configure the WebSphere SPI.</p> </div> |

## All Other Errors

|                    |   |
|--------------------|---|
| <u>Description</u> | An unknown error appears in the WebSphere SPI error log   |
| <u>Severity</u>    | Warning   |
| <u>Help Text</u>   | <p><b>Suggested Action</b></p> <ol style="list-style-type: none"><li>1. Refer to the text following the error message in the WBSPI error log to help identify the problem. You can view the SPI error log for a managed node by using the <b>SPI Admin</b> → <b>View Error File</b> tool. The error message can be identified by the date/time stamp.</li><li>2. Identify the steps to reproduce the problem.</li><li>3. Run the <b>SPI Admin</b> → <b>Start Tracing</b> tool to turn on tracing. Try to reproduce the problem.</li><li>4. Run the <b>SPI Admin</b> → <b>Self-Healing Info</b> tool. Contact HP support with the information gathered by this tool.</li></ol> |

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