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Installation and Configuration Guide for HP Service Manager Connector

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Oracle Enterprise Manager Installation and Configuration Guide for HP Service Manager Connector, Release 1.0.4.0.0

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Contents

Preface

This *Connector Installation and Configuration Guide* provides the information that you require to install and configure the HP Service Manager Connector that integrates Enterprise Manager with HP Service Manager management tools and help desk systems.

Audience

This guide is written for Oracle Enterprise Manager system administrators who want to install and configure HP Service Manager Connector to enable integration between Enterprise Manager and HP Service Manager 7.

You should already be familiar with Oracle Enterprise Manager.

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- *Oracle Database 2 Day DBA*
- *Oracle Enterprise Manager Concepts*
- *Oracle Enterprise Manager Quick Installation Guide*
- *Oracle Enterprise Manager Grid Control Installation and Basic Configuration*
- *Oracle Enterprise Manager Advanced Configuration*
- *Oracle Enterprise Manager Metric Reference Manual*
- *Oracle Enterprise Manager Command Line Interface*
- *Extending Oracle Enterprise Manager*

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If you already have a user name and password for OTN, then you can go directly to the documentation section of the OTN Web site at

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Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1 Introduction to the Connector

The HP Service Manager Connector 1.0.4.0.0 integrates HP Service Manager Version 7 (HPSM) incident management with Enterprise Manager. Using this connector, you can create, update, reopen, and close an HP Service Incident (ticket) based on metric alerts in Enterprise Manager. The HP Service Manager Connector integrates Enterprise Manager with HP Service Manager through either an HTTP or HTTPS connection.

The following sections explain various HP Service Manager Connector concepts and requirements that you should understand before you start using the HP Service Manager Connector:

1.1 Types of Alerts

You can create, update, or close tickets based on only the following types of alerts in Enterprise Manager:

- Metric alerts
- Availability alerts (includes alerts for Up, Down, Blackout Started, Blackout Ended, Agent Unreachable, Agent Unreachable Resolved, Metric Error Detected, and Metric Error Resolved)

1.2 Auto Ticketing

Whenever an alert is triggered in Enterprise Manager, the HP Service Manager Connector can automatically open or update an incident ticket. You can specify the set of alerts for which tickets must be opened and the alert severity for which this should happen.

You can do this in Notification Rules, the user-defined rules that define the criteria by which notifications should be sent for alerts.

See Also: "Configuring Notifications" in the *Oracle Enterprise Manager Advanced Configuration Guide*

After the ticket is opened, any subsequent change in alert severity updates the ticket. After the alert is cleared (severity is set to `Clear`), you can optionally close the ticket.

For auto-ticketing, you must specify in the notification rule the ticket template to be used when alerts specified in the ticket occur. A ticket template is displayed as a notification method in the notification rule.

1.3 Manual Ticketing

From the Enterprise Manager Grid Control console, you can manually open an incident ticket based on an open alert in Enterprise Manager. The HP Service Manager Connector populates the ticket with details based on the alert and the ticket template.

1.4 Ticket Templates

Ticket templates are transformation style sheets in XSLT format that transform Enterprise Manager alerts to ticket format before the requests are sent to the Service Manager application.

These templates specify how Enterprise Manager alert attributes can populate the fields of a Service Manager Incident. A ticket template helps in the mapping of Enterprise Manager Alert fields into Service Manager incident fields.

In Auto Ticketing, a notification method is created for each registered ticket template. The selected notification method determines which ticket template is used when a notification is sent out to the Connector. For manual ticketing, you have to select a ticket template before submitting a request to create a ticket. The Enterprise Manager installation for the Service Manager connector includes some out-of-box ticket templates to facilitate easy usage of this feature, but you can modify and extend templates as needed for your instance of the Service Manager connector.

1.5 Grace Period

The grace period provides you with a configuration to prevent the creation of a large number of tickets for frequently reoccurring alerts. For alerts that occur frequently within a relatively short time interval, it is often desirable to open and maintain one Incident ticket that tracks each occurrence of the alert instead of separate tickets each time.

For recurring alerts, the grace period is a time period during which reoccurrences of the same alert update (or reopen) an existing ticket for the alert instead of opening a new ticket.

For example, an alert triggers and a ticket is opened for it. If the grace period is one hour and the alert is cleared at 10:00 a.m., and if the same alert retriggers before 11:00 a.m. (one-hour grace period), the ticket that had been originally created for the alert is updated/reopened rather than creating a new ticket.

1.6 Versions Supported

This connector supports the following version of Enterprise Manager:

- Enterprise Manager Grid Control 10g Release 4 or higher Management Service with one-off patch 6884527 or later.

The base Enterprise Manager version number for the HP Service Manager Connector Release 1.0.4.0.0 is Enterprise Manager 10*g* Release 4.

1.7 Prerequisites

Before using the HP Service Manager Connector, ensure that you meet the following prerequisites:

- Service Manager 7 service tier is installed and configured.
- Service Manager 7 consoles are installed and configured. If the URL connector framework option is selected, the Service Manager Web console must be installed and configured. To install the middle tier, see the *HP Service Manager 7 Web Tier Installation Guide*. To configure the Web console, see Section 3.3, "Configuring the HP Service Manager Web Console" for instructions.
- Oracle Patches are installed. To install patches, do the following:
  1. Download patch # 6884527 from `http://metalink.oracle.com/`.
  2. Follow the instructions included with the download in the `README.txt` file.

2

Installing and Registering the Connector

The HP Service Manager Connector is not installed as part of the Enterprise Manager base installation, so you need to manually install it as described in this chapter. The following topics are discussed:

- Installing the Connector
- Uninstalling the Connector
- Registering the Connector
- Deploying the Connector and Registering the Templates in Enterprise Manager 10g Release 5

2.1 Installing the Connector

To install the connector, you first remove the Remedy Connector, then add the new HP Service Manager Connector as explained in the following sections.

Note: If want to upgrade from the HP ServiceCenter to HP Service Manager and you have deployed the HP ServiceCenter Connector before, you need to delete HP ServiceCenter Connector from the Management Connectors page and then deploy the HP Service Manager Connector.

2.1.1 Removing the Remedy Connector

Enterprise Manager limits the number of ticketing connectors to one. This constraint applies only to the connectors of the type 'ticket'. Consequently, you need to remove the Remedy connector, which is part of the base Oracle Management Server (OMS) installation, before proceeding with the installation.

To remove the Remedy connector, follow these steps:

1. Log in to the Oracle Enterprise Manager console. Specify user credentials with Super Administrator privileges. Specify the password and click **Login**.
2. In the Grid Home page, click **Setup**.
3. In the Setup Options page, select **Management Connectors**.

   The installed Management Connectors are displayed.
4. Select the Remedy connector and click **Delete**. Confirm that you want to delete the connector.

Note: Follow the same procedure to delete any Ticket connector previously installed, if applicable.

2.1.2 Adding the New HP Service Manager Connector

To add the new connector, follow these steps:

1. Download the HP Service Manager Connector from OTN.
2. Run the following command to extract the connector:

```
emctl extract_jar connector <jarfile> <connectorTypeName> <oracleHome>
```

Note: This extraction must be performed on all OMS instances, since all OMS instances need local access to the files.

For example:

```
C:\OracleHomes\oms10g\bin\emctl extract_jar connector
"C:\OracleHomes\oms10g\sysman\connector\HP_Service_Manager.jar" "HP
ServiceManager Connector" "C:\OracleHomes\oms10g"
```

Running the command create a new connector subdirectory called `HP_Service_Manager_Connector` in the `<OracleHomes>...sysman\connector` directory.

3. Initiate registration as follows:
   a. Register the connector to Enterprise Manager, which you only need to do once. For this registration procedure, see Section 2.3, "Registering the Connector".
   b. Register the ticket templates to Enterprise Manager. For this registration procedure, see Section 3.1.1, "Registering Ticket Templates".

Steps a and b both require the `emctl.bat` command line utility, which is located in the `<OracleHomes>\oms10g\bin` directory. This utility is also used for other features, such as starting and stopping the OMS service.

2.2 Uninstalling the Connector

To uninstall the HP Service Manager Connector, select it in the Management Connectors page, then click **Delete**.

2.3 Registering the Connector

From the Oracle Management Server (OMS) host command window, run the following `emctl` command:

```
emctl register_connector connector "<connectorType.xml>"  <server> <port>
<databaseSid> <username> <password> "<oraclehome>"
```

For example:

```
C:\OracleHomes\oms10g\bin\emctl register_connector connector
"C:\OracleHomes\oms10g\sysman\connector\HP_Service_Manager_Connector\HP_Service_
```

```
Manager_Deploy_Connector.xml" localhost 1521 emrep SYSMAN password
"C:\OraclHomes\oms10g"
```

Table 2–1 emctl Parameters

Parameter	Description
`Deployment File`	Fully- qualified name of the connector deployment file. The file is `Service_Manager_Connector.xml`, which resides in the Connector home directory.
Server	Host name of the Enterprise Manager repository.
`port`	Listener port of the repository.
`database sid`	Repository database instance ID.
`username`	Specify `SYSMAN`.
`password`	Password for `SYSMAN`.
`Oracle Home`	OMS Oracle home located at "`<oraclehome>\oms10g`". Double quotes are recommended.

The new HP Service Manager connector should now appear in the Management Connector Page of the Enterprise Manager Grid Control Console as shown in Figure 2–1.

For information about registering ticket templates, see Section 3.1.1, "Registering Ticket Templates".

Figure 2–1 HP Service Manager Connector

2.4 Deploying the Connector and Registering the Templates in Enterprise Manager 10g Release 5

Use the following procedure to deploy the HP Service Manager Connector in Enterprise Manager 10*g* Release 5.

1. Run the following emctl command on all OMSes if you have a multi-OMS environment:

```
$ORACLE_HOME/bin/emctl extract_jar connector -jar <jarfile> -cname
<connector_name>
```

This extracts the `hp_service_manager_connector.jar` file to the following folder:

```
$ORACLE_HOME/sysman/connector/HP_Service_Manager_Connector/
```

For example:

```
emctl extract_jar connector -jar hp_service_manager_connector.jar -cname
"HP Service Manager Connector"
```

2. Deploy the connector by running the following `emctl` command. You only need to run this step on one OMS.

```
$ORACLE_HOME/bin/emctl register_connector connector -dd <connectorType.xml>
-cs //<server>:<port>/<dbSID> -repos_user <username> -repos_pwd <password>
```

For example:

```
emctl register_connector connector -dd $ORACLE_HOME/sysman/connector/HP_
Service_Manager_Connector/HP_Service_Manager_Connector.xml  -cs
//$emhost:$dbport/$dbSID -repos_user sysman -repos_pwd $repospwd
```

The HP Service Manager Connector should now appear on the Management Connector page.

emctl Parameters

Table 2–2 provides descriptions for the parameters shown in the emctl command above.

Table 2–2 emctl Parameters

Parameter	Description
`cs`	Connect string. Specify as "//$emHost:$dbPort/$dbSID", where, $emHost is the server, $dbPort is the port, and $dbSID is the database session identifier.
`server`	Host name of the Enterprise Manager repository.
`port`	Listener port of the repository.
`database sid/ Service Name for RAC DB`	Repository database instance ID or service name if you are using RAC database as the repository.
`repos_user`	Specify `SYSMAN`.
`repos_pwd`	Password for `SYSMAN`.
`ctname`	Connector type name — Specify `"HP Service Manager Connector"`. The double quotes ("") are mandatory.
`cname`	Connector name — Specify `"HP Service Manager Connector"`. The double quotes ("") are mandatory.
`iname`	Internal name — Depending on the template, the values can be `ServiceManager_Default_Incident.xsl`, `ServiceManager_Default_Incident_AutoClose.xsl`, `createTicket`, `getTicket`, or `updateTicket`.
`tname`	Template name — Depending on the template, the values can be `Create Ticket Response`, `Get Ticket Request`, `Get Ticket Response`, `Update Ticket Response`, or a name defined by the user.
`ttype`	Template type — Specify 1 for inbound transformation and 2 for outbound transformation.

Table 2–2 (Cont.) emctl Parameters

Parameter	Description
description	Short description for the ticket template. This description is also displayed in Enterprise Manager.

2.4.1 Registering Templates

For each template, run the following emctl register_template connector command as a user with execute privilege on emctl and the ability to read the template:

```
emctl register_template connector -t <template.xml> -cs //<server>:<port>/<dbSID>
-repos_user <username> -repos_pwd <password> -ctname <connector_type_name> -cname
<connector_name> -iname <internal_name> -tname <template_name> -ttype <template_
type> -d <description>
```

Replace <template.xml>, <internal_name>, <template_name> and <template_type> with the values listed in Table 2–3. For example:

```
emctl register_template connector -t $ORACLE_HOME/sysman/connector/HP_Service_
Manager_Connector/ServiceManager_Default_Incident.xsl -cs
//<server>:<port>/<dbSID> -repos_user <username> -repos_pwd <password> -ctname "HP
Service Manager Connector" -cname "HP Service Manager Connector" -iname
"ServiceManager_Default_Incident.xsl" -tname "ServiceManager_Default_Incident.xsl"
-ttype 2 -d "This is the request xsl file for ServiceManager_Default_Incident
method"
```

The following table lists the properties of each template for the HP Service Manager Connector.

Table 2–3 Possible Replacement Values For register_template Parameters

template.xsl	template_name	internal_name	template_type
ServiceManager_Default_Incident.xsl	<Defined by the users>	<Defined by the users>	2
ServiceManager_Default_Incident_AutoClose.xsl	<Defined by the users>	<Defined by the users>	2
createTicketResponse.xsl	Create Ticket Response	createTicket	1
getTicket_request.xsl	Get Ticket Request	getTicket	2
getTicket_response.xsl	Get Ticket Response	getTicket	1
updateTicketResponse.xsl	Update Ticket Response	updateTicket	1

The following example is based on the template values shown in Table 2–3.

Example 2–1 Request XSL File for createTicketResponse Method

```
emctl register_template connector -t $ORACLE_HOME/sysman/connector/
HP_Service_Manager_Connector/createTicketResponse.xsl  -cs
//<host>:<port>/<service_name>
-repos_user SYSMAN -repos_pwd <password> -ctname "HP Service Center Connector"
-cname "HP Service Center Connector" -tname "Create Ticket Response" -iname
"createTicket" -ttype 1 -d
```

3

Configuring the Connector

This chapter explains how to perform tasks directly or indirectly related to configuring the connector, and also discusses the post-configuration task of navigating between the Enterprise Manager and HP Service Manager consoles. The following topics are discussed:

- Working with Ticket Templates
- Configuring the Connector
- Configuring the HP Service Manager Web Console
- Testing the Connector
- Navigating Between Enterprise Manager and HP Service Manager

3.1 Working with Ticket Templates

The following sections provide information about registering, removing, replacing, and adding ticket templates. Use the Configure Management Connector Ticket Templates page (Figure 3–1) to perform any of the tasks mentioned in the following sections.

3.1.1 Registering Ticket Templates

You need to register ticket templates before they are recognized in Enterprise Manager. For Auto Ticketing, a notification method is created for each registered ticket template, and a ticket is created and updated based on the ticket template associated with the selected notification method. For manual ticketing, registered ticket templates are available for selection.

The files in the base directory are configured specifically for Service Manager and must not be modified. Only a person trained to modify XSL files for the connector framework should modify the templates. For more information about modifying ticket templates, see Section 4.3, "Customizing Ticket Templates" .

The templates are the out-of-box ticket templates shipped with the connector. By default, all out-of-box ticket templates are registered. The templates assume defaults that may not be applicable to your instance of Service Manager, although they are designed to work with a default installation of HP Service Manager.

Registering a Template

From the Oracle Management Server (OMS) host command window, run the following `emctl` command from the `$ORACLE_HOME/bin` directory for each applicable ticket template:

```
emctl register_ticket_template connector <ticketTemplate.xml> <server> <port>
<database sid> <username> <password> <connectorTypeName> <connectorName>
<templateName> <description>
```

The template in Example 3–1 creates an Incident in Service Manager and supports AutoClose.

Example 3–1 register_ticket_template connector

```
C:\OracleHomes\oms10g\BIN\emctl register_ticket_template connector
"C:\OracleHomes\oms10g\sysman\connector\HP_Service_Manager_
Connector\templates\Service_Manager_Default_Incident_AutoClose.xsl" <Host Server
Name> 1521 emrep SYSMAN <password> "HP Service Manager Connector" "HP Service
Manager Connector" "Service Manager Default Incident AutoClose" "This template
creates an Incident in Service Manager and supports autoclose."
```

emctl Parameters for Ticket Registration

Table 3–1 provides descriptions for each `emctl` parameter for ticket registration.

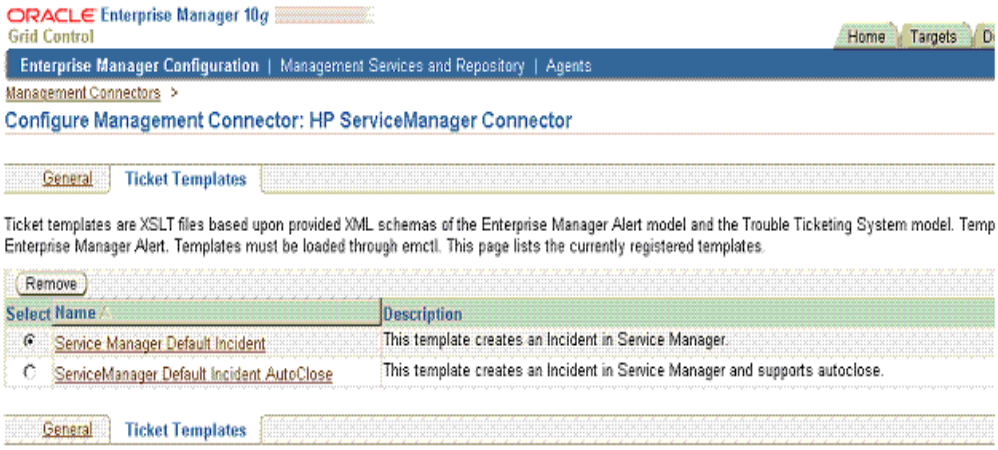
Table 3–1 emctl register_ticket_template Parameters

Parameter	Description
`ticketTemplate.xsl`	Fully-qualified name of the ticket template file. The file resides in the Connector home directory. Oracle recommends that you use intuitive names since there may be notification methods created with the same names, and you may have to choose one of them when you use the Auto Ticketing feature. Use `xsl` as the file extension since the format is XSLT; for example, `ServiceCenter_Default_Incident.xsl`. If the file is in a different directory, provide the complete path for the file.
`Server`	Host name of the Enterprise Manager repository.
`port`	Listener port of the repository.
`database sid/ Service Name for RAC DB`	Repository database instance ID.
`username`	Specify `SYSMAN`.
`password`	Password for `SYSMAN`.
`connectorTypeName`	Connector type name. For example, `"HP ServiceCenter Connector"`. The double quotes (" ") are mandatory.
`connectorName`	Connector name. This should be the same as the connector type name. For example, `"HP ServiceCenter Connector"`. The double quotes (" ") are mandatory.
`templateName`	Intuitive name for the ticket template to be displayed in Enterprise Manager. It is recommended that this name be the same as the file name, replacing the underscore in the file name with spaces.
`description`	Short description for the ticket template. This description is also displayed in Enterprise Manager.

Verifying Registration

To verify that the templates are registered properly, navigate to the **Ticket Templates** tab on the Configure Management Connector: HP Service Manager Connector page. The registered templates must be visible in the list as shown in Figure 3–1.

Figure 3–1 Configure Management Connector Ticket Templates Page



3.1.2 Viewing Template Code

Click a template name to view the code for the template.

The ticket templates are in XSLT format. A basic knowledge of XSLT is required to understand the code.

3.1.3 Removing Templates

To remove a template, perform the following steps:

Important: If the template you delete has a notification rule associated with it, the notification fails.

---

1. Select the template and click **Remove.**
2. At the prompt, confirm the removal.
3. Before you exit the page, click **OK** for the deletion to occur.

Note: Unless you click **OK** before you exit, the template is not deleted. Next time you go to the Ticket Template page, the templates reappear.

Although the ticket template is removed from the Enterprise Manager repository, it is still available in OMS in the Connector home directory. You can re-register the ticket template later if required.

3.1.4 Replacing Templates

To replace an existing ticket template, do the following in the sequence indicated:

1. Delete the ticket template.
2. Register the new template using `emctl`.

3.1.5 Adding New Templates

To add templates, you should define new templates and register them using `emctl`.

See Also: Section 4.3, "Customizing Ticket Templates"

3.1.6 Avoiding Notification Failures

Notification is blocked for processing if the notification device is down because of problems. For instance, notification is blocked if the Service Manager server is down, the Service Manager configuration on Enterprise Manager is incorrect, or the ticket is removed in Service Manager.

The ticketing connector attempts to contact the service desk several times in a predefined interval. After that, it skips the current ticketing notification.

3.2 Configuring the Connector

To configure the connector:

1. As Super Administrator, from Enterprise Manager Grid Control, click **Setup.**

   The Overview of Setup page appears.

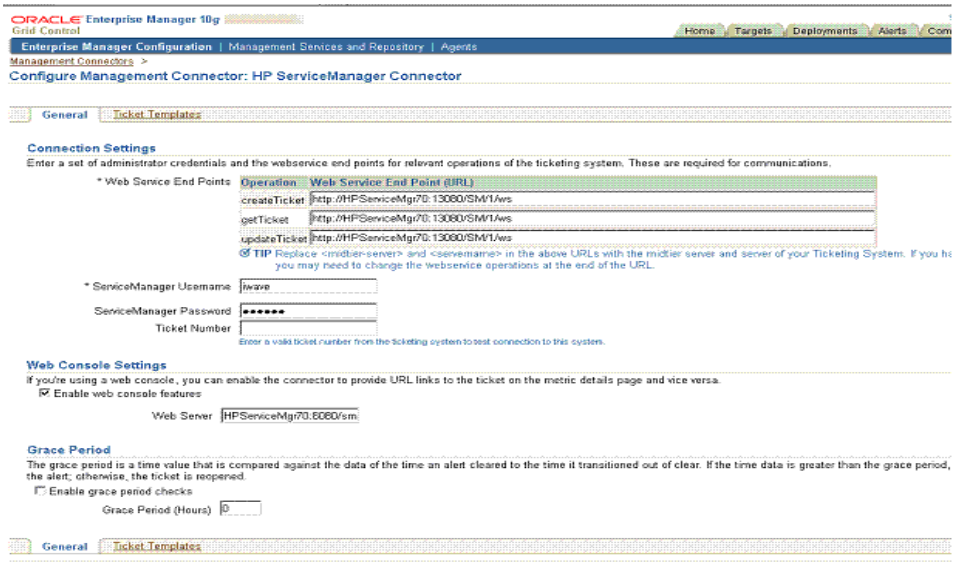
2. Click **Management Connectors** in the left pane.

   The Management Connectors page appears. The row for the ticketing connector should appear in this page as shown in Figure 2–1.

3. Click the **Configure** icon for the connector that you just registered.

   The General tab of the Configure Management Connector page appears (Figure 3–2).

Figure 3–2 Configure Management Connector General Page



4. Configure the connection settings:

   - **Web Service End Points**

     Specify the appropriate server or IP address of the server hosting the Service Manager 7 Web services. Provide the server address in the format ...

     `http://<server name or IP address>: 13080/`

     ... where 13080 is the default installation port. This may vary with your installation.

     These end points to `CreateTroubleTicket`, `UpdateTroubleTicket`, and `GetTroubleTicket` Web services are exposed by HP Service Manager Help Desk. The `CreateTroubleTicket` and `UpdateTroubleTicket` operations are used during manual and automated ticketing.

     The `GetTroubleTicket` operation is only used on this window by testing the Ticket Number retrieval process. For more information about testing the ticket retrieval process, see Section 3.4, "Testing the Connector".

   - **Service Manager Username**

     Specify the user name for HTTP basic authentication supported by the HP Service Manager web services. This user name must have the appropriate privileges/roles in the Service Manager to create, update, and query tickets in the HP Service Manager. All incident tickets created through the connector are generated with this user account.

   - **Service Manager Password**

     Specify the password associated with the supplied HP Service Manager user.

   - **Ticket Number**

     Specify this to verify the Web service end point information. See Section 3.4, "Testing the Connector" for more information.

5. (Optional) Configure the web console settings.

Web console settings are required if you want the Connector to provide links from Enterprise Manager to the HP Service Manager application user interface. These are the User Interface navigational links from Enterprise Manager to the HP Service Manager application user interface.

- **Enable web console features**

  Check to launch the HP Service Manager Incident Ticket page within the context from Enterprise Manager. If this is not checked, the HP Service Manager Web console cannot be launched in context of the ticket from the Enterprise Manager console.

- **Web Server**

  HP Service Manager host name. Provide the system name and port details of the Web server that hosts the HP Service Manager Application User Interface (not the details of Web services or the database server). Enter the Web Server address in the format:

  ```
  <Servername or IP Address>:<Port>
  ```

  See: To install the middle tier, see the *HP Service Manager 7 Web Tier Installation Guide*.

  To configure the Web console, see Section 3.3, "Configuring the HP Service Manager Web Console".

6. (Optional) Configure the grace period.

   If you configure this option, Enterprise Manager alerts that have generated an incident will update or reopen the incident if an alert is triggered. The alert occurs again within the grace period time specified. This setting applies to all alerts processed by HP Service Manager Connector.

   See Section 1.5, "Grace Period" for conceptual information about the grace period.

7. Click **OK.**

   The Management Connectors page reappears. The ticketing connector row should have a checkmark in the Configured column.

8. In the Configure Management Connector page, go to the Ticket Templates tab (Figure 3–1) and ensure that the ticket templates are successfully loaded.

If you choose HTTPS as the protocol to establish a connection between the HP Service Manager and Enterprise Manager, see Appendix A, "Enabling SSL for HTTPS".

Note: Oracle recommends that you use HTTPS as the protocol for the communication between Enterprise Manager and the HP Service Manager Web Service server.

Use HTTP only if a secure connection is not required and the data can be transferred in clear text between the two systems without compromising security.

3.3 Configuring the HP Service Manager Web Console

Verify the configuration of the `web.xml` file in the WEB-INF folder of the Tomcat web tier context root by doing the following:

1. Make sure the `serverHost` parameter value is changed from local host to the fully-qualified name of the web tier server.
2. See the *Generated Web Tiers URLs* section of the help for the Service Manager client.
3. Make sure the `querySecurity` parameter is set to false as follows:

```
<init-param>
<param-name>querySecurity</param-name>
<param-value>false</param-value>
```

Note: Based upon how the Enterprise Manager Connector Framework works, the hash information normally required in the URL when `querySecurity` is set to true cannot be present. This requires that the URL security be turned off.

Your security team needs to evaluate if the risks outweigh the need for the URL to be embedded into the Enterprise Manager alert. Service Manager still requires user authentication when hashing is turned off to access the web console enforcing authorization to the operation requested.

3.4 Testing the Connector

To test the connector, do the following:

1. In the Management Connectors page (Figure 2–1), select the HP Service Manager connector and click **Configure**.
2. Enter a valid ticket (Incident in Service Manager) into the Ticket field and click **OK**.

   This executes the web service operation `getTicket` call to validate the incident. If Enterprise Manager cannot properly retrieve the incident, it returns an error and returns to the Management Connectors page.

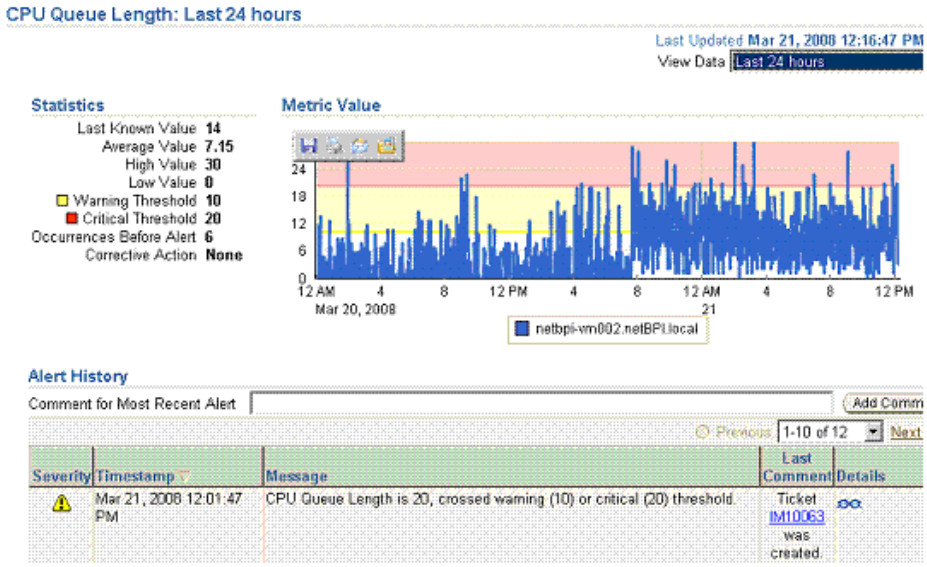
3.5 Navigating Between Enterprise Manager and HP Service Manager

After you have configured the connector, you will want to access alerts from the Enterprise Manager and HP Service Manager consoles. The following sections explain how to switch from one console to the other.

3.5.1 Navigating from Enterprise Manager to HP Service Manager

1. In the Enterprise Manager console, click the alert message to go to the metric details page for the alert.
2. In the Alert History table, locate the ticket ID link in the Last Comment column shown in Figure 3–3.

Figure 3–3 Alert details in Enterprise Manager Console



3. If not found, click the icon in the Details column to get more information about the alert.
4. On the page that appears, locate the ticket ID in the Alert Details table.
5. Click the ticket ID link. You are forwarded to the HP Service Manager Web console login page.
6. Provide valid HP Service Manager account details.

   The ticket page associated with this alert is displayed.

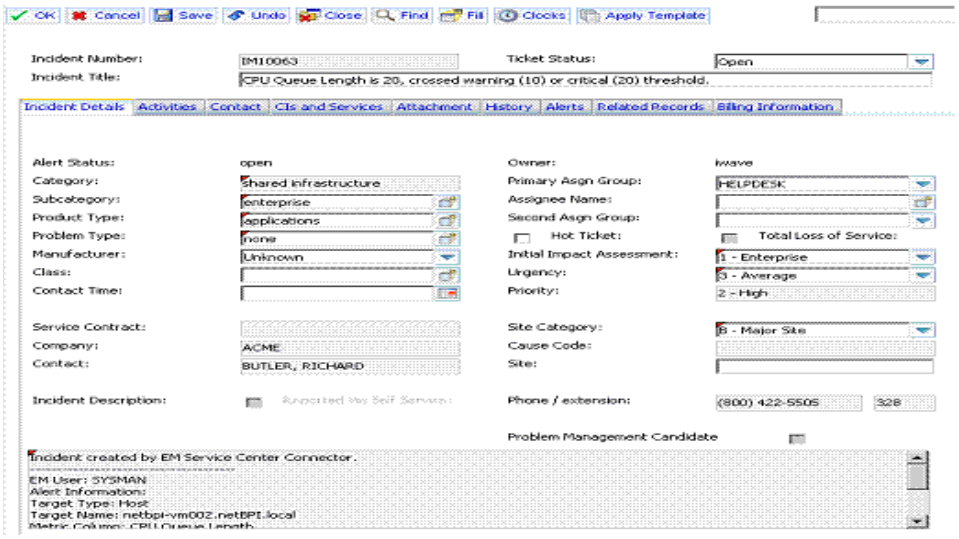
Note: If you do not use the HP Service Manager Web console, uncheck the "Enable web console features" option discussed in Section 3.2, "Configuring the Connector" so that the ticket ID is shown in plain text. Otherwise, it is displayed as a link that does not work.

3.5.2 Navigating from HP Service Manager to Enterprise Manager

From a ticket page, click the link in the **Description** field to the Alert Details page in the ticket message body (Figure 3–4). This forwards you to the Enterprise Manager console login page. After you provide the Enterprise Manager user name and password, you are forwarded to the alert related to this ticket.

Note:
- The Enterprise Manager user whose name you specify should at least have `View` privileges on the target on which the alert was raised.
- On the HP Service Manager console, if the URL appears as text, you need to cut and paste the URL into the browser.

Figure 3–4 Alert Details in HP Service Manager Console



4

Using Out-of-Box Templates

This chapter provides details on the out-of-box ticket templates shipped with the HP Service Manager Connector based on the out-of-box Service Manager IncidentManagement WSDL. The ticket templates specify the mappings between Enterprise Manager alert attributes and HP Service Manager ticket attributes.

4.1 Out-of-Box HP Service Manager Templates

Table 4–1 lists the out-of-box templates. Changes to the Service Manager IncidentManagement WSDL may require these templates to be modified to reflect the changes.

Table 4–1 Out-of-Box HP Service Manager Templates

Template Group	Template XSL Group	Description
Default		This template group creates a new Service Manager incident report with defaults. It does not auto close the Service Manager Incident when an Enterprise Manager Alert clears.
	Service_Manager_ Default_Incident.xsl	Creates, updates, and reopens the Service Manager Incident.
Auto Close		This template group creates a new Service Manager incident report with defaults, and performs an Incident auto close when the Enterprise Manager Alert clears.
	Service_Manager_ Default_Incident_ AutoClose.xsl	Creates, updates, reopens, and closes the ServiceCenter Incident.

4.2 Reading and Mapping Ticket Templates

This section describes the mappings that exist for each of the ticket templates described above. The ticket templates are XLS files that transform the Enterprise Manager Event data into a Service Manager Incident.

The mappings are dependent on the HP Service Manager 7 Web Service out-of-box IncidentReport.WSDL. The information in Table 4–2 and Table 4–3 applies to the default template of the type Auto Close. However, the templates are very similar except for minor settings for the priority of the incident to be raised, and the inclusion or exclusion of the auto-close feature. This feature performs an update that auto closes the incident based on the alert Clear status.

Note: In the tables, * denotes a literal string and ** indicates if the attribute applies.

Table 4–2 Ticket Creation (Service_Manager_Default_Incident_AutoClose.xsl Mappings)

Conditional Branch	Service Manager Ticket Attributes	Enterprise Manager Alert Attributes	Value
	Severity	Conditional Settings	Derived
		Enterprise Manager Service Manager	
		25 (Critical) 2 (Urgent)	
		20 (Warning) 3 (Medium)	
		Unreachable Start 2 (Urgent)	
		Agent unreachable 2 (urgent)	
		Blackout Start 3(Med)	
IF TicketID is blank		If the ticket id is not present in the alert, it assumes a create incident.	
	Category	Corresponds to the out-of-the-box Service Manager setting of 'shared infrastructure' for a category.	sharedinfrastructure
	Subcategory	Corresponds to the out-of-the-box Service Manager setting of 'enterprise' for a sub-category.	enterprise
	ProductType	Corresponds to the out-of-the-box Service Manager setting of 'applications' for a ProductType.	applications
	ProblemType	Corresponds to the out-of-the-box Service Manager setting of 'none' for a ProblemType.	none
	PrimaryAssignmentGroup	Corresponds to the out-of-the-box Service Manager setting of 'HELPDESK' for the primary assignment group.	HELPDESK

Table 4–2 (Cont.) Ticket Creation (Service_Manager_Default_Incident_AutoClose.xsl

Conditional Branch	Service Manager Ticket Attributes	Enterprise Manager Alert Attributes	Value
	IncidentDescription	**EMUser** — Notification rule owner when the ticket is created through auto-ticketing, and is the Enterprise Manager log-in user when the ticket is created through manual-ticketing. **Target Type**: <TargetType> **Target Name**:<TargetName> **MetricColumn** — Name of the metric; for example, CPU Utilization(%). **MetricName** — Category of the metric. For the CPU Utilization(%) metric, this would be 'Load. **KeyColumn**** — For metrics that monitor a set of objects, KeyColumn indicates the type of object monitored. For example, for the Tablespace Space Used (%) metric that monitors tablespace objects, the KeyColumn is 'Tablespace Name'. **KeyValues**** — For metrics that monitor a set of objects, the KeyValues indicate the specific object that triggered the severity. For example, for the Tablespace Space Used (%) metric that monitors tablespace objects, the KeyValues is 'USERS' if the USERS tablespace triggered a warning or critical severity. **SeverityCollectionTimeTargetHost URL** — URL of the metric details page in the context of the alert. This points to the Service Manager Incident in the Service Manager Web Console.	Values from the Alert Context
BriefDescription (Title)		<Message> **Note:** The Brief Description field is displayed as the Incident title in Service Manager	Values from the Alert Context
JournalUpdates		Incident created by Oracle Enterprise Manager Connector for the HP Service Manager based on an alert with <severity> severity. Message: <message>.	Values from the Alert Context
AlertStatus		Service Manager sets to Open by default on Create Operation	"Open"

The mapping in Table 4–3 is specific to an update of an Incident caused by a change of the event status.

Table 4–3 Ticket Updates (Service_Manager_Default_Incident_AutoClose.xsl Mappings)

Conditional Branch	Ticket Attributes	Enterprise Manager Alert Attributes	Value
	IncidentID	TicketID	The connector adds this into the alert context before handling the ticketing action. Required by the Service Manager Web service to identify the incident that must be updated.
IF TicketID is not Blank	CONDITIONAL	<EM_alert_message>	Values from the Alert Context.
	IMTicketStatus	Static value	Open
	Status	Static value	Reopen
	JournalUpdates	Ticket reopened because the associated alert re-triggered at ***<EM_severity>*** severity within the grace period. Message: ***<EM_alert_message>***.	Values from the Alert Context.
If SeverityCode = "15" or Severity ="Unreachable Clear" or"Agent Unreachable Clear" or"Blackout End" or "Metric Error End"	CONDITIONAL	If the Enterprise Manager Alert status meets the condition, an update occurs on the Incident that closes the Incident.	
	Status	Static value	
	JournalUpdates	Static	Incident closed by Oracle Enterprise Manager **Note:** This value cannot be verified, because journal updates cannot be displayed after the incident has been closed.
	ResolutionFixType	Corresponds to the out-of-the-box Service Manager setting of 'permanent' for a resolution fix type.	Permanent
	ClosureCode	Corresponds to the out-of-the-box Service Manager setting of 'User Closure' for a Closure Code	User Closure
	Resolution	Static	The alert was resolved in Oracle Enterprise Manager
Otherwise			

Table 4–3 (Cont.) Ticket Updates (Service_Manager_Default_Incident_AutoClose.xsl

Conditional Branch	Ticket Attributes	Enterprise Manager Alert Attributes	Value
	JournalUpdates	Ticket updated due to change in severity of the associated alert. Severity: **<EM_ severity>**. Message: ***<EM_alert_message>***.	Values from the Alert Context.

4.3 Customizing Ticket Templates

If the out-of-box ticket templates do not satisfy your requirements, you can modify them. The templates are highly customizable. Oracle recommends that only users with advanced knowledge of XSLT make complex changes.

HP Service Manager's web services enable you to modify the data published. See the HP Service Manager documentation on how to publish web service information. This connector uses the Incident Management WSDL.

Procedure for Customizing

Oracle recommends that you use one of the existing templates as the base template. Copy this ticket template to a new file, modify it, then register the new ticket template.

Changing the Mappings

In most cases, when you modify the ticket template, you might only be changing the mappings. Example 4–1 illustrates this concept.

Example 4–1 Adding an existing data element exposed in the Service Manager Incident Management WSDL

1. Select an out-of-the-box template (`.XSL`) and make a copy. For example, copy `Service_Manager_Default_Incident_AutoClose.XSL` to `Service_Manager_Main_Incident_AutoClose.XSL`.
2. Modify the new XSL document to reflect the change. This example makes a simple change to set the default company to a fixed 'value' of 'AJAX'. Open the newly-copied XSL file in edit mode as shown in Figure 4–1.

Figure 4–1 Modifying HP Service Manager Template

```
+ <m:JournalUpdates>
</m:JournalUpdates>
<!--  UNCOMMENT THE TAGS YOU WISH TO HAVE MODIFIED WHENEVER    -->
<!--  THE INCIDENT IS CREATED, AND GIVE THEM DESIRED VALUES    -->
<!-- <m:Severity></m:Severity>  -->
<!-- <m:ConfigurationItem></m:ConfigurationItem>  -->
<!-- <m:Location></m:Location>  -->
<!-- <m:Contact></m:Contact>  -->
<!-- <m:AlertStatus></m:AlertStatus>  -->
<!-- <m:ContactLastName></m:ContactLastName>  -->
<!-- <m:ContactFirstName></m:ContactFirstName>  -->
<!-- <m:Company></m:Company>  -->
<!-- <m:TicketOwner></m:TicketOwner>  -->
<!-- <m:SLAAgreementID></m:SLAAgreementID>  -->
<!-- <m:SiteCategory></m:SiteCategory>  -->
<!-- <m:ProductType></m:ProductType>  -->
<!-- <m:Solution><m:Solution></m:Solution></m:Solution>  -->
</m:instance>
</m:model>
```

The XSL has two primary branches: Create Incident and Update Incident. This example only modifies the first branch.

3. Navigate to the code in the incident create block as shown above. Uncomment the Company element as shown below and add the fixed text of AJAX.

   ```
   <m:Company>AJAX</m:Company>
   ```

   This instructs the connector framework to supply the value of `AJAX` in the Service Manager field value of `Company`.

4. Save the file and register the template as described in Section 3.1.1, "Registering Ticket Templates".

5. The template is now ready to use in notification rules or as a template for manual ticket creation. When used, it behaves the same as the out-of-the-box template copied, except when a Service Manager incident is created, the incident company will be AJAX. Of course, AJAX must be a valid Service Manager company or the request will fail.

This is a simple example of customizing ticket templates. Complex XSL code can be written to manage the mapping of data between the Enterprise Manager Alert and the Service Manager Incident Ticket.

A

Enabling SSL for HTTPS

This appendix provides the needed instructions if you choose HTTPS as the protocol to establish a connection between HP Service Manager and Enterprise Manager.

Generating and Importing a Certificate Request

Do the following to generate and then import the certificate:

1. Generate a certificate request file for HP Service Manager and send it to the Certificate authority, such as VeriSign.

   Note: The certificate request file is dependent on the Web server that HP Service Manager uses.

2. After you get the certificate, import it to the Web server that HP Service Manager uses. The import mechanism varies depending on the Web server that the HP Service Manager Help Desk uses.

Installing and Configuring SSL

For information about installing and configuring SSL, see the *Service Manager 7.0 Installation Guide*.

Adding Signed Certificates to Wallet Manager

Oracle Wallet Manager is available at `$ORACLE_HOME/bin` on OMS. See the *Oracle Application Server Administrator's Guide* for details.

Do the following in Enterprise Manager to add signed certificates to Wallet Manager:

1. As Super Administrator, create a wallet using the following `orapki utility` command at the OMS host:

   ```
   orapki wallet create -wallet client -auto_login
   ```

   `orapki` is available at `$ORACLE_HOME/bin` on OMS.

2. Add the trusted certificate to the wallet by entering the following command:

   ```
   orapki wallet add -wallet client -trusted_cert -cert
   verisignCert.cer
   ```

3. To view the content of the wallet, enter the following command:

   ```
   orapki wallet display -wallet client
   ```

Ensure that `ewallet.p12` is available.

4. In Oracle Wallet Manager, open the `ewallet.p12` client certificate.
5. Go to Select Trusted Certificates and select **Operations** on the main menu.
6. Select **Export All Trusted Certificates**.
7. Save the file as `certdb.txt`.
8. Place the file `certdb.txt` in the connector home root directory (`$OMS_HOME/sysman/connector`).

   If the file `certdb.txt` already exists in the root directory, open the file and add the contents of your `certdb.txt` to the existing content.

Java SSL can now use this file for communication between Enterprise Manager and Service Manager in HTTPS mode.

Note: The certificate request file is dependent on the Web server Service Manager uses.

See Also: For information on creating a wallet, see "Creating and Viewing Oracle Wallets with orapki" in the *Oracle Database Advanced Security Administrator's Guide, 10g Release 2 (10.2).*

B

Preventing HP Service Manager Update Issues

HP Service Manager 7 can cause update issues due to the method of locking by incident. When either the Service Manager Thick or Web Client opens an incident in Service Manager for editing, a lock is placed on the incident that prohibits any updates to the incident record until it is released.

It is best practice for Help Desk administrators not to open the incident in edit mode to view the incident. If they need to edit the incident, they should minimize the time the incident is in edit mode, so if any updates are processed by the Enterprise Manager Connector Framework, the updates will be successful.

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