

Oracle® Enterprise Manager

Configuration Guide for BMC Remedy Service Desk 7.6 Ticketing
Connector

for Enterprise Manager Cloud Control 13c Release 2

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Preface

This *Connector Configuration* guide provides the information that you require to configure Management Connectors that integrate Enterprise Manager with other management tools and help desk systems.

Audience

This guide is written for Oracle Database system administrators who want to configure Management Connectors to enable integration between Enterprise Manager and other systems.

You should already be familiar with Oracle Enterprise Manager.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

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Related Documents

For more information, see the following books in the Oracle Enterprise Manager documentation set:

- *Oracle Enterprise Manager Cloud Control Basic Installation Guide*
- *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide*
- *Oracle Enterprise Manager Cloud Control Administrator's Guide*
- *Oracle Enterprise Manager Cloud Control Upgrade Guide*
- *Oracle Enterprise Manager Framework, Host, and Services Metric Reference Manual*
- *Oracle Enterprise Manager Command Line Interface*
- *Oracle Enterprise Manager Cloud Control Extensibility Programmer's Guide*

- *Oracle Database 2 Day DBA*

The latest versions of this and other Oracle Enterprise Manager documentation can be found at:

<http://docs.oracle.com/en/enterprise-manager/>

Oracle Enterprise Manager also provides extensive online help. Click **Help** on any Oracle Enterprise Manager page to display the online Help system.

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<http://otn.oracle.com/membership/>

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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.
<i>italic</i>	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.

Introduction to the Connector

The Oracle Management Connector for BMC Remedy Service Desk 7.6 integrates BMC Remedy Service Desk v7.6.04 with Enterprise Manager through either an HTTP or HTTPS connection. Using this connector, you can create, update, close, or reopen a ticket for any incident created in Enterprise Manager.

The ticket generated by the connector contains the relevant information about the Enterprise Manager incident, including a link to the Enterprise Manager console to enable helpdesk analysts leverage Enterprise Manager's diagnostic and resolution features to resolve the incident. In Enterprise Manager, the ticket ID and its link to navigate to the BMC Remedy Console is shown in the context of the incident. This easily enables Enterprise Manager administrators to quickly access the ticket.

Note:

Before proceeding, see the "Using Incident Management" chapter in the *Oracle Enterprise Manager Cloud Control Administrator's Guide* to understand the event and incident management concepts.

The following sections explain various Remedy Service Desk Connector concepts that you must understand before you start using the Remedy Service Desk Connector.

- [Versions Supported](#)
- [Ticket Generation Contents](#)
- [Auto Ticketing](#)
- [Manual Ticketing](#)
- [Ticket Templates](#)
- [Grace Period](#)
- [Retry](#)
- [Recommended Protocol](#)

1.1 Versions Supported

The Remedy Service Desk 7.6 Connector communicates through web services with the IT Service Management component of Remedy Service Desk. The following versions are supported:

- Remedy Service Desk, which is part of IT Service Management Suite 7.6.04 SP2 with Incident Management. This also includes Action Request Server 7.6.04 SP1 (AR Server 7.6.04 SP1).

- Remedy Service Desk, which is part of IT Service Management Suite 8.0.x and 8.1.x with Incident Management. This also includes Action Request Server 8.0.x and 8.1.x.

This connector functions with Oracle Enterprise Manager Cloud Control 12c Release 1 (12.1.0.1) and later versions

1.2 Ticket Generation Contents

The ticket generated by the connector contains the relevant information about the Enterprise Manager incident, including a link to the Enterprise Manager console to enable help desk analysts leverage Enterprise Manager's diagnostic and resolution features to resolve the incident.

In Enterprise Manger, the ticket ID, and link to the Remedy Service Desk console is shown in the context of the incident. This provides Enterprise Manager administrators an easy way to quickly access the ticket.

The ticketing framework also supports an advanced configuration in which you can obtain and show thee Remedy ticket status in Enterprise Manager. However, this feature is not currently supported pending the resolution of a Remedy product issue. See [Advanced Ticketing Configuration](#) for more details.

1.3 Auto Ticketing

Auto ticketing refers to creating or updating tickets automatically for any matching rule(s) in Enterprise Manager. You can define a set of event or incident rules for which tickets must be opened/updated for changes in underlying event or incident attributes. For example, changing event severity from Warning to Critical can update the associated ticket.

See Also:

"Using Incident Management" chapter in the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

After the ticket is opened, any subsequent update of the incident attributes or underlying event attributes, such as a change in underlying events severity, updates the ticket. After the incident is cleared in Enterprise Manager, the ticket is updated and you can optionally go to Remedy to close the ticket.

See Also:

[Automatically Creating a Ticket](#)

1.4 Manual Ticketing

From the Enterprise Manager console, you can manually open a Remedy ticket based on an open incident in Enterprise Manager. The Remedy Service Desk Connector populates the ticket with details based on the incident and the ticket template selected.

See Also:[Manually Creating a Ticket](#)

1.5 Ticket Templates

Ticket templates are XML transformation style sheets that transform Enterprise Manager incidents to a ticket format before the requests are sent to Remedy Service Desk. A ticket template specifies how an Enterprise Manager incident and its associated event attributes can be mapped to the ticket attributes of Remedy Service Desk.

In Auto Ticketing, while setting up a rule, you select a configured connector and select the ticket template from the template list. The selected ticket template is used when a ticketing request is sent to the Remedy Service Desk System. For manual ticketing, you have to select a connector instance and ticket template before submitting a request for ticket creation.

The Remedy Service Desk Connector includes some out-of-box default ticket templates. You can customize default templates according to your functional needs. Oracle recommends that you back up these factory-built templates before customizing them.

See Also:[Using Default Templates](#)

1.6 Grace Period

The grace period enables you to prevent creating a large number of tickets for frequently created incidents due to reoccurrence of the same event.

For example, an event is raised and causes an incident to be created in Enterprise Manager. The rule defined to create the ticket enforces the ticket to be created on the Remedy Service Desk system. If the grace period is one hour and the event is cleared at 10:00 a.m., this clears the incident and ticket. If the same event reoccurs before 11:00 a.m. and enforces creation of another incident, the grace period functionality stops creation of a new ticket for this, and reopens the same ticket instead.

Note:

In Remedy, after a ticket is set to a Closed status, it cannot be reopened. Consequently, an incident that re-triggers within the grace period cannot reopen the ticket but only annotate it.

If you want to reopen a ticket for incident occurrences that fall within the grace period, set the ticket status to Resolved instead of Closed when the incident clears. This enables the Remedy Service Desk Connector to reopen the ticket if the same incident reoccurs within the grace period.

1.7 Retry

The “Retry” section, available on the connector configuration page, enables you to specify whether a failed ticketing request needs to be retried within a configurable expiration time.

Enabling the Retry option gives you the option of specifying whether you want to resend a ticketing request if the request fails the first time, and specifying the time period after which you want to abandon the retry. Enterprise Manager retries every 5 minutes until the request is successful or the retry interval expires.

1.8 Recommended Protocol

Oracle recommends that you use HTTPS as the protocol for the communication between Enterprise Manager and Remedy AR server.

Use HTTP only if a secure connection is not required and the data can be transferred in clear text between the two systems.

Installing and Configuring the Connector

This chapter provides the following information for setting up and configuring the Remedy Service Desk Connector and related tasks:

- [Prerequisites](#)
- [Installing the Connector](#)
- [Creating a Connector Instance](#)
- [Configuring the Connector](#)
- [Enabling or Disabling the Connector](#)
- [Providing General Settings](#)
- [Working with Ticket Templates](#)
- [Deleting the Connector](#)
- [Uninstalling Customizations to BMC Remedy](#)

2.1 Prerequisites

The Remedy Service Desk Connector communicates through web services with the IT Service Management component of Remedy Service Desk. Before using Remedy Service Desk Connector, ensure that you meet the following prerequisites:

- Remedy Service Desk is installed and configured, which is part of IT Service Management Suite 7.6.04 SP2 with the Incident Management Application.
- Action Request Server 7.6.04 SP1 (AR Server 7.6.04) is installed.
- Remedy Service Desk web services are up and running.
- Remedy User exists with all necessary permissions and personnel information.
- My Oracle Support Preferred Credentials are set. To set the credentials, perform the following steps:
 1. From the Enterprise Manager console Setup menu, select **My Oracle Support**, then **Set Credentials**.
 2. Enter the user name and password information, then click **Apply**.
 3. From the Enterprise Manager console Setup menu, select **Extensibility**, then **Self Update**.
 4. From the Self Update page, look for the Remedy Service Desk 7.6 connector in the table list. If it does not appear, go to the next step.

- Click **Check Updates** to schedule a job to collect the metadata for the connector, as shown in [Figure 2-1](#).

See Also:

Refer to the "Setting up Self Update" section of the "Updating Cloud Control" chapter in the *Oracle Enterprise Manager Cloud Control Administrator's Guide* for more details:

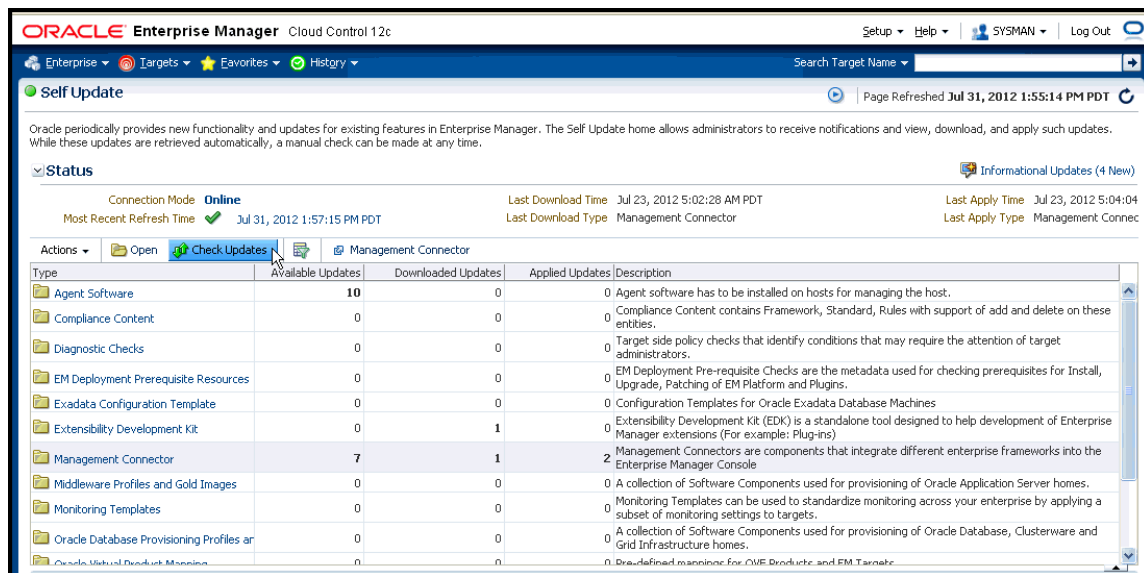
http://docs.oracle.com/cd/E24628_01/doc.121/e24473/self_update.htm#BEJJEHDJ

Note:

You can also set up Self Update in offline mode. See the "Applying an Update in Offline Mode" section from the *Oracle Enterprise Manager Cloud Control Administrator's Guide* for details:

http://docs.oracle.com/cd/E24628_01/doc.121/e24473/self_update.htm#BEJICEBD

Figure 2-1 Check Updates on Self Update Page



2.2 Installing the Connector

This section provides the procedure required to download and install (apply) the connector. The Remedy Service Desk 7.6 connector is not included out-of-the-box, so you need to download it from the Oracle Enterprise Manager store. All connectors in the Enterprise Manager store are available on the Self Update page for downloading.

To install the connector:

- From the Enterprise Manager console Setup menu, select **Setup**, then select **Extensibility**, then select **Self Update**.

2. Click on the **Management Connector** link in the Type column.
The Remedy Service Desk 7.6 connectors appear in the list with a status of Available.
3. Click on the appropriate Remedy Service Desk 7.6 connector to select it, and then click **Download**.
The Schedule Download window appears, where you can determine when the download should be performed.
4. Click **Select** to download immediately.
If you want to schedule the download for a later time, specify the date and time when the download should occur, and click **Select**. You will need to return and finish the remainder of this procedure after the scheduled download date and time.
5. If necessary, refresh the screen until the status of the connector changes to Downloaded.
6. Click on the Remedy Service Desk 7.6 connector to select it, then click **Apply**.
After you respond to the prompt to confirm the operation, a page appears that indicates the request has been submitted.
7. Refresh the screen until the status of the connector changes from Apply Scheduled to Applied.

2.2.1 Exporting the Definition File

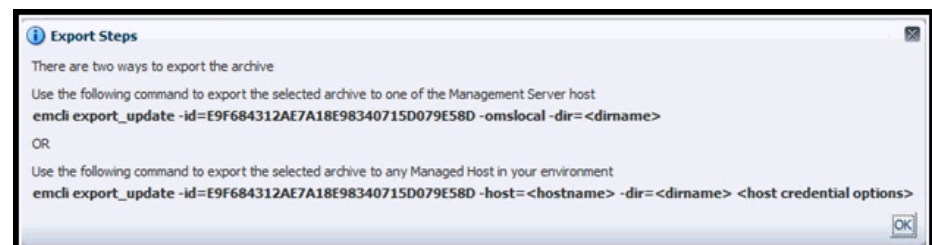
The Remedy customized definition file is included in the Self Update archive that was installed in the previous section.

To extract the installation file:

1. Determine the command required to export the Remedy installation file. To do this, perform the following steps:
 - a. From the **Setup** menu, select **Extensibility**, then **Self Update**.
 - b. Click on the **Management Connector** link in the Type column.
 - c. Click on the Remedy Service Desk 7.6 connector to select it, then select **Export** from the **Actions** list.

A pop-up window, like the example shown in [Figure 2-2](#), appears with the command required to export the file.

Figure 2-2 *Export Command Example*



2. Open a command window on the Management Server host system and navigate to a temporary directory where you can copy and unzip the file.
3. Log into EM CLI using the following command. You will be asked to provide the password information for the sysman account.

```
emcli login -user=<EM_Super_Administrator> -pass=<PASSWORD>
```

EM CLI must be executed from the OMS host. See the *Oracle Enterprise Manager Command Line Interface* for information about setting up EM CLI.

4. Run the EM CLI `export_update` command from your system, changing `<dirname>` to the full path of the temporary directory.
This action creates a zip file with a name of `p18729198_112000_Generic.zip`.
5. Extract the Remedy definition xml file `HPD_IncidentInterface_Custom_WS.xml` from the `.zip` file using the following command:

```
unzip *.zip archives/HPD_IncidentInterface_Custom_WS.xml
```

2.2.2 Installing the Definition File

These customization files assume a fresh installation of Remedy AR Server 7.6.04, 8.0.x, or 8.1.x. When integrating with a production instance of Remedy, exercise care that these customizations are compatible with any previous customizations that have been made to the Remedy instance.

Note:

In order to import the definition files for use with the connector, it is required to overwrite existing Web Services. Oracle recommends that you back up these Web Services before you start the uninstall process. Refer to [Uninstalling Customizations to BMC Remedy](#) for details.

Before you install the definition file, do the following:

1. Ensure that you have already exported the definition file from the Self Update archive as instructed in the previous section.
2. Select the default value in the BMC Remedy Developer Studio:
 - a. Log in to the Studio, then open the **HPD:HelpDesk** form.
 - b. Select the **Status** field, then right-click and select **Create Overlay**.
 - c. Go to the Status field Properties window.
 - d. Click **Selections**, then select **Assigned** as the default value.
 - e. Click **Save** to save the changes to the form. The save action may show as successful with warnings. These warnings are harmless.
3. Flush the mid-tier cache.

Install the definition file (.xml) in the running Remedy environment by completing the following steps.

1. Open a work space from the BMC Remedy Developer Studio.
2. Select the Remedy instance from the left pane.
3. From the File menu, select **Import**.
4. Select **Object Definition** in the Import window, then click **Next**.
5. Select the **AR System Server Instance**, then click **Next**.
6. Click **Browse** and select the HPD_IncidentInterface_Custom_WS.xml definition file, then click **Next**.

The Object Selection window appears.

7. Enable the **Replace Objects on the Destination Server** check box, then click **Finish**.

You should not encounter any errors during this process. At the end of the import, an Import Complete message should appear.

2.2.3 Displaying the New Objects

After installing the definition file, the new objects are shown under the Remedy instance. To view the new objects on the Remedy Server, flush the mid-tier cache and perform the following steps to verify.

1. Select the Remedy Instance from the left pane of the Developer studio.
2. Select **All Objects**, then **Web Services**.

You should now be able to see a new HPD_IncidentInterface_Custom_WS web service.

3. Select HPD_IncidentInterface_Custom_WS.
4. Click **WSDL Ports**, then **Ports**, then **WSDL Operations**.

You should now see HelpDesk_Query_Service, HelpDesk_Modify_Status_Service, and HelpDesk_Modify_Service under WSDL Operations.

Note:

If the WSDL Operations do not appear, or the import step failed due to the Remedy 7.6.04 Overlay Feature, try switching the mode:

1. Select **File**, then select **Switch Mode**.
 2. Switch to Base Development instead of Best Practice Customization.
 3. Try to import the definition file again.
-
-

2.2.4 Customizing Web Services

Customize Web Services as follows:

1. Open a work space in the BMC Remedy Developer Studio.

2. Select the Remedy instance from the left pane.
3. Select All Objects, then Web Services, then **HPD_IncidentInterface_Create_WS**.
4. Click the **WSDL Publishing Location** tab and perform the following steps:
 - a. In the input area at the top of the window, modify the `midtier_server` and `servername` values in the WSDL Handler URL.
 - b. If mid-tier is on localhost, you can enter localhost directly after `http://`.
 - c. If the mid-tier uses port 80, you can omit the port. Otherwise, include the port number after the server name.
 - d. For the server name after `public/`, enter the name of the Remedy server.
 - e. Click **View**.
 - f. If you see the XML content after clicking View, close this window and save the changes.

You should now see XML representing the web service WSDL file for the Web service. If you see an error or no XML content, check the `midtier_server` name, port, or server name. You can also try adding or removing the domain portion of the server name.

For `HPD_IncidentInterface_Custom_WS`, repeat steps 3 and 4.

Note:

For AR Server 7.6.04 the Ticket Response Template must be modified. Refer to [Working with Ticket Templates](#) for instructions.

2.3 Creating a Connector Instance

To use the Remedy Service Desk 7.6 connector, you need to create one or more instances of this connector type. A connector instance refers to the configured instance of the connector with specific details, such as connector name, web-service end-points, username/password, and so forth of the Remedy Service Desk system. Multiple connector instances for the same connector type are supported, which provides the flexibility to configure multiple Remedy Service Desk systems with Enterprise Manager.

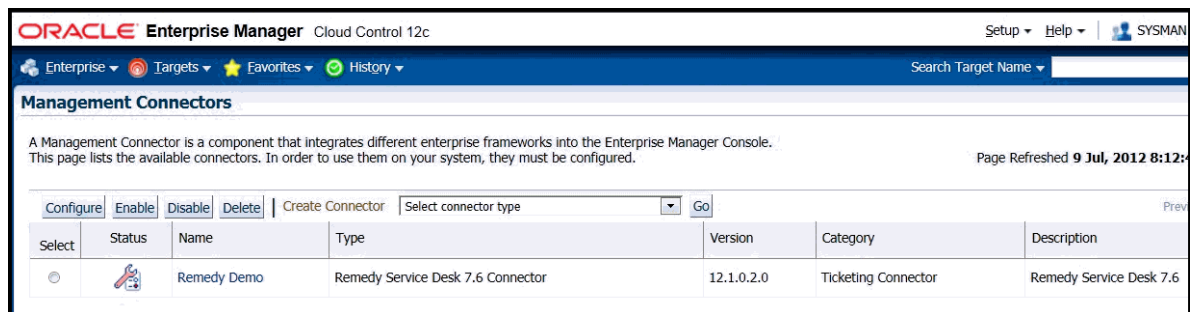
For example, since Enterprise Manager is monitoring production targets and test targets, you can then create two instances of the connector and configure Enterprise Manager so that incidents from production targets create tickets in one connector instance, and incidents from test targets create tickets in the second connector instance.

To create a connector instance:

1. From the Enterprise Manager console, click **Setup**.
2. Select **Extensibility** in the pane.
3. Select **Management Connectors** in the left pane.
4. Select a connector type from the Create Connector drop-down list and click the **Go** button.
5. Enter the connector name and description on the next screen and click **OK**.

The connector instance appears as unconfigured on the Management Connectors page, shown in [Figure 2-3](#).

Figure 2-3 Management Connectors Page



2.4 Configuring the Connector

Perform the following steps for basic configuration:

1. As Super Administrator, from the Enterprise Manager console, click **Setup**.
2. Click **Extensibility**, then **Management Connectors**.

The Management Connectors page appears that lists all created connector instances.

Note:

The status column with a green tick mark indicates that the connector is already configured.

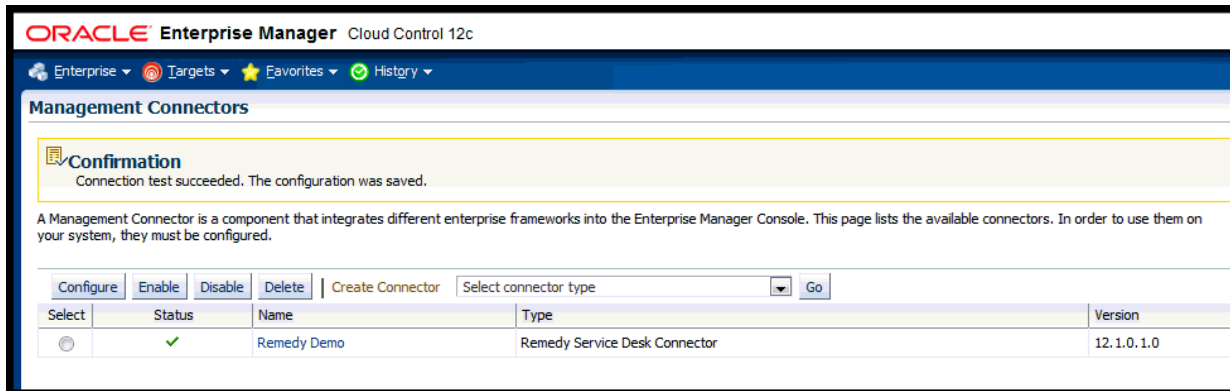
3. Click the **Configure** button for the Remedy Service Desk Connector. The General tab of the Configure Management Connector page appears.
4. Provide the required settings. See [“Providing General Settings”](#) for details.
5. Click **OK**.

The Management Connectors page reappears. The row for the Remedy Service Desk Connector should have a check mark in the Status column, as shown in [Figure 2-4](#).

6. **Optional:** Register any customized templates using the `emctl` command from the `ORACLE_HOME/bin` directory, where `ORACLE_HOME` is the Oracle home directory of OMS.

You can view all ticket templates by clicking the Ticket Templates tab.

7. If you choose HTTPS as the protocol to establish a connection between Remedy and Enterprise Manager, see [Enabling SSL for HTTPS](#).

Figure 2-4 Configuration Confirmation

2.5 Enabling or Disabling the Connector

You can enable or disable a connector instance without needing to reconfigure or remove the connector from the system.

You can enable or disable a connector from the Management Connector page by selecting the connector and clicking either the **Enable** or **Disable** button. After a connector is disabled, you will see a red cross icon under the Status column. By default, the connector instance is enabled as soon as it is configured.

Note:

Only enabled connectors are available for ticketing operations.

2.6 Providing General Settings

The following sections explain how to provide various configuration details for the General tab of the Configure Management Connector page, shown in [Figure 2-5](#).

Figure 2-5 Configure Management Connector Page

ORACLE Enterprise Manager Cloud Control 12c

Enterprise ▾ Targets ▾ Favorites ▾ History ▾

Management Connectors

Management Connectors > Configure Management Connector: Remedy Demo

Configure Management Connector: Remedy Demo

General Template

Connection Settings

Enter a set of administrator credentials and the webservice end points for relevant operations of the ticketing system. These are required for communications.

* Web Service End Points

Operation	Web Service End Point (URL)
createTicket	http://[midtier_server]/arsys/services/ARService?server=[servername]&webService=HPD_IncidentInterfac
getTicket	http://[midtier_server]/arsys/services/ARService?server=[servername]&webService=HPD_IncidentInterfac
updateTicket	http://[midtier_server]/arsys/services/ARService?server=[servername]&webService=HPD_IncidentInterfac

✓ TIP Replace <midtier-server> and <servername> in the above URLs with the midtier server and server of your Ticketing System. If you have

* Remedy Username

Remedy Password

Locale
Specify the Language of the ticketing system.

Timezone
Enter the time zone of the ticketing systems as a difference from UTC For example -08:00.

Authentication
Specify the authentication method of the ticketing system.

* Ticket ID
Enter a valid ticket number from the ticketing system to test connection to this system.

Web Console Settings

If you're using a web console, you can enable the connector to provide URL links to the ticket on the metric details page and vice versa.

Enable web console features

Web Server

HelpDesk Case Form Name

ARServer Name

Grace Period

The grace period is a time value that is compared against the data of the time an alert cleared to the time it transitioned out of clear. If the time data is greater than the grace period, then a new ticket is created for

Enable grace period

Grace Period (Hours)

Retry

Specify whether or not you want to retry this connector operations if they fail, as well as the expiration time after which retry is aborted.

Enable Retry

2.6.1 Connection Settings

The Remedy Service Desk Connector communicates with the Service Desk through their Web services. Mandatory fields are indicated with an asterisk (*).

- **Web Service End Points** — End points to `createTicket`, `updateTicket`, and `getTicket` web services exposed by Remedy Service Desk.
- **Remedy Username** — User with the privilege to create, update, and query tickets in Remedy.

Note:

They must have the same value for First Name, Last Name, and Login ID. It is recommended to create a new user account with these specifications in addition to the correct privileges.

- **Remedy Password** (optional) — Password associated with the supplied Remedy user.

- **Authentication (optional)** — String that a Remedy administrator sets for additional security. Applies only if the Remedy Administrator has configured it on the Remedy AR server.
- **Locale (optional)** — Language of the Remedy system.
- **Time Zone (optional)** — Time zone of the Remedy AR System Server.
- **Ticket Number (required)** — Enter a valid ticket number to test the configuration.
 - If you specify the correct Web service end points and enter a valid ticket number, the following message appears on the Management Connectors page after you click OK:

"Connection test succeeded. The configuration was saved."
 - If you have not previously saved the connector configuration and enter an invalid ticket number, the following message appears on the Management Connectors page after you click OK:

"Connection test failed. The configuration was saved."
 - If the mandatory field is missing, you will see the following message:

"Missing mandatory field(s) - <actual field name>."

For example, if web service points are missing, you will see the following message:

"Missing mandatory field(s) - Web Service End Points"

2.6.2 Web Console Settings

Web Console settings are required if you want the connector to provide links to Remedy Service Desk tickets created by Enterprise Manager in the context of an incident.

To enable this functionality, provide the following Web console settings.

- **Enable web console** — Check this box to enable launching of the Remedy ticket page within context from Enterprise Manager.
- **HelpDesk Case Form Name** — Remedy form name that the Remedy Web Services (you configured the connector to use) is based on. The Remedy default Service Desk Web services, for example, use the form `HPD:IncidentInterface`.

To enable the use of Web Console for AR Server 8.0.x and 8.1.x, set the HelpDesk Case Form Name to use the Best Practice View. This view will also work for AR Server 7.6.04. For example, use the form:

```
HPD%3AHelp+Desk/Best+Practice+View
```

- **Web Server** — The name or IP address of the server that hosts Remedy Mid-Tier.
- **ARServer Name** — Remedy AR Server name.

2.6.3 Grace Period

You can enable and disable the grace period and configure its value. By default, the grace period is disabled. See [Grace Period](#) for details. This setting applies to all incidents the Remedy Service Desk Connector processes. The grace period interval accepts the number of hours as any integer value. For example, - 1 or 2.

2.6.4 Retry

You can enable and disable the Retry option and configure its interval value. By default, the Retry is disabled. See [Retry](#) for details. This setting applies to all incidents in the Remedy Service Desk Connector processes. The retry period interval accepts the number of hours as any integer value. For example, - 1 or 2.

2.7 Working with Ticket Templates

When a connector instance is created in Enterprise Manager, all associated templates are available for ticket create/update operations. There are three default Remedy templates:

- Remedy_DefaultCategory_AutoResolve.xml
- Remedy_DefaultCategory_AutoClose.xml
- Remedy_DefaultCategory.xml

Tip:

See [Template Process](#) for detailed information about these templates.

The following sections provide information about adding, viewing, removing, and replacing ticket templates.

2.7.1 Adding Ticket Templates

You need to add ticket templates before they are recognized in Enterprise Manager. The connector provides out-of-box templates that are automatically registered when the connector instance is created. If you want to edit these, you can do so directly in Enterprise Manager. However, if you need to use a new template (other than one out-of-box), you need to register the new template using the `emctl` command. You can then edit the template in Enterprise Manager. See [Editing Templates](#) for more information.

To add and register a template:

1. Ensure that you have execute privilege on `emctl` and the ability to read the ticket template.
2. For each template, run the following `emctl register_template` connector command:

```
$ORACLE_HOME/bin/emctl register_template connector
[-t <template.xml>]
[-repos_pwd <repos password>]
[-cname <connectorName>]
[-iname <internalName>]
[-tname <templateName>]
[-ttype <templateType>]
[-d <description>]
```

Where:

-t	Template(full path)
-repos_pwd	Enterprise Manager Root (SYSMAN) Password
-cname	Connector Name
-iname	Template Internal Name
-tname	Template Name Displayed

```

-ttype      Template Type
            <templateType> 1 - inbound transformation
            <templateType> 2 - outbound transformation
            <templateType> 3 - XML outbound transformation
-d          Description

```

Example 2-1 Template Registration

The following command adds a new outbound template (newTemplate.xml) for a connector instance with the name Remedy Connector Instance:

```

emctl register_template connector
-t <template.xml>
-repos_pwd <repos password>
-cname "Remedy Connector Instance"
-iname "newTemplate"
-tname "newTemplateOutbound"
-ttype 2
-d "Demo template"

```

2.7.2 Viewing Template Code

To view template code, do the following:

1. Select the connector instance and go to the Configure Management Connector page.
2. Select the **Template** tab, as shown in [Figure 2-6](#).
3. Click a template name or click **View** to view the XSLT code for the template.

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

Figure 2-6 Template Tab

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. The top navigation bar includes 'Enterprise', 'Targets', 'Favorites', and 'History'. The main content area is titled 'Management Connectors' and shows the configuration for a 'Remedy 7.6 Connector'. The 'Template' tab is selected, displaying a table of templates with columns for 'Select', 'Name', 'Type', and 'Description'. The table contains seven entries, including 'Create Ticket Response', 'Get Ticket', 'Publish Ticket Status', 'Remedy Default Category', 'Remedy Default Category Auto Close', 'Remedy Default Category Auto Resolve', and another 'Get Ticket' entry.

Select	Name	Type	Description
<input checked="" type="radio"/>	Create Ticket Response	Inbound	This is the create ticket response template.
<input type="radio"/>	Get Ticket	Inbound	This is the response xsl file for getTicket method
<input type="radio"/>	Publish Ticket Status	Inbound	This is the template for publishTicket operation.
<input type="radio"/>	Remedy Default Category	Outbound	This is the Remedy default category template.
<input type="radio"/>	Remedy Default Category Auto Close	Outbound	This is the Remedy default category template with auto close function.
<input type="radio"/>	Remedy Default Category Auto Resolve	Outbound	This is the Remedy default category template with auto resolve function.
<input type="radio"/>	Get Ticket	XML Outbound	This is the request xml file for getTicket method

2.7.3 Removing a Template

To remove a template, do the following:

1. Select the connector instance and go to the Configure Management Connector page.
2. Select the **Template** tab.
3. Select the template and click **Delete**.
4. Click **Yes** to confirm the delete operation.

Note:

If the template you delete has an incident rule associated with it, ticketing will not function for this particular incident rule after the deletion.

2.7.4 Editing Templates

Note:

The Edit Template feature is available in Oracle Enterprise Manager Release 12.1.0.2 and later.

Release 12.1.0.2 and Later

To edit an existing ticket template for Release 12.1.0.2 and later, do the following:

1. Select the connector instance and go to the Configure Management Connector page.
2. Select the **Template** tab.
3. Select the template and click **Edit**.
4. Edit the Description and Template Contents fields as needed, then click **Save**.

The ticket template is automatically registered. Saving the registered template updates it in the repository.

Releases Prior to 12.1.0.2

To edit an existing ticket template for versions prior to Release 12.1.0.2, replace the template as a substitute for direct editing:

1. Click **Delete** to remove the ticket template.
2. Re-register the separately edited template using the `emctl register_template` command described in [Adding Ticket Templates](#).

For instance, for a template named `template1.txt` that you have just edited outside of Enterprise Manager, to use this newer version of the file, you would delete `template1.txt` as instructed above, then re-register the edited `template1.txt` file.

2.7.5 Restoring Templates

After you edit or customize a template, you can restore it to its previous default contents if needed by performing the following steps.

Note:

The Restore feature is available in Oracle Enterprise Manager Release 12.1.0.2 and later.

You can restore out-of-box templates that you have may edited or customized to their default values. You cannot restore new templates that you have created (using the `emctl register_template` command).

1. Select the connector instance and go to the Configure Management Connector page.
2. Select the **Template** tab.
3. Select the template and click **Restore**.
4. Click **Yes** in the confirmation page that appears in order to restore.

2.7.6 Editing the Create Ticket Response Template for AR Server 7.6.04

Note:

Editing of the Ticket Response Template is *only* required for AR Server 7.6.04. For versions 8.0.x and 8.1.x, *do not* perform these steps.

Edit the Create Ticket Response Template for AR Server 7.6.04 by performing the following steps:

1. Select the connector instance and go to the Configure Management Connector page.
2. Select the **Template** tab.
3. Select the **Create Ticket Response** template and click **Edit**.
4. Edit the Template Contents fields as by performing the following steps:

- a. Locate and view line 3 of the Template:

```
xmlns:urn="urn:HPD_IncidentInterface_Create_WS"
```

- b. Edit the line by removing the syntax error. The new line should read as follows:

```
xmlns:urn="HPD_IncidentInterface_Create_WS"
```

5. Click **OK** to save.

The ticket template is automatically registered. Saving the registered template updates it in the repository.

2.8 Deleting the Connector

You can delete a connector from the Management Connector page by selecting the connector and clicking the **Delete** button. After a connector is deleted, all associated incident rules are no longer configured for ticketing operations.

Additionally, if the connector deleted is the only connector instance of that connector type, the corresponding connector type is also deleted.

Note:

The above rule is not applicable to the out-of-box connector type.

2.9 Uninstalling Customizations to BMC Remedy

To uninstall and remove customizations to BMC Remedy, perform the following steps:

1. [Back Up Web Services](#)
2. [Remove Customizations to Web Services](#)
3. [Remove Customizations for Installing the Definition File](#)

2.9.1 Back Up Web Services

Before importing the definition files, it is recommended to back up the existing Web Services. To back up the Web Services perform the following steps:

1. Open a work space from the BMC Remedy Developer Studio.
2. Select the Remedy instance from the left pane.
3. Right-click and select **Export**, and select **Object Definitions**.
4. Search for **HPD:IncidentInterface**. Highlight and select both results from the search:

```
HPD:IncidentInterface  
HPD:IncidentInterface_Create
```
5. Click **Next**, and select a path and name for the export file.
6. Click **Finish** to process the export.

2.9.2 Remove Customizations to Web Services

To remove the customization to the Web Services, perform the following steps:

1. Open a work space in the BMC Remedy Developer Studio.
2. Select the **Remedy** instance from the left pane.
3. Select **All Objects**, then **Web Services**, then **HPD_IncidentInterface_Create_WS**.
4. Click the **WSDL Publishing Location** tab and remove the URL. Click **Save**.

2.9.3 Remove Customizations for Installing the Definition File

To remove the customization to made during the installation of the definition file, perform the following steps:

1. Open a work space in the BMC Remedy Developer Studio.
2. Select the **Remedy** instance from the left pane.

3. Select **All Objects**, then **Forms**, then search for the **HPD:HelpDesk** form.
4. Locate and select the **Status** field.
5. Go to the **Status** field **Properties** window.
6. Click **Selections**, then select **New** as the default value. Click **Save**.

To remove the Web Service that was installed by importing the definition file, perform the following steps:

1. Select the **Remedy Instance** from the left pane of the Developer studio.
2. Select **All Objects**, then **Web Services**.
3. Search for the **HPD_IncidentInterface_Custom_WS** web service.
4. Right-click and select **Delete**, and **OK** to confirm.

To import the backup definition files, perform the following steps:

1. Locate backup definition files for the **HPD:IncidentInterface** and **HPD:IncidentInterface_Create** forms.
2. Select the **Remedy Instance** from the left pane of the Developer studio.
3. From the File menu select **Export**.
4. Select **Object Definition** in the Export window, then click **Next**.
5. Click **Browse** and select the backup definition file, then click **Next**.
The Object Selection window appears.
6. Enable the **Replace Objects on the Destination Server** check box, then click **Finish**.

Creating Remedy Tickets

You can create tickets automatically or manually. The following sections explain how to create both types.

- [Automatically Creating a Ticket](#)
- [Manually Creating a Ticket](#)

Note:

At least one ticketing connector must be configured and enabled in order to create a ticket using either method.

3.1 Automatically Creating a Ticket

To automatically create a ticket in Remedy Service Desk, you need to create a rule that specifies the event or incident condition on which the ticket should be created. In this rule, you also specify the ticket template to be used with the Remedy Service Desk connector.

To create a rule to automatically create a ticket in Remedy Service Desk:

1. From the Enterprise Manager console, click **Setup**, then **Incidents** and **Incident Rules**.
2. Click **Create Rule Set**. On the Create Rule Set page, enter a name and description.
3. Click the **Rules** tab.

As you proceed below, the wizard interface explains various rules and their usage. For detailed information, refer to the "Using Incident Management" chapter in the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

- For **events** —

This is the typical option to choose to create a ticket for an event, such as a target down availability event.

Click **Create** and select **Incoming events or updates to events** as a type of rule to create from the pop-up window. Follow the steps below to create a rule.

- For **incidents** —

Click **Create** and select **Newly created incidents or updates to incidents** as a type of rule to create from the pop-up window. Follow the steps below to create a rule.

4. While configuring the above rule under the Add Actions page:

- For **events** —
 Select the **Create Incident** check box. This makes the Create Ticket option visible. Then, select the **Create Ticket** check box. It will display the combo box to select Connector Type, name, and template.
- For **incidents** —
 You can use this option to create tickets based on incident attributes, such as priority 1 incidents or incidents based on fatal or critical severity.
 Select the **Create Ticket** check box. It will display the combo box to select Connector Type, name, and template.

Figure 3-1 shows the Add Actions page for events, and Figure 3-2 shows the Add Actions page for incidents.

Figure 3-1 Add Actions Page for Events

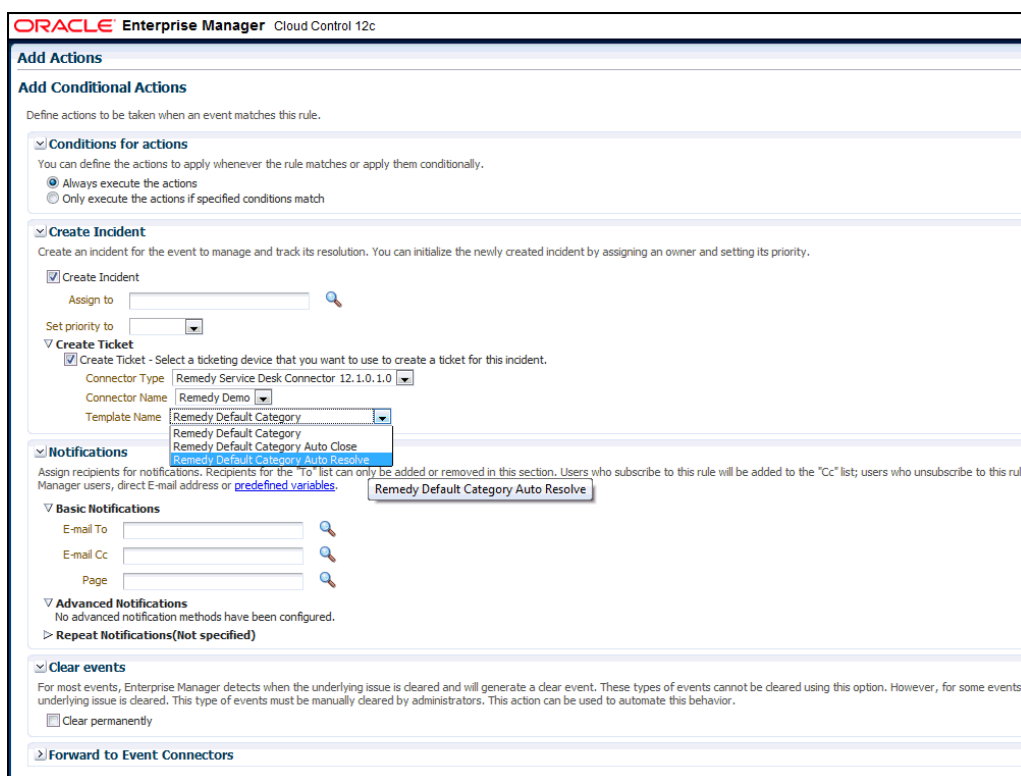


Figure 3-2 Add Actions Page for Incidents

ORACLE Enterprise Manager Cloud Control 12c

Add Actions

Add Conditional Actions

Define actions to be taken when an incident matches this rule.

Conditions for actions
 You can define the actions to apply whenever the rule matches or apply them conditionally.
 Always execute the actions
 Only execute the actions if specified conditions match ⓘ

Notifications
 Assign recipients for notifications. Recipients for the "To" list can only be added or removed in this section. Users who subscribe to this rule Manager users, direct E-mail address or [predefined variables](#).

Basic Notifications
 E-mail To ⓘ
 E-mail Cc ⓘ
 Page ⓘ

Advanced Notifications
 No advanced notification methods have been configured.
 ▶ Repeat Notifications (Not specified)

Update Incident
 Automatically update the incidents to help triage your incoming incidents.

Assign to ⓘ
 Set priority to
 Set status to None
 Escalate to

Create Ticket
 Create Ticket - Select a ticketing device that you want to use to create a ticket for this incident.
 Connector Type Remedy Service Desk Connector 12.1.0.1.0
 Connector Name Remedy Demo
 Template Name Remedy Default Category

5. After selecting an appropriate connector and template, click **Save**.

The following process occurs after you create the event or incident rule:

- A request is sent to the Remedy Service Desk Connector when an incident is created due to an event that matches your rule.
- The ticket is created or updated on the Remedy Ticket system.
- In Enterprise Manager, the incident is annotated with a comment on the Updates tab to indicate that a ticket was created or updated, as shown in [Figure 3-3](#). Additionally, the incident is updated with the ticket ID, ticket status, and ticket URL under the Incident Tracking section.

A ticket is updated if there is an existing active ticket for an incident. [Figure 3-4](#) shows the ticket in the Remedy console.

To configure Remedy to return the ticket status to Enterprise Manager, see [Advanced Ticketing Configuration](#).

Figure 3-3 Incident Comments

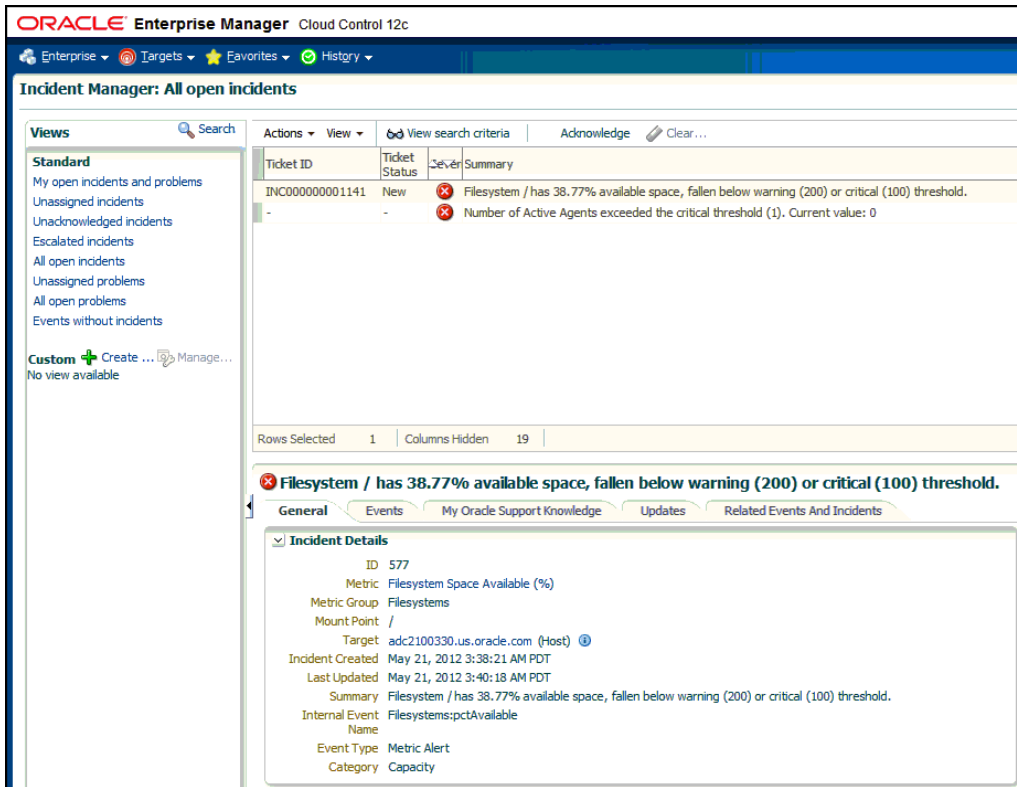
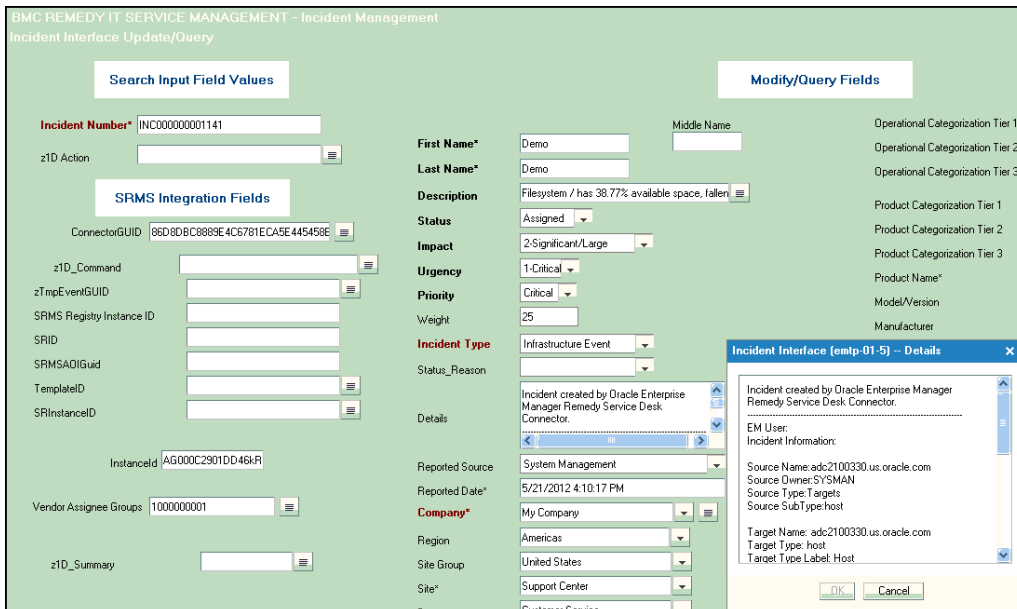


Figure 3-4 Remedy Console Ticket



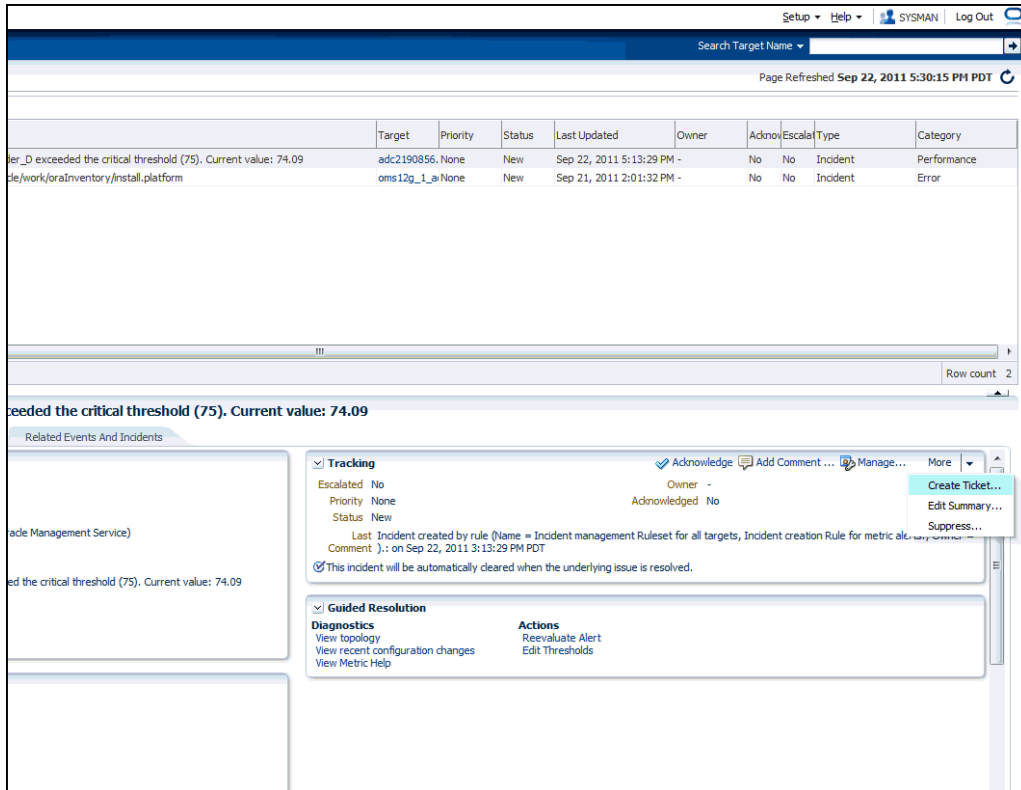
3.2 Manually Creating a Ticket

Perform the following steps to manually create a ticket:

1. From the Enterprise menu of the Enterprise Manager console, select **Monitoring**, then **Incident Manager**.

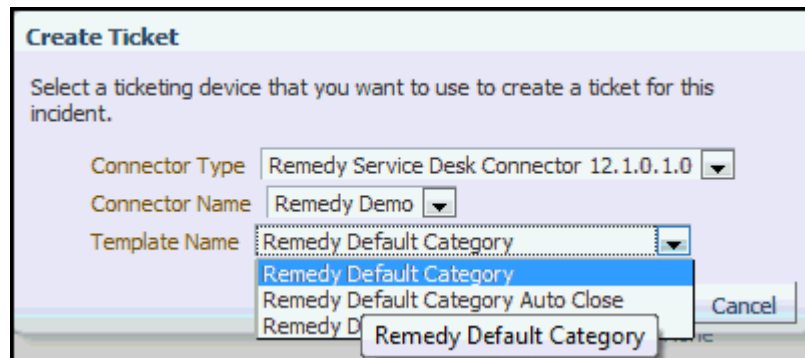
- The Incident Manager page appears, showing all open incidents.
- Select any incident from the list in the table.
- In the Tracking section, click **More**, then **Create Ticket**, as shown in [Figure 3-5](#).

Figure 3-5 Tracking Section of Incident Manager



- In the Create Ticket pop-up window, select a ticket template from the Template Name drop-down menu as shown in [Figure 3-6](#), then click **OK**.
If you do not see the desired template, you can add one using the emctl command. See [Adding Ticket Templates](#).

Figure 3-6 Create Ticket Pop-up Window



If creating ticket is successful, the ticket ID appears in the tracking section for the incident. If the Web console settings are configured and enabled, the ticket ID appears as a link to the ticket page in the Remedy Service Desk.

Using Default Templates

This chapter provides details on the default ticket templates shipped along with the Remedy Service Desk Connector. The ticket templates specify the mappings between an Enterprise Manager incident and underlying event attributes and Remedy ticket attributes.

- [Template Process](#)
- [Ensuring Web Services for Default Templates](#)
- [Reading Ticket Templates](#)
- [Customizing Ticket Templates](#)
- [Defining New Templates](#)

4.1 Template Process

All out-of-box templates cause the following actions to occur when a you create a ticket for an incident:

- Write incident information to `Description` (Remedy ticket description).
- Set the Remedy ticket summary based on the incident message. During updating, the ticket summary field is updated to include the latest incident message information.

The out-of-box templates are as follows:

- `Remedy_DefaultCategory_AutoResolve.xml`
- `Remedy_DefaultCategory_AutoClose.xml`
- `Remedy_DefaultCategory.xml`

Remedy_DefaultCategory_AutoResolve.xml

The `Remedy_DefaultCategory_AutoResolve.xml` template sets the ticket status to Resolved when the event severity value becomes clear. When the same event with a Critical or Warning severity occurs within the grace period time, the following occurs:

- The ticket is reopened.
- The status field is set as Assigned.
- The ticket Summary, Notes, Work Info Summary, and Work Info Notes fields are updated with the latest event information. If you leave an incident as resolved, the Incident Management application closes the incident after 15 days. See the *BMC Remedy Service Desk: Incident Management 7.0 User's Guide* for more information.

Remedy_DefaultCategory_AutoClose.xml

The `Remedy_DefaultCategory_AutoClose.xml` template sets the ticket status to Closed when the event severity value becomes Clear. After the Ticket Status is closed, it cannot be reassigned to other values. When the same event with critical or warning severity occurs within the grace period time, the following occurs:

- The ticket is not reopened.
- The status field remains Closed, but the ticket Summary, Notes, Work Info Summary, and Work Info Notes fields are updated with the latest event information.

Note:

Oracle recommends that you do not select `Remedy_DefaultCategory_AutoClose.xml` if you want tickets to be reopened when a critical or warning event has occurred within the grace period.

If you want tickets to be reopened, then select `Remedy_DefaultCategory_AutoResolve.xml`.

Remedy_DefaultCategory.xml

The `Remedy_DefaultCategory.xml` template does not close the ticket when the event severity value becomes clear. When the same event with a Critical or Warning severity occurs within the grace period time, the ticket Summary, Notes, Work Info Summary, and Work Info Notes fields are updated with the latest event information.

4.2 Ensuring Web Services for Default Templates

If you choose default ticket templates, ensure that the following HPD:HelpDesk related Web services are up and running on the Remedy AR server:

- `HPD_IncidentInterface_Create_WS`
- `HPD_IncidentInterface_Custom_WS`

4.3 Reading Ticket Templates

[Table 4-1](#) and [Table 4-2](#) illustrate the creation of a ticket using `Remedy_DefaultCategory_AutoResolve.xml`. This illustration will help you to read a ticket template. In the tables, * denotes a literal string and ** indicates if the attribute applies.

Ticket creation mappings are the same for `Remedy_DefaultCategory_AutoResolve.xml`, `Remedy_DefaultCategory_AutoClose.xml`, and `Remedy_DefaultCategory.xml`.

[Table 4-1](#) shows Remedy ticket attributes and corresponding Enterprise Manager incident values for ticket creation mappings.

Note:

Remedy Ticket Attributes for which no values are needed are not mentioned in the table.

Table 4-1 Ticket Creation Mappings (for all templates)

Remedy Ticket Attributes	Enterprise Manager incident Attributes	Value
First_Name	HDUser	User name provided in the "Remedy Username" field during the configuration.
Impact	SeverityCode — Applies to incident severity	For incidents: <ul style="list-style-type: none"> • If severity is Fatal, set Impact to 1-Extensive/Widespread. • If severity is Critical, set Impact to 2-Significant/Large. • Otherwise, set Impact to 3-Moderate/Limited.
Last_Name	HDUser	User name provided in the "Remedy Username" field during the configuration. It is assumed the same user exists in Remedy people form. Example: First_Name=admin, Last_Name=admin and the same user "admin admin" exists in Remedy server.
Reported_Source		"Systems Management" *
Service_Type		"Infrastructure Event" *
Status		New *
Action		CREATE *
Create_Request		Blank
Summary	Summary - Example: Memory Utilization is 59.024%, crossed warning (0.01)	

Table 4-1 (Cont.) Ticket Creation Mappings (for all templates)

Remedy Ticket Attributes	Enterprise Manager incident Attributes	Value
Notes	<p>For incidents:</p> <p>EMUser — Incident or event 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.</p> <p>Other Incident information includes:</p> <p>Source Name</p> <p>Source Owner - Example: Sysman</p> <p>Source Type</p> <p>Source SubType</p> <p>TargetName</p> <p>TargetType</p> <p>TargetProperties** — name:value pairs of defined target properties. For example: Line of business: Finance Owner: Finance-DB Team</p> <p>Severity</p> <p>Priority</p> <p>Creation Date - Incident Creation Date</p> <p>LastUpdatedDate</p> <p>Owner - Incident Owner</p> <p>URL - Incident URL</p> <p>IncidentRuleName</p>	Values from the EM Incident context.
Urgency	Based on SeverityCode	<p>For metric incidents:</p> <ul style="list-style-type: none"> • If severity is Fatal or Critical, set Urgency to 1-Critical. • If severity is Warning, set Urgency to 2-High • Otherwise, set Urgency to 3-Medium.
Work_Info_Summary	Summary. Example: Memory Utilization is 59.024%, crossed warning (0.01)	
Work_Info_Notes	Severity — Example: Incident created by Oracle Enterprise Manager Remedy Service Desk Connector for Critical severity	
Work_Info_Type		"Incident Task/Action" *

Table 4-1 (Cont.) Ticket Creation Mappings (for all templates)

Remedy Ticket Attributes	Enterprise Manager incident Attributes	Value
Work_Info_Source		"System Assignment" *
Work_Info_View_Access		"Public" *
ConnectorGUID	ConnectorGUID	

[Table 4-2](#) shows Remedy ticket attributes and corresponding Enterprise Manager incident attributes and values for `Remedy_DefaultCategory_AutoResolve.xsl` mappings.

Table 4-2 Ticket Updates (Remedy_DefaultCategory_AutoResolve.xsl Mappings)

Remedy Ticket Attributes	Enterprise Manager incident Attributes	Value
Company		"My Company" *
Summary	Summary - Example: Memory Utilization is 59.024%, crossed warning (0.01)	

Table 4-2 (Cont.) Ticket Updates (Remedy_DefaultCategory_AutoResolve.xsl Mappings)

Remedy Ticket Attributes	Enterprise Manager incident Attributes	Value
Notes	<p>For incidents:</p> <p>EMUser — Incident 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.</p> <p>Other Incident information includes:</p> <p>Source Name</p> <p>Source Owner - Example: Sysman</p> <p>Source Type</p> <p>Source SubType</p> <p>TargetName</p> <p>TargetType</p> <p>TargetProperties** — name:value pairs of defined target properties. For example: Line of business: Finance Owner: Finance-DB team</p> <p>Severity</p> <p>Priority</p> <p>Creation Date - Incident Creation date</p> <p>LastUpdatedDate</p> <p>Owner - Incident Owner</p> <p>CollectionTime</p> <p>URL - Incident URL</p> <p>IncidentRuleName</p>	Values from the EM Incident context.
Impact	SeverityCode — Applies to incidents severity	<p>For metric incidents:</p> <ul style="list-style-type: none"> • If severity is Fatal, set Impact to 1-Extensive/Widespread. • If severity is Critical, set Impact to 2-Significant/Large. • Otherwise, set Impact to 3-Moderate/Limited.
Incident_Number	TicketID — The connector adds this into the incident context before handling the ticketing action. Required by the Remedy Web Service to identify the ticket that must be updated.	
Reported_Source		"Systems Management" *
Resolution	Severity, Summary	If the severity is Clear, add the Resolution with Summary.

Table 4-2 (Cont.) Ticket Updates (Remedy_DefaultCategory_AutoResolve.xsl Mappings)

Remedy Ticket Attributes	Enterprise Manager incident Attributes	Value
Service_Type		"Infrastructure Event" *
Status	Based on Severity	If severity is Clear, set the ticket to the status Resolved. Otherwise set ticket to status Assigned.
Status_Reason	Based on Severity	If severity is Clear, set the Status_Reason to "Automated Resolution Reported."
Urgency	Based on SeverityCode	For metric incidents: <ul style="list-style-type: none"> • If severity is Fatal or Critical, set Urgency to 1-Critical. • If severity is Warning, set Urgency to 2-High • Otherwise, set Urgency to 3-Medium.
Action		MODIFY*
Work_Info_Type		"Incident Task/Action" *
Work_Info_Source		"System Assignment" *
Work_Info_Notes	Based on Severity – information text is added	
Work_Info_Locked		"No" *
Work_Info_View_Access		"Public" *
Work_Info_Summary	Summary	
ConnectorGUID	ConnectorGUID	

Use the mapping table (Table 4-1) as a reference to read the XSLT file in [Example 4-1](#).

Example 4-1 Remedy_DefaultCategory_AutoResolve.xsl Source Code with Annotations

```
<?xml version='1.0' encoding='UTF-8'?>
<xsl:transform version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
xmlns:ns0="http://xmlns.oracle.com/sysman/connector">

<!-- This template creates an incident type ticket within Remedy Service
Desk with default settings. On update, the worklog is updated with the latest
incident message and severity information. The ticket is set to status Resolved
if the associated alert has cleared. Ticket can be reopend if a severity
occured with in the grace period. If the ticket is not reopened for 15 days,
ticket will be closed by incident management.

-->

<xsl:template match="ns0:EMIncident">
<xsl:choose>
<xsl:when test="normalize-space(ns0:TicketID) = ''">
<urn:HelpDesk_Submit_Service xmlns:urn="urn:HPD_IncidentInterface_Create_WS">
```

```

<!-- EDIT THE TAG VALUES BELOW TO CHANGE HOW A TICKET IS FILLED
DURING TICKET CREATION. REFER TO THE REMEDY SERVICE DESK MANUAL.

FOR DESCRIPTION OF THESE HELPDESK SUPPORT DATAFIELDS-->
<!--FIRST_NAME, LAST_NAME VALUES ARE PICKED FROM THE USERNAME VALUE GIVEN DURING
REMEDY SERVICE DESK CONNECTOR CONFIGURATION. EXAMPLE USERNAME:Demo.-->

<urn:First_Name><xsl:value-of select="ns0:HDUser"/></urn:First_Name>
<xsl:choose>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'FATAL')">
<urn:Impact>1-Extensive/Widespread</urn:Impact>
</xsl:when>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'CRITICAL')">
<urn:Impact>2-Significant/Large</urn:Impact>
</xsl:when>
<xsl:otherwise>
<urn:Impact>3-Moderate/Limited</urn:Impact>
</xsl:otherwise>
</xsl:choose>
<urn>Last_Name><xsl:value-of select="ns0:HDUser"/></urn>Last_Name>
<urn:Reported_Source>Systems Management</urn:Reported_Source>
<urn:Service_Type>Infrastructure Event</urn:Service_Type>
<urn:Action>CREATE</urn:Action>
<urn>Create_Request/>
<urn:Summary>
<xsl:value-of select="substring(ns0:SystemAttributes/ns0:Summary, 0, 100)"/>
</urn:Summary>
<urn:Notes>
<xsl:call-template name="getDetails">
<xsl:with-param name="message">Incident created by Oracle Enterprise Manager Remedy
Service Desk Connector</xsl:with-param>
</xsl:call-template>
</urn:Notes>
<xsl:choose>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'FATAL') or
(ns0:SystemAttributes/ns0:SeverityCode = 'CRITICAL') ">
<urn:Urgency>1-Critical</urn:Urgency>
</xsl:when>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'WARNING')">
<urn:Urgency>2-High</urn:Urgency>
</xsl:when>
<xsl:otherwise>
<urn:Urgency>3-Medium</urn:Urgency>
</xsl:otherwise>
</xsl:choose>
<urn:Work_Info_Summary>
<xsl:value-of select="substring(ns0:SystemAttributes/ns0:Summary, 0, 100)"/>
</urn:Work_Info_Summary>
<urn:Work_Info_Notes>
<xsl:call-template name="getDetails">
<xsl:with-param name="message">Incident created by Oracle Enterprise Manager Remedy
Service Desk Connector</xsl:with-param>
</xsl:call-template>
</urn:Work_Info_Notes>
<urn:Work_Info_Type>Incident Task / Action</urn:Work_Info_Type>
<urn:Work_Info_Date/>
</urn:HelpDesk_Submit_Service>
</xsl:when>
<xsl:otherwise>
<urn:HelpDesk_Modify_Status_Service xmlns:urn="urn:HPD_IncidentInterface_Custom_WS">

```



```

<urn:Categorization_Tier_1></urn:Categorization_Tier_1>
<urn:Categorization_Tier_2></urn:Categorization_Tier_2>
<urn:Categorization_Tier_3></urn:Categorization_Tier_3>
<urn:Closure_Manufacturer></urn:Closure_Manufacturer>
<urn:Closure_Product_Category_Tier1></urn:Closure_Product_Category_Tier1>
<urn:Closure_Product_Category_Tier2></urn:Closure_Product_Category_Tier2>
<urn:Closure_Product_Category_Tier3></urn:Closure_Product_Category_Tier3>
<urn:Closure_Product_Model_Version></urn:Closure_Product_Model_Version>
<urn:Closure_Product_Name></urn:Closure_Product_Name>

<!--EDIT THE Company TAG BELOW TO ADD A Company NAME THAT IS ASSOCIATED WITH
FIRST_NAME, LAST_NAME TAGS ON THE REMEDY -->

<urn:Company>My Company</urn:Company>
<urn:Summary>
<xsl:value-of select="substring(ns0:SystemAttributes/ns0:Summary, 0, 100)"/>
</urn:Summary>
<urn:Notes>
<xsl:choose>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'CLEAR')">
<xsl:call-template name="getDetails">
<xsl:with-param name="message">Incident resolved by Oracle Enterprise Manager Remedy
Service Desk Connector</xsl:with-param>
</xsl:call-template>
</xsl:when>
<xsl:when test="ns0:ReopenTicket = 'Yes'">
<xsl:call-template name="getDetails">
<xsl:with-param name="message">Incident reopened by Oracle Enterprise Manager Remedy
Service Desk Connector</xsl:with-param>
</xsl:call-template>
</xsl:when>
<xsl:otherwise>
<xsl:call-template name="getDetails">
<xsl:with-param name="message">Incident updated by Oracle Enterprise Manager Remedy
Service Desk Connector</xsl:with-param>
</xsl:call-template>
</xsl:otherwise>
</xsl:choose>
</urn:Notes>
<xsl:choose>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'FATAL')">
<urn:Impact>1-Extensive/Widespread</urn:Impact>
</xsl:when>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'CRITICAL')">
<urn:Impact>2-Significant/Large</urn:Impact>
</xsl:when>
<xsl:otherwise>
<urn:Impact>3-Moderate/Limited</urn:Impact>
</xsl:otherwise>
</xsl:choose>
<urn:Manufacturer></urn:Manufacturer>
<urn:Product_Categorization_Tier_1></urn:Product_Categorization_Tier_1>
<urn:Product_Categorization_Tier_2></urn:Product_Categorization_Tier_2>
<urn:Product_Categorization_Tier_3></urn:Product_Categorization_Tier_3>
<urn:Product_Model_Version></urn:Product_Model_Version>
<urn:Product_Name></urn:Product_Name>
<urn:Reported_Source>Systems Management</urn:Reported_Source>
<xsl:choose>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'CLEAR')">
<urn:Resolution>
Incident resolved by Oracle Enterprise Manager Remedy

```

```

Service Desk Connector due to change in severity of the
associated alert. Severity:
<xsl:value-of select="ns0:SystemAttributes/ns0:Severity"/>
Message:
<xsl:value-of select="substring(ns0:SystemAttributes/ns0:Summary, 0, 100)"/>
</urn:Resolution>
</xsl:when>
<xsl:otherwise>
<urn:Resolution></urn:Resolution>
</xsl:otherwise>
</xsl:choose>
<urn:Resolution_Category/>
<urn:Resolution_Category_Tier_2/>
<urn:Resolution_Category_Tier_3/>
<urn:Resolution_Method/>
<urn:Service_Type>Infrastructure Event</urn:Service_Type>
<xsl:choose>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'CLEAR')">
<urn:Status>Resolved</urn:Status>
</xsl:when>
<xsl:otherwise>
<urn:Status></urn:Status>
</xsl:otherwise>
</xsl:choose>
<xsl:choose>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'FATAL') or
(ns0:SystemAttributes/ns0:SeverityCode = 'CRITICAL') ">
<urn:Urgency>1-Critical</urn:Urgency>
</xsl:when>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'WARNING')">
<urn:Urgency>2-High</urn:Urgency>
</xsl:when>
<xsl:otherwise>
<urn:Urgency>3-Medium</urn:Urgency>
</xsl:otherwise>
</xsl:choose>
<urn:Action>MODIFY</urn:Action>
<urn:Work_Info_Summary>
<xsl:value-of select="substring(ns0:SystemAttributes/ns0:Summary, 0, 100)"/>
</urn:Work_Info_Summary>
<xsl:choose>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'CLEAR')">
<urn:Work_Info_Notes>
<xsl:call-template name="getDetails">
<xsl:with-param name="message">Incident resolved by Oracle Enterprise Manager Remedy
Service Desk Connector due to change in associated Incident</xsl:with-param>
</xsl:call-template>
</urn:Work_Info_Notes>
</xsl:when>
<xsl:when test="ns0:ReopenTicket = 'Yes'">
<urn:Work_Info_Notes>
<xsl:call-template name="getDetails">
<xsl:with-param name="message">Incident reopened because the associated alert re-
triggered within the grace period</xsl:with-param>
</xsl:call-template>
</urn:Work_Info_Notes>
</xsl:when>
<xsl:otherwise>
<urn:Work_Info_Notes>
<xsl:call-template name="getDetails">
<xsl:with-param name="message">Incident updated by Oracle Enterprise Manager Remedy

```

```

Service Desk Connector</xsl:with-param>
</xsl:call-template>
</urn:Work_Info_Notes>
</xsl:otherwise>
</xsl:choose>
<urn:Work_Info_Type>Incident Task / Action</urn:Work_Info_Type>
<urn:Work_Info_Date/>
<urn:Work_Info_Source>System Assignment</urn:Work_Info_Source>
<urn:Work_Info_Locked>No</urn:Work_Info_Locked>
<urn:Work_Info_View_Access>Public</urn:Work_Info_View_Access>
<urn:Incident_Number>
<xsl:value-of select="ns0:TicketID"/>
</urn:Incident_Number>
<xsl:choose>
<xsl:when test="(ns0:SystemAttributes/ns0:SeverityCode = 'CLEAR')">
<urn:Status_Reason>Automated Resolution Reported</urn:Status_Reason>
</xsl:when>
<xsl:otherwise>
<urn:Status_Reason></urn:Status_Reason>
</xsl:otherwise>
</xsl:choose>
<urn:ServiceCI></urn:ServiceCI>
<urn:ServiceCI_ReconID></urn:ServiceCI_ReconID>
<urn:HPD_CI></urn:HPD_CI>
<urn:HPD_CI_ReconID></urn:HPD_CI_ReconID>
<urn:HPD_CI_FormName></urn:HPD_CI_FormName>
<urn:z1D_CI_FormName></urn:z1D_CI_FormName>
</urn:HelpDesk_Modify_Status_Service>
</xsl:otherwise>
</xsl:choose>
</xsl:template>
<xsl:template name="getDetails">
<xsl:param name="message" />
<xsl:choose>
<xsl:when test="normalize-space(ns0:SystemAttributes/ns0:UpdatedAttributes) != ''">
<xsl:value-of select="$message" /> for change in attributes : <xsl:value-of
select="ns0:SystemAttributes/ns0:UpdatedAttributes" />.
</xsl:when>
<xsl:otherwise>
<xsl:value-of select="$message" />.
</xsl:otherwise>
</xsl:choose>

```

```

-----
EM User: <xsl:value-of select="ns0:NotificationRuleOwner"/>
Incident Information:
<xsl:for-each select="ns0:SystemAttributes/ns0:SourceInfo">
Source Name:<xsl:value-of select="./ns0:SourceObjInfo/ns0:ObjName" />
<xsl:choose>
<xsl:when test="normalize-space(./ns0:SourceObjInfo/ns0:ObjOwner) != ''">
Source Owner:<xsl:value-of select="./ns0:SourceObjInfo/ns0:ObjOwner" />
</xsl:when>
</xsl:choose>
Source Type:<xsl:value-of select="./ns0:SourceObjInfo/ns0:SourceObjType"/>
Source SubType:<xsl:value-of select="./ns0:SourceObjInfo/ns0:SourceObjSubType"/>
Target Name: <xsl:value-of select="./ns0:TargetInfo/ns0:TargetName"/>
Target Type: <xsl:value-of select="./ns0:TargetInfo/ns0:TargetType"/>
Target Type Label: <xsl:value-of select="./ns0:TargetInfo/ns0:TargetTypeLabel"/>
Target URL:<xsl:value-of select="./ns0:TargetInfo/ns0:TargetURL"/>
<xsl:text>&#xa; </xsl:text>
</xsl:for-each>

```

```

<!-- LIST ALL THE TARGET PROPERTIES -->

Target Properties:
<xsl:for-each select="ns0:SystemAttributes/ns0:SourceInfo/ns0:TargetInfo/
ns0:TargetProperty">
<xsl:text>&#xa; </xsl:text>
<xsl:value-of select="./ns0:Name"/>: <xsl:value-of select="./ns0:Value"/>
</xsl:for-each>

<!-- EDIT THE FOLLOWING CODE TO LIST A SPECIFIC TARGET PROPERTY,
SUCH AS "Line of Business"

<xsl:choose>
<xsl:when test="ns0:SystemAttributes/ns0:SourceInfo/ns0:TargetInfo/
ns0:TargetProperty/ns0:Name='Line of Business'">
Line of Business: <xsl:value-of select="ns0:ns0:SystemAttributes/
ns0:SourceInfo/ns0:TargetInfo/ns0:TargetProperty
/ns0:value"/>
</xsl:when>
</xsl:choose>
-->
Severity: <xsl:value-of select="ns0:SystemAttributes/ns0:Severity"/>
Priority: <xsl:value-of select="ns0:SystemAttributes/ns0:Priority" />
CreationDate: <xsl:value-of select="ns0:SystemAttributes/ns0:CreationDate"/>
LastUpdatedDate:<xsl:value-of select="ns0:SystemAttributes/ns0:LastUpdatedDate"/>
Owner: <xsl:value-of select="ns0:SystemAttributes/ns0:Owner" />
<xsl:choose>
<xsl:when test="normalize-space(ns0:NotificationRuleName) != ''">
Notification Rule: <xsl:value-of select="ns0:NotificationRuleName"/>
</xsl:when>
</xsl:choose>
URL: <xsl:value-of select="ns0:SystemAttributes/ns0:IncidentURL"/>
EM Incident Status : <xsl:value-of select="ns0:SystemAttributes/
ns0:ResolutionState"/>
EM Acknowledge : <xsl:value-of select="ns0:SystemAttributes/ns0:Acknowledge"/>
EM Auto Close : <xsl:value-of select="ns0:SystemAttributes/ns0:AutoClose"/>
EM Escalation Level : <xsl:value-of select="ns0:SystemAttributes/
ns0:EscalationLevel"/>
<xsl:for-each select="ns0:SystemAttributes/ns0:AdditionalDetails">
<xsl:text>&#xa;</xsl:text>
<xsl:value-of select="./ns0:VariableName"/>: <xsl:value-of select="./
ns0:VariableValue"/>
</xsl:for-each>
</xsl:template>
</xsl:transform>

```

4.4 Customizing Ticket Templates

If the out-of-box ticket templates do not satisfy your requirements, you can modify them. To do this, Oracle recommends that you use one of the existing templates as the base template. Copy this ticket template to a new file, modify, and register the new ticket template.

Oracle Enterprise Manager 12.1.0.2 supports editing a template directly on Enterprise Manager instead of using the EM CLI command. See [Editing Templates](#) and [Restoring Templates](#) for more information.

In most cases, when you modify the ticket template, you might only be changing the mappings. The following examples illustrate this concept:

Example 4-2 Creating a Template to Mark the <Company/> Element to MyCompany

To create a template to mark the category to MyCompany, modify the following attribute in the template:

```
<urn:Company>MyCompany</urn:Company>
```

Example 4-3 Altering the Message Type

If you only want the incident message to appear as a ticket summary instead of both message and severity, modify the following attribute:

```
<urn:Summary><xsl:value-of select="ns0:Message"/></urn:Summary>
```

The templates are highly customizable. Oracle recommends that only users with advanced knowledge of XSLT make complex changes.

You can use incident or event rules as a filter to associate proper ticket templates with incidents. You can have as many tickets templates as desired. One incident or event rule can have only one ticket template.

4.5 Defining New Templates

The out-of-box templates are based on the default HPD:IncidentInterface_Create,HPD:IncidentInterface forms. If the new ticket templates you define are based on these forms, [Customizing Ticket Templates](#) applies.

However, if you use a different form, you need to define a new ticket template.

Enterprise Manager Attributes

[Table 4-3](#) provides the Enterprise Manager fields that you can map when using the default Remedy Service Desk Web services:

Table 4-3 Enterprise Manager Attributes

Data Fields	Description
EMUser	<ul style="list-style-type: none"> For auto-ticketing, this is the incident rule owner. For manual ticketing, this is the console user that triggered the ticket creation.
HDUser	Service Desk user registered with the Connector; this is the same as the user name specified for the WS authentication.
TicketID	Identifies the ticket associated with the current incident (available after ticket creation).
ConnectorID	Identifies the connector that processed the incident and issued the ticket creation or ticket update. This is the ID for the Remedy Service Desk Connector.
TargetType	Type of target that the incident is associated with, such as host.
TargetName	Name of the target that the incident is associated with. For example, Database1 or stadc40.us.oracle.com.

Table 4-3 (Cont.) Enterprise Manager Attributes

Data Fields	Description
TargetProperties	<p>TargetProperties store environmental or usage context information specific to the target. For example, for Host Target, the name /value pair of TargetProperties are:</p> <ul style="list-style-type: none"> • Comment — Host running the management service and repository. • Contact — John Doe • Deployment Type — Production • Line of Business — Development • Location — Redwood Shores <p>These are out-of-box user-defined target properties. If additional target properties are added, they are displayed with ticket information.</p>
Summary	Description of the incident. For example: CPU Utilization is 100%, crossed warning (80) or critical (95) threshold.
Severity	Severity of the incident: <i>critical</i> , <i>warning</i> , <i>clear</i> , or <i>down</i> .
CollectionTime	Timestamp of an incident occurrence.
IncidentURL	URL to the incident details page of the incident.
NotificationRuleName	Name of the incident rule that generated the notification during auto-ticketing.
TargetTimezone	Timezone of the target associated with the incident.
ReopenTicket	Value <i>Yes</i> indicates that the incident is cleared since the last update or creation, but is within the configured grace period.

Format for Creating Ticket Templates

To create ticket templates for custom Remedy forms, adhere to the following format:

Example 4-4 Template Format for Custom Remedy Forms

```
<?xml version='1.0' encoding='UTF-8'?>
<xsl:transform version="1.0"
  xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
  xmlns:ns0="http://xmlns.oracle.com/sysman/connector"
  targetNamespace="http://xmlns.oracle.com/sysman/connector"
  elementFormDefault="qualified">

<!--This template creates an incident type ticket with default categorization.
  The ticket priority is based on event severity. On update,the ticket summary
  is updated with the latest incident message and severity information. -->

<xsl:template match="ns0:EMIncident">
<xsl:choose>
<xsl:when test="normalize-space(ns0:TicketID) = ''">

*[Insert your mappings from EMIncident into your custom Create Ticket Webservice
SOAP Document] *
```

```
</xsl:when>
<xsl:otherwise>

* [Insert your mappings from EMIncident schema into your Custom Update Ticket
Webservice SOAP Document]*

</xsl:otherwise>
</xsl:choose>
</xsl:template>
</xsl:transform>
```

Enabling SSL for HTTPS

Follow the steps provided in this section if you choose HTTPS as the protocol to establish a connection between the external ticketing system and Enterprise Manager.

5.1 Generating a Certificate Request File

Generate a certificate request file for the external ticketing system and send it to the Certificate authority, such as VeriSign.

Note:

The certificate request file is dependent on the Web server used by the external ticketing system.

5.2 Importing the Certificate from the Certificate Authority

After you get the certificate, import it to the Web server the external ticketing system uses. The import mechanism varies depending on the Web server the external ticketing system uses.

Note:

Make sure `https://<webserver>:port` is enabled and working on the external ticketing system.

5.3 Importing the Server Certificate on Enterprise Manager

Import the Server certificate (the certificate you got from Certificate Authority) using the following steps:

1. Append the external Certificate Authority's certificate to:

```
$INSTANCE_HOME/sysman/config/b64LocalCertificate.txt
```

2. Ensure that only the following is appended to the `b64LocalCertificate.txt` file (that is, do not include blank lines or comments or any other special characters):

```
-----BEGIN CERTIFICATE-----  
<<<Certificate in Base64 format>>>  
-----END CERTIFICATE-----
```

3. Restart the OMS. Run the following commands:

```
emctl stop oms  
emctl start oms
```

Note:

Do not run the `emctl secure oms/agent` command after adding the external certificate to the `b64LocalCertificate.txt` file. If you run the `emctl secure` command later, then repeat the steps 1 through 3 to make sure the external certificate exists on the `b64certificate.txt` file.

Advanced Ticketing Configuration

6.1 Customizing to Support a Ticketing Inbound Operation

Ticketing inbound operations is a new feature added in Enterprise Manager 12c. This feature enables you to update the ticket status in Enterprise Manager for any ticket status change on the Remedy Service Desk system.

When a ticket/incident, which is created by Enterprise Manager, is updated manually in the Remedy Service Desk Incident Management console, the same ticket status is updated on Enterprise Manager through EM CLI by using Remedy Active Links.

The Remedy active link run process to run external process is not functional in Workflow 7.6.04 (mid-tier: 7.6.04 SP1). A BMC Remedy Defect #SW00429829 is open, and as per BMC, the issue will be fixed in the next release of Mid-Tier.

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