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Installation and Configuration Guide for BMC Remedy Service Desk 7 Connector

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Oracle Enterprise Manager Installation and Configuration Guide for BMC Remedy Service Desk 7 Connector, Release 1.1.5.0.0

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Preface

This *Connector Installation and Configuration* guide provides the information that you require to install and 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 install and configure Management Connectors to enable integration between Enterprise Manager and other systems.

You should already be familiar with Oracle Enterprise Manager.

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- *Oracle Enterprise Manager Integration Guide*
- *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*
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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

Installing and Uninstalling the Connector

The Remedy Service Desk connector is packaged as a single jar file, `remedy_service_desk_connector.jar`, that you can deploy by using the Enterprise Manager emctl command. There can be only one ticketing connector in Oracle Enterprise Manager.

This chapter provides the following information for installing or uninstalling the Remedy Service Desk Connector, as well as switching from one console to the other:

- Prerequisites
- Installing the Connector
- Uninstalling the Connector
- Navigating Between Remedy and Enterprise Manager

1.1 Prerequisites

Before using Remedy Service Desk Connector, ensure that you meet the following prerequisites:

- Remedy Service Desk IT Service Management 7.0.03 with the latest Incident Management patch, “IT Service Management Patch 008” is installed and configured.
- Remedy Service Desk web services are up and running. See Web Service Details for Default Templates in Appendix A.

Before proceeding to the next section, do the following:

1. Click the **Setup** link in the upper right corner of the Oracle Enterprise Manager console.
2. Click the **Management Connectors** link in the left column of the Overview of Setup page.
3. Remove any ticketing connector you may have.

1.2 Installing the Connector

Perform the following steps to install the connector:

1. Copy `remedy_service_desk_connector.jar` to `$ORACLE_HOME/sysman/connector` on the server hosting your OMS. For multiple OMSes, you need to copy the `.jar` file for all OMSes.

2. 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 `.jar` file to this folder:

   ```
   $ORACLE_HOME/sysman/connector/Remedy_Service_Desk_Connector/
   ```

   For example:

   ```
   emctl extract_jar connector -jar remedy_service_desk_connector.jar
   -cname "Remedy Service Desk Connector"
   ```

3. 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 $ORACLE_HOME/sysman/connector/
   Remedy_Service_Desk_Connector/RemedyDeploy.xml
   -cs  //$emhost:$dbport/$dbSID -repos_user sysman -repos_pwd $repospwd
   ```

The Remedy Service Desk Connector should now appear in the Management Connector page with version 1.1.5.0.0.

Registering the Ticket Templates

There are three default templates:

- `Remedy_DefaultCategory_AutoResolve.xsl`
- `Remedy_DefaultCategory_AutoClose.xsl`
- `Remedy_DefaultCategory.xsl`

> **Tip:** See Section 5.1, "Template Process" on page 5-1 for detailed information about these templates.

Perform the following steps to register these templates as well as others:

1. For each template above, run the following emctl `register_ticket_template` connector command as a user with `execute` privilege on `emctl` and the ability to read the ticket template:

   ```
   $ORACLE_HOME/bin/emctl register_ticket_template connector
   -t <ticketTemplate.xsl> -cs //<server>:<port>/<dbsid/service
   name for RAC DB> -repos_user <username> -repos_pwd <password>
   -ctname <connectorTypeName> -cname  <connectorName>
   -iname <internalName> -tname <templateName>
   -ttype 2 -d <description>
   ```

   See Table 1–1 for descriptions of the command parameters.

2. Run the same command for each of the following templates:

   - `createTicketResponse.xsl` — Specify ttype 1, iname createTicket
   - `getTicket_response.xsl` — Specify ttype 1, iname getTicket
   - `getTicket_request.xsl` — Specify ttype 2, iname getTicket

For templates *Remedy_DefaultCategory_AutoResolve.xsl*, *Remedy_DefaultCategory_AutoClose.xsl* and *Remedy_DefaultCategory.xsl*, the internal name can be the file names. For the other templates, the inames are fixed.

These templates are located in the following directory:

```
$ORACLE_HOME/sysman/connector/Remedy_Service_Desk_Connector
```

3. Continue with the registration process by running this command for every Remedy template that is shipped as part of the connector. For multiple OMS installations, you need to run this command only once from any of the OMSes.

emctl Parameters

Table 1–1 provides descriptions for the parameters shown in the emctl command above.

Table 1–1 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 `"Remedy Service Desk Connector"`. The double quotes ("") are mandatory.
`cname`	Connector name — Specify `"Remedy Service Desk Connector"`. The double quotes ("") are mandatory.
`iname`	Internal name — Depending on the template, the values can be `Remedy_DefaultCategory_AutoResolve.xsl, Remedy_DefaultCategory_AutoClose.xsl, or createTicket, getTicket`.
`tname`	Template name — Depending on the template, the values can be `Create Ticket Response, Get Ticket Request, Get Ticket Response`, or a value defined by the user.
`ttype`	Template type — Specify 1 for inbound transformation and 2 for outbound transformation.
`description`	Short description for the ticket template. This description is also displayed in Enterprise Manager.

Registration Example

Example 1–1 shows template registration for the `Remedy_DefaultCategory_AutoResolve.xsl` template.

Example 1–1 Ticket Template Registration

```
emctl register_template connector -t "$ORACLE_HOME/sysman/connector/
Remedy_Service_Desk_Connector/templates/Remedy_DefaultCategory_AutoResolve.xsl"
-cs "//$emHost:$dbPort/$dbSID" -repos_user sysman -ctname "Remedy Service Desk
Connector" -cname "Remedy Service Desk Connector"
```

```
-tname "Remedy_DefaultCategory_AutoResolve.xsl"
-iname "Remedy_DefaultCategory_AutoResolve.xsl" -ttype 2
-d "template creates a ticket with priority based on event severity. It sets the
ticket to 'resolved' if the event severity clears" -repos_pwd $repos_pwd
```

The following table lists the properties of each template for the Remedy Service Desk Connector.

Table 1–2 Template Properties

Template	Template Name	Internal Name	Template Type
Remedy_DefaultCategory_AutoResolve.xsl	<Defined by the users>	Remedy_DefaultCategory_AutoResolve.xsl	2
Remedy_DefaultCategory_AutoClose.xsl	<Defined by the users>	Remedy_DefaultCategory_AutoClose.xsl	2
Remedy_DefaultCategory.xsl	<Defined by the users>	Remedy_DefaultCategory_.xsl	2
createTicketResponse.xsl	Create Ticket Response	createTicket	1
getTicket_request.xsl	Get Ticket Request	getTicket	2
getTicket_response.xsl	Get Ticket Response	getTicket	1

1.3 Uninstalling the Connector

To uninstall the connector, do the following:

1. Click the **Setup** link in the upper right corner of the Oracle Enterprise Manager console.
2. Click the **Management Connectors** link in the left column of the Overview of Setup page.
3. Select the connector, then click **Delete**.

1.4 Navigating Between Remedy and Enterprise Manager

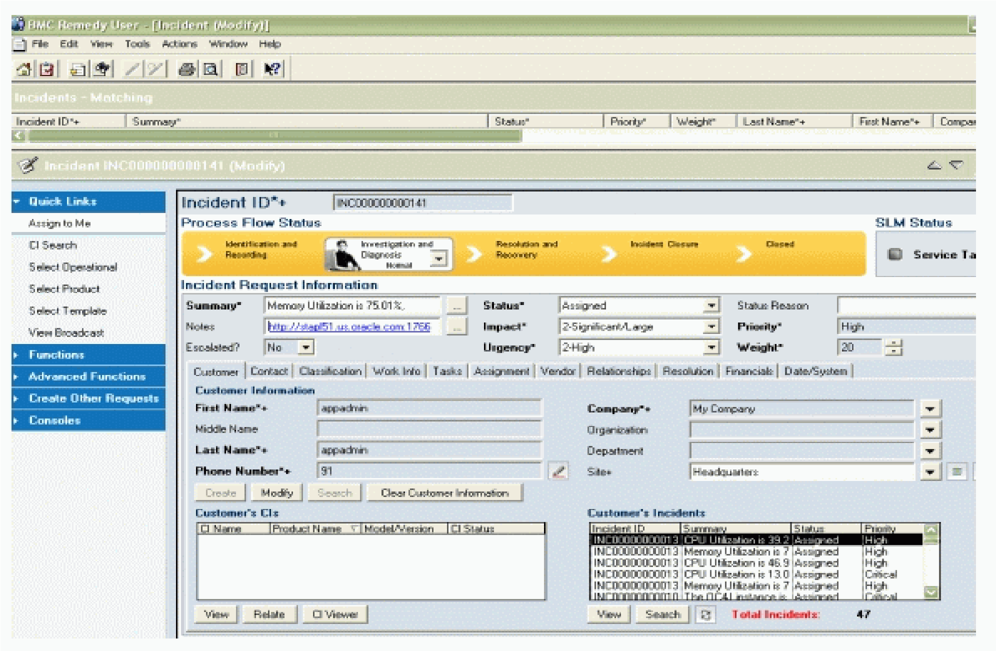
The following sections explain how to switch from one console to the other.

1.4.1 Navigating from Remedy to Enterprise Manager

From a ticket page, click the link in the **Notes** field to the Alert Details page in the ticket message body, as shown in Figure 1–1. This action takes 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.

Figure 1–1 Alert Details in the Remedy Console


BMC Remedy User - [Incident (Modify)]
File Edit View Tools Actions Window Help
Incidents - Matching
Incident ID*+ Summary* Status* Priority* Weight* Last Name*+ First Name*+ Compa
Incident INC000000000141 (Modify)
Quick Links
Assign to Me
CI Search
Select Operational
Select Product
Select Template
View Broadcast
Functions
Advanced Functions
Create Other Requests
Consoles
Process Flow Status
Identification and Recording
Investigation and Diagnosis
Normal
Resolution and Recovery
Incident Closure
Closed
SLM Status
Service Ta
Incident Request Information
Customer Contact Classification Work Info Tasks Assignment Vendor Relationships Resolution Financials Date/System
Customer Information
Create Modify Search Clear Customer Information
Customer's CIs
CI Name Product Name Model/Version CI Status
View Relate CI Viewer
Customer's Incidents
View Search
Total Incidents:

Incident ID*+: INC000000000141

Summary*: Memory Utilization is 75.01%.

Notes: http://stapl51.us.oracle.com:1766

Escalated?: No

Status*: Assigned

Impact*: 2-Significant/Large

Urgency*: 2-High

Status Reason:

Priority*: High

Weight*: 20

First Name*+: appadmin

Middle Name:

Last Name*+: appadmin

Phone Number*+: 91

Company*+: My Company

Organization:

Department:

Site+: Headquarters

Incident ID	Summary	Status	Priority
INC00000000013	CPU Utilization is 39.2	Assigned	High
INC00000000013	Memory Utilization is 7	Assigned	High
INC00000000013	CPU Utilization is 46.9	Assigned	High
INC00000000013	CPU Utilization is 13.0	Assigned	Critical
INC00000000013	Memory Utilization is 7	Assigned	High
INC00000000010	The OC4J instance is	Assigned	Critical

Total Incidents: 47

1.4.2 Navigating from Enterprise Manager to Remedy

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.
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 Remedy Web console login page.
6. Provide valid Remedy account details.

   The ticket page associated with this alert is displayed.

Note: If you do not use the Remedy Web console, uncheck the Enable web console option in the Web Console Settings section so that ticket ID is shown in plain text. Otherwise, it is displayed as a link that does not work.

2

Introduction to the Connector

The Oracle Management Connector for BMC Remedy Service Desk 7 integrates BMC Remedy Service Desk v7 with Enterprise Manager through either an HTTP or HTTPS connection. Using this connector, you can create, update, close, or reopen a ticket based on the following types of alerts in Enterprise Manager. The connector also supports job availability events (that is, job failed and job suspended).

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

Note that the term *ticket* refers to a Remedy incident.

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

- Auto Ticketing
- Manual Ticketing
- Ticket Templates
- Grace Period

2.1 Auto Ticketing

Whenever an alert is triggered or changes in state in Enterprise Manager, the Remedy Service Desk Connector can automatically open or update a 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 update of the alert, such as a change in alert severity, updates the ticket. After the alert is cleared (severity is set to `Clear`), you can optionally close the ticket.

> **See Also:** Section 4.1, "Automatically Creating a Ticket"

For Job alerts, this release of the connector for BMC Remedy Service Desk 7 supports creating, updating, or closing tickets for Jobs executed by Oracle Enterprise Manager.

Tickets are created/updated and closed, for jobs with various Status changes like Error, Failed, Suspended, Succeeded.

2.2 Manual Ticketing

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

See Also: Section 4.2, "Manually Creating a Ticket"

2.3 Ticket Templates

Ticket templates are XML transformation style sheets that transform Enterprise Manager alerts to a ticket format before the requests are sent to Remedy Service Desk. A ticket template specifies how Enterprise Manager alert attributes can populate the fields of a Remedy ticket.

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. In the case of manual ticketing, you have to select a ticket template before submitting a request to create the ticket.

The Remedy Service Desk Connector includes some out-of-box default ticket templates. You may want to customize the templates to suit your needs.

See Also: Chapter 5, "Using Default Templates"

2.4 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 a 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 re-open) an existing ticket for the alert, rather than create 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 original ticket will be updated/reopened.

Note: In Remedy, after a ticket is set to a Closed status, it cannot be reopened. Consequently, an alert that re-triggers within the grace period cannot reopen the ticket but only annotate it. If you want to reopen a ticket for alert occurrences that fall within the grace period, set the ticket status to Resolved instead of Closed when the alert clears. This enables the Remedy Service Desk Connector to reopen the ticket if the same alert reoccurs within the grace period.

2.5 Versions Supported

The base Enterprise Manager version number for the BMC Remedy Service Desk 7 Connector Release 1.1.5.0.0 is Enterprise Manager 10*g* Release 5.

3

Configuring the Connector

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

- Configuring the Connector
- Providing General Settings
- Working with Ticket Templates

3.1 Configuring the Connector

Perform the following steps for basic configuration:

1. As Super Administrator, from the Enterprise Manager console, click **Setup.**

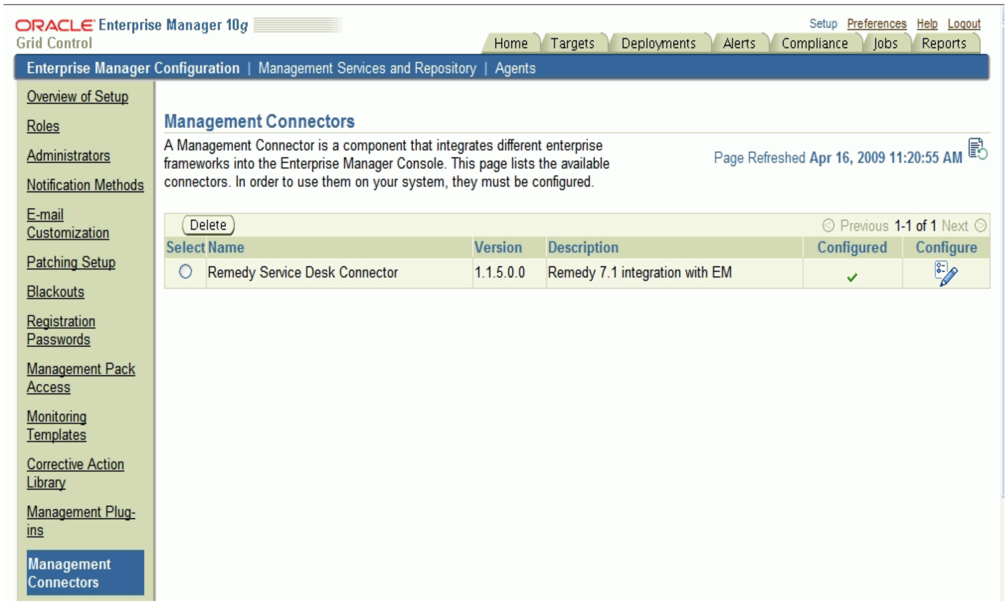
   The Overview of Setup page appears.

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

   The Management Connectors page appears. For the Remedy Service Desk Connector row, the Configured column should be blank, as shown in Figure 3–1.

Note: A check mark instead indicates that the Connector is already configured.

Figure 3–1 Management Connectors Page


ORACLE Enterprise Manager 10g
Grid Control
Setup Preferences Help Logout
Home Targets Deployments Alerts Compliance Jobs Reports
Enterprise Manager Configuration | Management Services and Repository | Agents
Overview of Setup
Roles
Administrators
Notification Methods
E-mail Customization
Patching Setup
Blackouts
Registration Passwords
Management Pack Access
Monitoring Templates
Corrective Action Library
Management Plug-ins
Management Connectors
Delete
Previous 1-1 of 1 Next

Management Connectors

A Management Connector is a component that integrates different enterprise frameworks into the Enterprise Manager Console. This page lists the available connectors. In order to use them on your system, they must be configured.

Page Refreshed Apr 16, 2009 11:20:55 AM

Select	Name	Version	Description	Configured	Configure
○	Remedy Service Desk Connector	1.1.5.0.0	Remedy 7.1 integration with EM	✓	

3. Click the **Configure** icon for the Remedy Service Desk Connector.

   The General tab of the Configure Management Connector page appears, as shown in Figure 3–2.

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 Configured column.

6. **Optional:** To check for the available ticket templates, click the configure icon again.

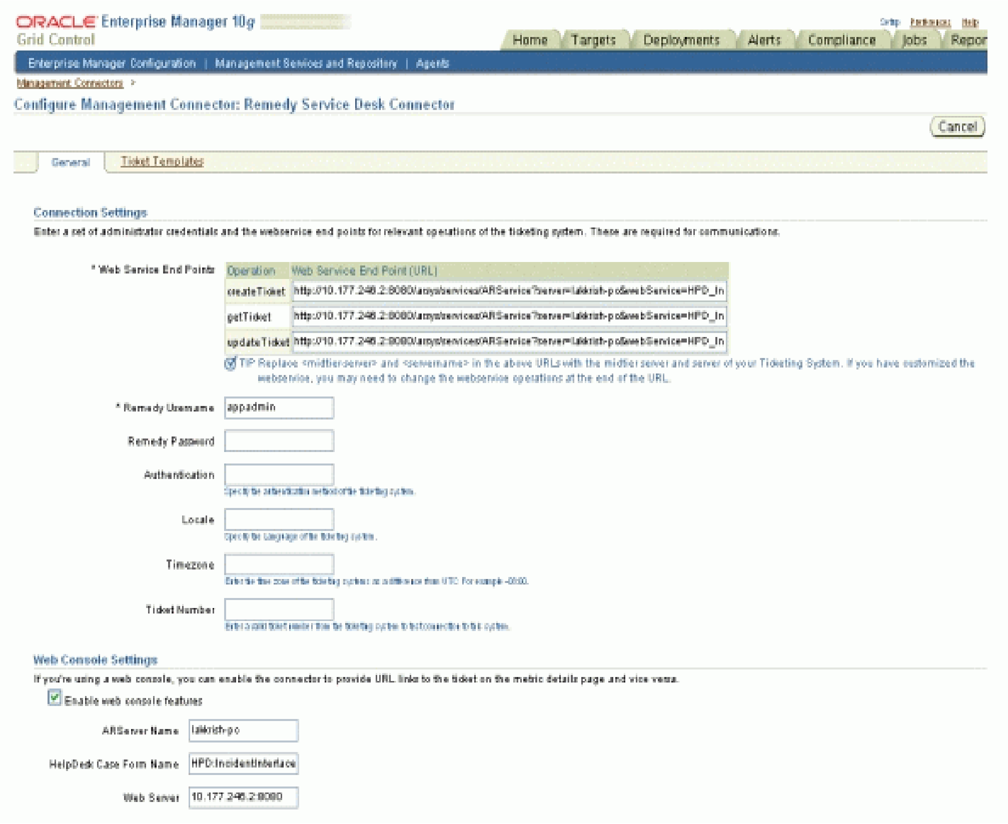
7. Click the **Ticket Templates** tab.

   All out-of-box ticket templates should appear in the table.

If any of the ticket templates are missing, you can register them using the `emctl` command from the `ORACLE_HOME/bin` directory, where `ORACLE_HOME` is the Oracle home directory of OMS.

If you choose HTTPS as the protocol to establish a connection between Remedy and Enterprise Manager, see Chapter 6, "Enabling SSL for HTTPS".

Figure 3–2 Configure Management Connector Page


ORACLE Enterprise Manager 10g
Grid Control
Setup Preferences Help
Home
Targets
Deployments
Alerts
Compliance
Jobs
Repor
Enterprise Manager Configuration | Management Services and Repository | Agents
Management Connectors >
Cancel
General
Ticket Templates

Configure Management Connector: Remedy Service Desk Connector

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://10.177.246.2:8080/arsys/services/ARService?server=lakkrish-pc&webService=HPD_In
getTicket	http://10.177.246.2:8080/arsys/services/ARService?server=lakkrish-pc&webService=HPD_In
updateTicket	http://10.177.246.2:8080/arsys/services/ARService?server=lakkrish-pc&webService=HPD_In

TIP Replace <midtierserver> and <servername> in the above URLs with the midtier server and server of your Ticketing System. If you have customized the webservice, you may need to change the webservice operations at the end of the URL.

* Remedy Username: appadmin

Remedy Password:

Authentication:

Locale:

Timezone:

Ticket Number:

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

ARServer Name: lakkrish-pc

HelpDesk Case Form Name: HPD:IncidentInterface

Web Server: 10.177.246.2:8080

3.2 Providing General Settings

The following sections explain how to provide various configuration details.

3.2.1 Connection Settings

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

- **Web Service End Points** — End points to `createTicket`, `updateTicket`, and `getTicket` web services exposed by Remedy Service Desk. See Web Service Details for Default Templates in Appendix A for additional information.

  You need to import HelpDesk_Query_Service_getIncident.def into your Remedy instance for a getTicket operation. By default on the Enterprise Manager Management Connector page, the web service endpoint for getTicket appears as `HPD_IncidentInterface_get_WS`.

  If you want to use the `Remedy_DefaultCategory_AutoResolve.xsl` template, you need to import `HPD_IncidentInterface_CustomWS.def`. Back up the `HPD_IncidentInterface_WS` web service before importing.

  The *def files are located here:

  $ORACLE_HOME/sysman/connector/Remedy_Service_Desk_Connector

- **Remedy Username** — User with the privilege to create, update, and query tickets in Remedy.
- **Remedy Password** — Password associated with the supplied Remedy user.
- **Authentication** — String that a Remedy administrator sets for additional security. Applies only if the Remedy Administrator has configured it on the Remedy AR server (optional).
- **Locale** — Language of the Remedy system (optional).
- **Time Zone** — Time zone of the Remedy AR System Server (optional).
- **Ticket Number** — Enter a valid ticket number if you want to test the connection when you save the configuration.
  - If you do not enter a ticket number, no message appears on the Management Connectors page after you click OK and the configuration is saved.
  - 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 you have saved the connector configuration before, specify incorrect Web service end points, and specify either a valid or invalid ticket number, the following message appears on the Management Connectors page after you click OK:

    "Connection test failed. The configuration was not saved."

3.2.2 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 alert.

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

3.2.3 Grace Period

You can enable and disable the grace period and configure its value. By default, the grace period is disabled. See Section 2.4, "Grace Period" for details. This setting applies to all alerts the Remedy Service Desk Connector processes.

3.3 Working with Ticket Templates

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

3.3.1 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.

All registered ticket templates are displayed in the Configure Management Connector Ticket Templates page. To register additional ticket templates that you create, see Section 1.2, "Installing the Connector".

See Also: Table 1–1, " emctl Parameters" on page 1-3

3.3.2 Viewing Template Code

Click a template name 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.

3.3.3 Removing a Template

To remove a template, do the following:

Important: If the template you delete has a notification rule associated with it, ticketing will not work for this particular notification rule after the deletion.

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 take effect.

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

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

3.3.4 Replacing Templates

To replace an existing ticket template, do the following:

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

3.3.5 Adding New Templates

To add templates other than the out-of-box templates Oracle provides, you should define new templates and register them using `emctl`.

See Also: Section 5.5, "Defining New Templates"

4

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

4.1 Automatically Creating a Ticket

Perform the following steps to automatically create a ticket:

1. Review Chapter 5, "Using Default Templates".
2. Select an appropriate ticket template with the desired mapping of Enterprise Manager alert fields to the Remedy ticket fields.
3. If you do not have a ticket template that satisfies your requirement, create one and register it.
4. Create a notification rule using the following steps:

    > **Important:** Do not select more than one ticket template for this notification rule.

    a. From the Enterprise Manager console, click **Preferences.**

    b. In the left pane, under Notification, click **Rules,** then **Create**.

    c. In the Create Notification Rule General page, specify the rule name, a description, and the targets for which this rule should apply.

    d. In the Create Notification Rule Availability page, select the availability states for which you want to create tickets.

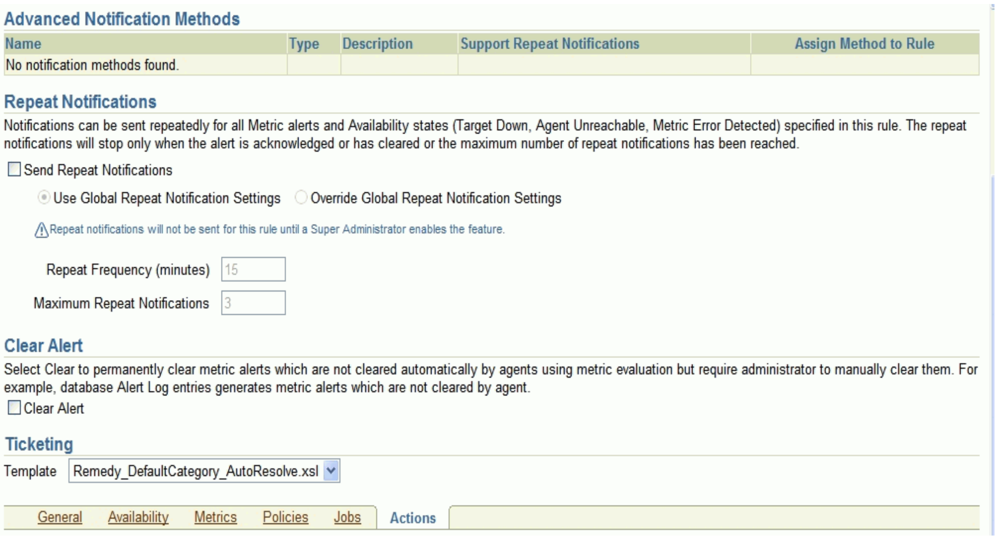
    e. In the Create Notification Rule Metrics page, select the metrics and their associated alert severities for which you want to create and update tickets.

    Ensure that you select all relevant alert severities if you want to update the ticket when the alert severity changes. For example, to open a ticket for a critical alert on the CPU Utilization(%) metric and the ticket is to be updated if the CPU Utilization(%) changes to warning or clear severity, in the notification rule select `Critical`, `Warning`, or `Clear` severities for the CPU Utilization(%) metric.

    f. In the Edit Notification Rule: Actions page, choose the ticket template from the Ticketing Template drop-down, as shown in Figure 4–1.

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

Figure 4–1 Ticketing Template Drop-down Menu



Advanced Notification Methods

Name	Type	Description	Support Repeat Notifications	Assign Method to Rule
No notification methods found.				

Repeat Notifications

Notifications can be sent repeatedly for all Metric alerts and Availability states (Target Down, Agent Unreachable, Metric Error Detected) specified in this rule. The repeat notifications will stop only when the alert is acknowledged or has cleared or the maximum number of repeat notifications has been reached.

☐ Send Repeat Notifications

● Use Global Repeat Notification Settings ○ Override Global Repeat Notification Settings

⚠ Repeat notifications will not be sent for this rule until a Super Administrator enables the feature.

Repeat Frequency (minutes) 15

Maximum Repeat Notifications 3

Clear Alert

Select Clear to permanently clear metric alerts which are not cleared automatically by agents using metric evaluation but require administrator to manually clear them. For example, database Alert Log entries generates metric alerts which are not cleared by agent.

☐ Clear Alert

Ticketing

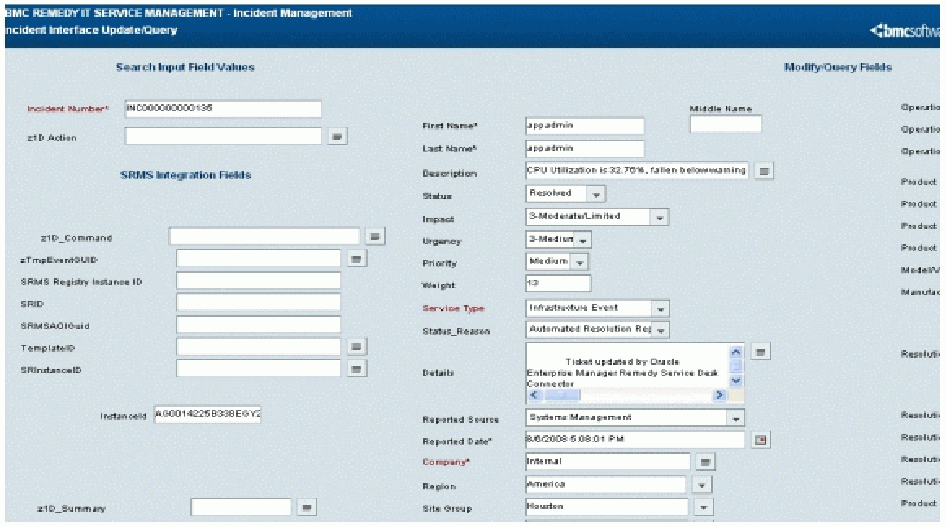
Template Remedy_DefaultCategory_AutoResolve.xsl

The following process occurs after you create the notification rule for your alerts:

- A notification is sent to the Remedy Service Desk Connector when a metric alert triggers that matches your rule. The Remedy Service Desk Connector creates/updates a ticket according to the ticket template as set in the notification rule.
- The ticket is created or updated on the Remedy Ticket system.
- In Enterprise Manager, the alert annotation is updated. A comment is added to the Metric Details page of the alert to indicate that a ticket was created or updated, along with the ticket ID and ticket page URL.

A ticket is updated if there is an existing active ticket for an alert. Figure 4–2 shows the ticket in the Remedy console, and Figure 4–3 shows the alert as displayed in Enterprise Manager.

Figure 4–2 Ticket in the Remedy Console


BMC REMEDY IT SERVICE MANAGEMENT - Incident Management
ncident Interface Update/Query
bmcsoftwa
Search Input Field Values
Modify/Query Fields
z1D Action
SRMS Integration Fields
z1D_Command
zTmpEventGUID
SRMS Registry Instance ID
SRID
SRMSAOIGuid
TemplateID
SRInstanceID
z1D_Summary
Middle Name
Operatio
Operatio
Operatio
Product
Product
Product
Product
Model/V
Manufac
Resoluti
Resoluti
Resoluti
Resoluti
Resoluti
Product

Incident Number* INC000000000136

InstanceId AG00142258338EGY2

First Name* appadmin

Last Name* appadmin

Description CPU Utilization is 32.76%, fallen below warning

Status Resolved

Impact 3-Moderate/Limited

Urgency 3-Medium

Priority Medium

Weight 13

Service Type Infrastructure Event

Status_Reason Automated Resolution Re

Details Ticket updated by Oracle Enterprise Manager Remedy Service Desk Connector

Reported Source Systems Management

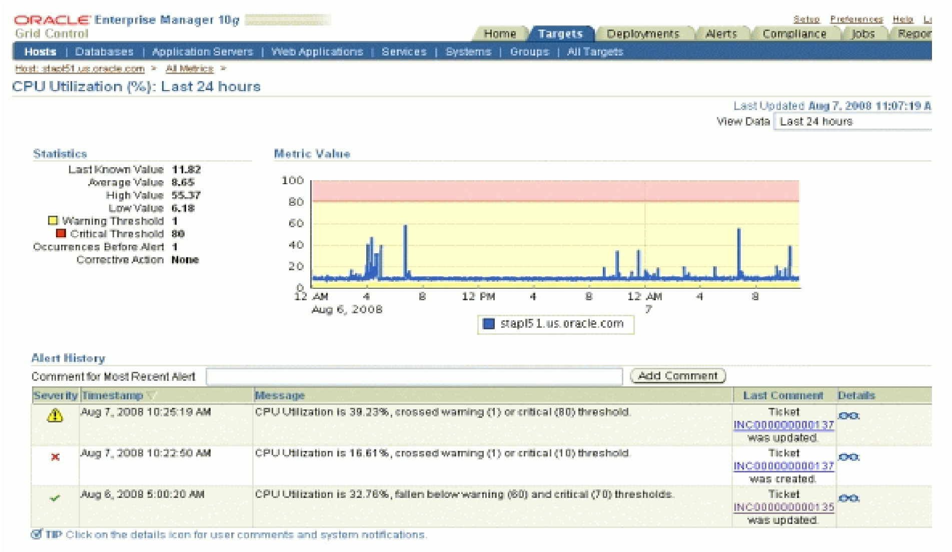
Reported Date* 8/6/2008 5:08:01 PM

Company* Internal

Region America

Site Group Houston

Figure 4–3 Alert as Displayed in Enterprise Manager


ORACLE Enterprise Manager 10g
Grid Control
Setup Preferences Help L
Home
Targets
Deployments
Alerts
Compliance
Jobs
Repor
Hosts | Databases | Application Servers | Web Applications | Services | Systems | Groups | All Targets
Host: stapl51.us.oracle.com > All Metrics >
Metric Value
100
80
60
40
20
0
12 AM
4
8
12 PM
4
8
12 AM
4
8
Aug 6, 2008
7
stapl5 1.us.oracle.com
Add Comment

CPU Utilization (%): Last 24 hours

Last Updated Aug 7, 2008 11:07:19 A

View Data Last 24 hours

Statistics

Last Known Value	11.82
Average Value	8.65
High Value	55.37
Low Value	6.18
🟨 Warning Threshold	1
🟥 Critical Threshold	80
Occurrences Before Alert	1
Corrective Action	None

Alert History

Comment for Most Recent Alert

Severity	Timestamp	Message	Last Comment	Details
⚠	Aug 7, 2008 10:25:19 AM	CPU Utilization is 39.23%, crossed warning (1) or critical (80) threshold.	Ticket INC000000000137 was updated.	∞
✕	Aug 7, 2008 10:22:50 AM	CPU Utilization is 16.61%, crossed warning (1) or critical (10) threshold.	Ticket INC000000000137 was created.	∞
✓	Aug 6, 2008 5:00:20 AM	CPU Utilization is 32.76%, fallen below warning (80) and critical (70) thresholds.	Ticket INC000000000135 was updated.	∞

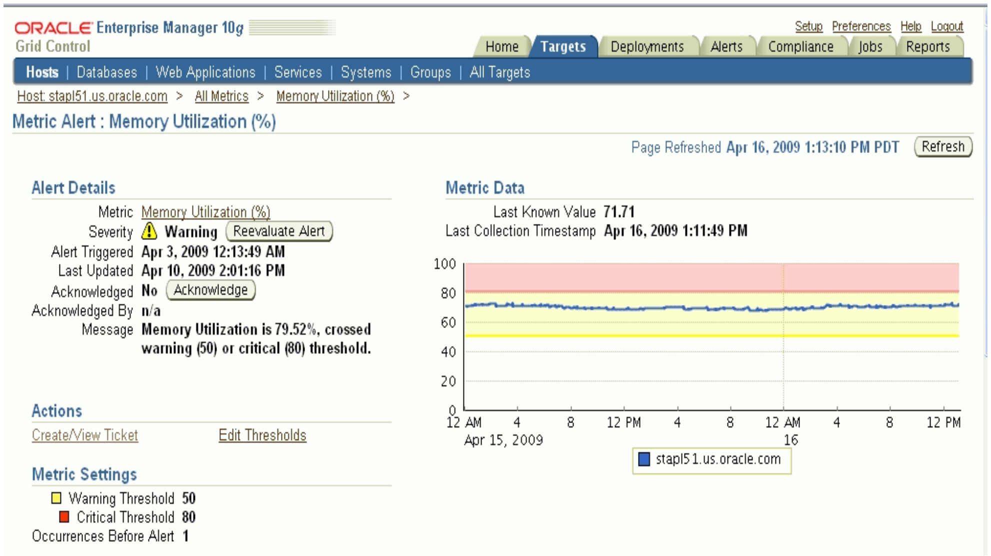
TIP Click on the details icon for user comments and system notifications.

4.2 Manually Creating a Ticket

Perform the following steps to manually create a ticket:

1. After a metric alert occurs, go to its alert details page by clicking on the alert message in the Enterprise Manager console. The alert details page for the alert should appear, as shown in Figure 4–4.

Figure 4–4 Metric Alert Details Page


ORACLE Enterprise Manager 10g
Grid Control
Setup
Preferences
Help
Logout
Home
Targets
Deployments
Alerts
Compliance
Jobs
Reports
Hosts | Databases | Web Applications | Services | Systems | Groups | All Targets
Host: stapl51.us.oracle.com > All Metrics > Memory Utilization (%) >
Refresh
Reevaluate Alert
Acknowledge
Create/View Ticket
Edit Thresholds
100
80
60
40
20
0
12 AM
4
8
12 PM
4
8
12 AM
4
8
12 PM
Apr 15, 2009
16
stapl51.us.oracle.com

Metric Alert : Memory Utilization (%)

Page Refreshed **Apr 16, 2009 1:13:10 PM PDT**

Alert Details

Metric: Memory Utilization (%)
Severity: ⚠ **Warning**
Alert Triggered: **Apr 3, 2009 12:13:49 AM**
Last Updated: **Apr 10, 2009 2:01:16 PM**
Acknowledged: **No**
Acknowledged By: **n/a**
Message: **Memory Utilization is 79.52%, crossed warning (50) or critical (80) threshold.**

Metric Data

Last Known Value: **71.71**
Last Collection Timestamp: **Apr 16, 2009 1:11:49 PM**

Actions

Metric Settings

🟨 Warning Threshold: **50**
🟥 Critical Threshold: **80**
Occurrences Before Alert: **1**

2. Click the **Create/View Ticket** link in the Actions section.

   The Create Ticket page appears if no active ticket exists for the alert.

3. Select a ticket template and then click **Submit, as shown in** Figure 4–5.

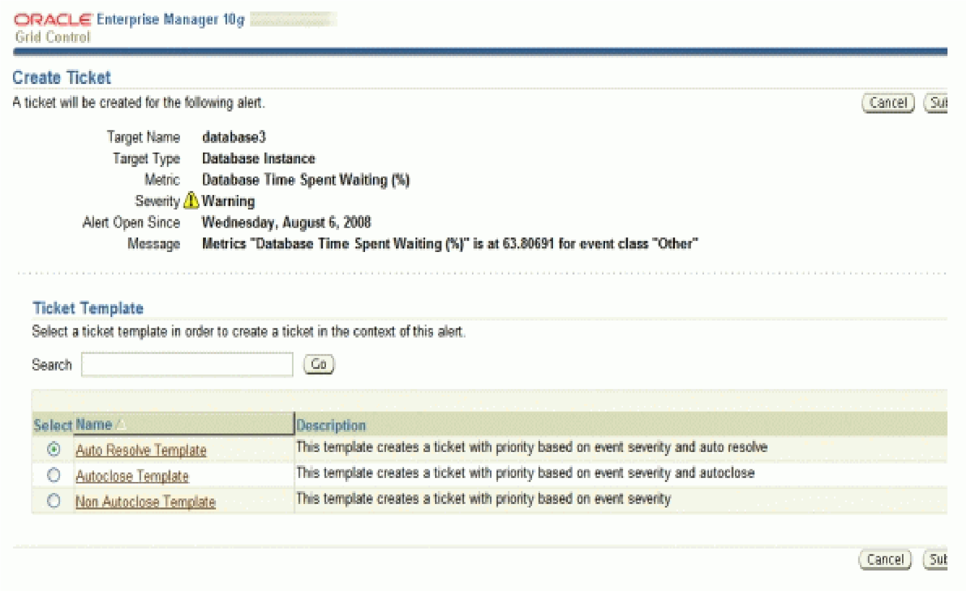
   If you do not see the desired template, you can register one using the `emctl` command. See Section 3.3.1, "Registering Ticket Templates".

   If creating or updating the ticket is successful, the ticket ID appears in the Last Comment column of the Alert History table for the metric alert.

   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.

Note: You cannot manually update the ticket using the Remedy Service Desk Connector. You need to manually update the ticket in Remedy for any subsequent alert severity change, or you can include the metric in a notification rule.

Figure 4–5 Create Ticket Page



Create Ticket

A ticket will be created for the following alert.

Target Name	database3
Target Type	Database Instance
Metric	Database Time Spent Waiting (%)
Severity ⚠	Warning
Alert Open Since	Wednesday, August 6, 2008
Message	Metrics "Database Time Spent Waiting (%)" is at 63.80691 for event class "Other"

Ticket Template

Select a ticket template in order to create a ticket in the context of this alert.

Search ____ Go

Select	Name △	Description
●	Auto Resolve Template	This template creates a ticket with priority based on event severity and auto resolve
○	Autoclose Template	This template creates a ticket with priority based on event severity and autoclose
○	Non Autoclose Template	This template creates a ticket with priority based on event severity

5

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 Enterprise Manager alert attributes and Remedy ticket attributes.

- Template Process
- Reading Ticket Templates
- Mapping the Fields
- Customizing Ticket Templates
- Defining New Templates

5.1 Template Process

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

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

The out-of-box templates are as follows:

- `Remedy_DefaultCategory_AutoResolve.xsl`
- `Remedy_DefaultCategory_AutoClose.xsl`
- `Remedy_DefaultCategory.xsl`

Remedy_DefaultCategory_AutoResolve.xsl

The Remedy_DefaultCategory_AutoResolve.xsl 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.xsl

The Remedy_DefaultCategory_AutoClose.xsl 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.xsl if you want tickets to be reopened when a critical or warning event has occurred within the grace period.

Remedy_DefaultCategory.xsl

The Remedy_DefaultCategory.xsl 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.

5.2 Reading Ticket Templates

Table 5–1 and Table 5–2 illustrate the creation of a ticket using `Remedy_DefaultCategory_AutoResolve.xsl`. 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.xsl, Remedy_DefaultCategory_AutoClose.xsl, and Remedy_DefaultCategory.xsl.

Table 5–1 shows Remedy ticket attributes and corresponding Enterprise Manager alert values for ticket creation mappings.

Table 5–1 Ticket Creation Mappings (for all templates)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Assigned_Group		Blank
Assigned_Group_Shift_Name		Blank
Assigned_Support_Company		Blank
Assigned_Support_Organization		Blank
Assignee		Blank
Categorization_Tier_1		Blank
Categorization_Tier_2		Blank
Categorization_Tier_3		Blank
CI_Name		Blank

Table 5–1 (Cont.) Ticket Creation Mappings (for all templates)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Closure_Manufacturer		Blank
Closure_Product_Category_Tier1		Blank
Closure_Product_Category_Tier2		Blank
Closure_Product_Category_Tier3		Blank
Closure_Product_Model_Version		Blank
Closure_Product_Name		Blank
Department		Blank
First_Name	HDUser	User name provided in the "Remedy Username" field during the configuration.
Impact	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If severity is Critical, set Impact to 1-Extensive/Widespread. ■ If severity is Warning, set Impact to 2-Significant/Large. ■ Otherwise, set Impact to 3-Moderate/Limited. For job status events: ■ If the JobStatus is Error or Failed, set Impact to 2-Significant/Large. ■ Otherwise, set Impact to 3-Moderate/Limited.
Last_Name	HDUser	
Lookup_Keyword		Blank
Manufacturer		Blank
Product_Categorization_Tier_1		Blank
Product_Categorization_Tier_2		Blank
Product_Categorization_Tier_3		Blank
Product_Model_Version		Blank
Product_Name		Blank
Reported_Source		"Systems Management" *
Resolution		Blank
Resolution_Category_Tier_1		Blank
Resolution_Category_Tier_2		Blank

Table 5–1 (Cont.) Ticket Creation Mappings (for all templates)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Resolution_Category_Tier_3		Blank
Service_Type		"Infrastructure Event" *
Status		New *
Action		CREATE *
Create_Request		Blank
Summary	Message	

Table 5–1 (Cont.) Ticket Creation Mappings (for all templates)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Notes	**For metric alerts:** 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. TargetName TargetType MetricColumn — Name of the metric, such as CPU Utilization (%). MetricName — Category of the metric. For the CPU Utilization (%) metric, this would be 'Load.' TargetProperties** — name:value pairs of defined target properties. For example: Line of business: Finance Owner: Finance-DB Team 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, KeyValues is 'USERS' if the USERS tablespace triggered at warning or critical severity. Severity CollectionTime TargetHost NotificationRuleName EventPageURL — URL to the metric details page in the context of the alert.	Values from the alert context.

Table 5–1 (Cont.) Ticket Creation Mappings (for all templates)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Notes (cont'd)	**For job status events:** EMUser — Notification rule owner JobName JobType JobOwner JobStatus JobTarget — Includes TargetName and TargetType, such as the host name of the targetType "Host." CollectionTime NotificationRuleName EventPageURL — URL of the Job Event page.	
Urgency	Severity — Applies to Metric alerts JobStatus — Applies to job status events	For metric alerts: ▪ If severity is Critical, set Urgency to 1-Critical. ▪ If severity is Warning, set Urgency to "2-High" ▪ Otherwise, set Urgency to 3-Medium. For job status events ▪ If JobStatus is Error or Failed, set Urgency to 2-High. ▪ Otherwise, set Urgency to 3-Medium.
Work_Info_Summary	Message	
Work_Info_Notes	Message — Applies to metric alerts Severity — Applies to job events	
Work_Info_Type		"Incident Task/Action" *
Work_Info_Date		Blank
Work_Info_Source		"System Assignment" *
Work_Info_Locked		Blank
Work_Info_View_Access		"Public" *
Middle_Initial		Blank

Table 5–2 shows Remedy ticket attributes and corresponding Enterprise Manager alert attributes and values for Remedy_DefaultCategory_AutoResolve.xsl mappings.

Table 5–2 Ticket Updates (Remedy_DefaultCategory_AutoResolve.xsl Mappings)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Categorization_Tier_1		Blank
Categorization_Tier_2		Blank
Categorization_Tier_3		Blank
Closure_Manufacturer		Blank
Closure_Product_Category_Tier1		Blank
Closure_Product_Category_Tier2		Blank
Closure_Product_Category_Tier3		Blank
Closure_Product_Model_Version		Blank
Closure_Product_Name		Blank
Company		"Internal" *
Summary	Message, Severity	

Table 5–2 (Cont.) Ticket Updates (Remedy_DefaultCategory_AutoResolve.xsl Mappings)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Notes	**For metric alerts:** 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. TargetName TargetType MetricColumn — Name of the metric, such as CPU Utilization (%). MetricName — Category of the metric. For the CPU Utilization (%) metric, this would be 'Load.' TargetProperties** — name:value pairs of defined target properties. For example: Line of business: Finance Owner: Finance-DB team 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, KeyValues is 'USERS' if the USERS tablespace triggered at warning or critical severity. Severity CollectionTime TargetHost NotificationRuleName EventPageURL — URL to the metric details page in the context of the alert.	.

Table 5–2 (Cont.) Ticket Updates (Remedy_DefaultCategory_AutoResolve.xsl Mappings)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Notes (cont'd)	**For job status events:** EMUser — Notification rule owner JobName JobType JobOwner JobStatus JobTarget — Includes TargetName and TargetType, such as the host name of the targetType "Host." CollectionTime NoficationRuleName EventPageURL — URL for the Job Event page.	
Impact	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If severity is Critical, set Impact to 1-Extensive/ Widespread. ■ If severity is Warning, set Impact to 2-Significant/Large. ■ Otherwise, set Impact to 3-Moderate/Limited. For job status events: ■ If JobStatus is Error or Failed, set Impact to 2-Significant/ Large. ■ Otherwise, set Impact to 3-Moderate/Limited.
Incident_Number	TicketId — The connector adds this into the alert context before handling the ticketing action. Required by the Remedy Web Service to identify the ticket that must be updated.	
Manufacturer		Blank
Product_Categorization_ Tier_1		Blank
Product_Categorization_ Tier_2		Blank
Product_Categorization_ Tier_3		Blank
Product_Model_Version		Blank
Product_Name		Blank
Reported_Source		"Systems Management" *

Table 5–2 (Cont.) Ticket Updates (Remedy_DefaultCategory_AutoResolve.xsl Mappings)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Resolution	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If the severity is Clear, st the Resolution with Message. For job status events: ■ If the JobStatus is succeeded, set the Resolution with JobStatus.
Resolution_Category		Blank
Resolution_Category_Tier_2		Blank
Resolution_Category_Tier_3		Blank
Resolution_Method		Blank
Service_Type		"Infrastructure Event" *
Status	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If severity is Critical, set the ticket to the status Resolved. ■ If the grace period test has already been done and the alert is still within the grace period, reopen the ticket by setting the ticket to the status Assigned. For job status events ■ If JobStatus is succeeded, set the ticket to the status Resolved. ■ Otherwise, set the status to Assigned.
Status_Reason	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If severity is Clear, set the Status_Reason to "Automated Resolution Reported." For job status events: ■ If JobStatus is Succeeded, set Status_Reason to "Automated Resolution Reported."

Table 5–2 (Cont.) Ticket Updates (Remedy_DefaultCategory_AutoResolve.xsl Mappings)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Urgency	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If severity is Critical, set Urgency to 1-Critical. ■ If severity is Warning, set Urgency to "2-High" ■ Otherwise, set Urgency to 3-Medium. For job status events: ■ If JobStatus is Error or Failed, set Urgency to 2-High. ■ Otherwise, set Urgency to 3-Medium.
Action		MODIFY*
Work_Info_Summary	Message	
Work_Info_Notes	Severity — Applies to metric alerts JobStatus — Applies to job status events	
Work_Info_Type		"Incident Task/Action" *
Work_Info_Date		Blank
Work_Info_Source		"System Assignment" *
Work_Info_Locked		"No" *
Work_Info_View_Access		"Public" *

Use the mapping table (Table 5–1) as a reference to read the XSLT file in Example 5–1.

Example 5–1 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/tt"
targetNamespace="http://xmlns.oracle.com/sysman/connector/tt"
elementFormDefault="qualified">
<!--
This template creates an incident type ticket within Remedy Service Desk with
default settings. On update, the worklog is updated with the latest event message
and severity information. The ticket is set to status Resolved if the associated
alert has cleared. The ticket can be reopend if a severity occurred within the
grace period. If the ticket is not reopened for 15 days, the ticket will be closed
by incident management.

  -->
<xsl:template match="ns0:EventModel">
  <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
  -->
  <urn:Assigned_Group />
  <urn:Assigned_Group_Shift_Name />
  <urn:Assigned_Support_Company />
  <urn:Assigned_Support_Organization />
  <urn:Assignee />
  <urn:Categorization_Tier_1 />
  <urn:Categorization_Tier_2 />
  <urn:Categorization_Tier_3 />
  <urn:CI_Name />
  <urn:Closure_Manufacturer />
  <urn:Closure_Product_Category_Tier1 />
  <urn:Closure_Product_Category_Tier2 />
  <urn:Closure_Product_Category_Tier3 />
  <urn:Closure_Product_Model_Version />
  <urn:Closure_Product_Name />
  <urn:Department />
   <urn:First_Name>
  <xsl:value-of select="ns0:HDUser" />
  </urn:First_Name>
  <xsl:choose>
  <xsl:when test="ns0:EventType = 'Alert'">
  <xsl:choose>
<!--  SeverityCode 25 - EM Critical  -->
<xsl:when test="(ns0:SeverityCode = '25') or (ns0:Severity = 'Unreachable
Start')">
  <urn:Impact>1-Extensive/Widespread</urn:Impact>
  </xsl:when>
<!--  SeverityCode 20 - EM Warning  -->
<xsl:when test="(ns0:SeverityCode = '20') or (ns0:Severity = 'Blackout Start') or
(ns0:Severity = 'Metric Error Start')">
  <urn:Impact>2-Significant/Large</urn:Impact>
  </xsl:when>
<xsl:otherwise>
  <urn:Impact>3-Moderate/Limited</urn:Impact>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
<xsl:choose>
<xsl:when test="(ns0:JobStatus = 'Error') or (ns0:JobStatus = 'Failed')">
  <urn:Impact>2-Significant/Large</urn:Impact>
  </xsl:when>
<xsl:otherwise>
  <urn:Impact>3-Moderate/Limited</urn:Impact>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
  </xsl:choose>
<urn:Last_Name>
 <xsl:value-of select="ns0:HDUser" />
  </urn:Last_Name>
  <urn:Lookup_Keyword />
  <urn:Manufacturer />
  <urn:Product_Categorization_Tier_1 />
  <urn:Product_Categorization_Tier_2 />
  <urn:Product_Categorization_Tier_3 />
  <urn:Product_Model_Version />
  <urn:Product_Name />
  <urn:Reported_Source>Systems Management</urn:Reported_Source>
  <urn:Resolution />
  <urn:Resolution_Category_Tier_1 />
  <urn:Resolution_Category_Tier_2 />
  <urn:Resolution_Category_Tier_3 />
  <urn:Service_Type>Infrastructure Event</urn:Service_Type>
  <urn:Status>New</urn:Status>
  <urn:Action>CREATE</urn:Action>
  <urn:Create_Request />
<urn:Summary>
  <xsl:value-of select="ns0:Message" />
  </urn:Summary>
<xsl:choose>
<xsl:when test="ns0:EventType = 'Alert'">
<urn:Notes>
  Incident created by Oracle Enterprise Manager Remedy Service Desk Connector.
 -----------------------------------------------------------------------------
 EM User:
  <xsl:value-of select="ns0:EMUser" />
 Event Information: Target Name:
  <xsl:value-of select="ns0:TargetName" />
 Target Type:
  <xsl:value-of select="ns0:TargetType" />
 Metric Column:
  <xsl:value-of select="ns0:MetricColumn" />
  Metric Name:
  <xsl:value-of select="ns0:MetricName" />
 <!--  LIST ALL THE TARGET PROPERTIES   -->
 Target Properties:
   <xsl:for-each select="ns0:TargetProperties">
  <xsl:text></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:TargetProperties/ns0:name='Line of Business'">
             Line of Business: <xsl:value-of
select="ns0:TargetProperties/ns0:value"/>
             </xsl:when>
             </xsl:choose>



  -->
<xsl:choose>
<xsl:when test="normalize-space(ns0:KeyColumn) != ''">
  Key Column:
  <xsl:value-of select="ns0:KeyColumn" />
  Key Values:
  <xsl:value-of select="ns0:KeyValues" />
  </xsl:when>
  </xsl:choose>
  Severity:
  <xsl:value-of select="ns0:Severity" />
  Collection Time:
  <xsl:value-of select="ns0:CollectionTime" />
  Target Host:
  <xsl:value-of select="ns0:TargetHost" />
<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:EventPageURL" />
  </urn:Notes>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
 <urn:Notes>
  Incident created by Oracle Enterprise Manager Remedy Service Desk Connector.
 ----------------------------------------------------------------------------
EM User:
  <xsl:value-of select="ns0:EMUser" />
  Event Information: Job Name:
  <xsl:value-of select="ns0:JobName" />
  Job Type:
  <xsl:value-of select="ns0:JobType" />
  Job Owner:
  <xsl:value-of select="ns0:JobOwner" />
  Job Status:
  <xsl:value-of select="ns0:JobStatus" />
  <xsl:choose>
  <xsl:when test="ns0:JobTarget">
  Job Target:
  <xsl:for-each select="ns0:JobTarget">
  <xsl:value-of select="./ns0:TargetName" /> ( <xsl:value-of
select="./ns0:TargetType" /> );
  </xsl:for-each>
  </xsl:when>
  </xsl:choose>
  Collection Time:
  <xsl:value-of select="ns0:CollectionTime" />
<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:EventPageURL" />
  </urn:Notes>
  </xsl:when>
  </xsl:choose>
<xsl:choose>
<xsl:when test="ns0:EventType = 'Alert'">
<xsl:choose>
 <!--   SeverityCode 25 - EM Critical -->
<xsl:when test="(ns0:SeverityCode = '25') or (ns0:Severity = 'Unreachable
Start')">
  <urn:Urgency>1-Critical</urn:Urgency>
  </xsl:when>
<!--  SeverityCode 20 - EM Warning -->
<xsl:when test="(ns0:SeverityCode = '20') or (ns0:Severity = 'Blackout Start') or
(ns0:Severity = 'Metric Error Start')">
  <urn:Urgency>2-High</urn:Urgency>
  </xsl:when>
<xsl:otherwise>
  <urn:Urgency>3-Medium</urn:Urgency>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
<xsl:choose>
<!--  3 - JobStatus Error,4 - Failed   -->
<xsl:when test="(ns0:JobStatusCode = '3') or (ns0:JobStatusCode = '4')">
  <urn:Urgency>2-High</urn:Urgency>
  </xsl:when>
<xsl:otherwise>
  <urn:Urgency>3-Medium</urn:Urgency>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
  </xsl:choose>
<urn:Work_Info_Summary>
  <xsl:value-of select="ns0:Message" />
  </urn:Work_Info_Summary>
<xsl:choose>
<xsl:when test="ns0:EventType = 'Alert'">
<urn:Work_Info_Notes>
  Incident created by Oracle Enterprise Manager Remedy Service Desk Connector
based on an alert with Severity: <xsl:value-of select="ns0:Severity" /> . Message:
<xsl:value-of select="ns0:Message" />
  </urn:Work_Info_Notes>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
<urn:Work_Info_Notes>
  Incident created by Oracle Enterprise Manager Remedy Service Desk Connector
based on Job Status:  <xsl:value-of select="ns0:JobStatus" />  .
  </urn:Work_Info_Notes>
  </xsl:when>
  </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 />
  <urn:Work_Info_View_Access>Public</urn:Work_Info_View_Access>
  <urn:Middle_Initial />
  </urn:HelpDesk_Submit_Service>
  </xsl:when>
<xsl:otherwise>
<urn:HelpDesk_Modify_Status_Service xmlns:urn="urn:HPD_IncidentInterface_WS">
  <urn:Categorization_Tier_1 />
  <urn:Categorization_Tier_2 />
  <urn:Categorization_Tier_3 />
  <urn:Closure_Manufacturer />
  <urn:Closure_Product_Category_Tier1 />
  <urn:Closure_Product_Category_Tier2 />
  <urn:Closure_Product_Category_Tier3 />
  <urn:Closure_Product_Model_Version />
  <urn:Closure_Product_Name />
  <urn:Company>Internal</urn:Company>
<urn:Summary>
  <xsl:value-of select="ns0:Message" />
  </urn:Summary>
<xsl:choose>
<xsl:when test="ns0:EventType = 'Alert'">
<urn:Notes>
  Incident updated by Oracle Enterprise Manager Remedy Service Desk Connector.
```

```
 ------------------------------------------------------------------------------
 EM User:
  <xsl:value-of select="ns0:EMUser" />
  Event Information: Target Name:
  <xsl:value-of select="ns0:TargetName" />
  Target Type:
  <xsl:value-of select="ns0:TargetType" />
  Metric Column:
  <xsl:value-of select="ns0:MetricColumn" />
  Metric Name:
  <xsl:value-of select="ns0:MetricName" />
 <!--  LIST ALL THE TARGET PROPERTIES   -->
  Target Properties:
<xsl:for-each select="ns0:TargetProperties">
  <xsl:text></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:TargetProperties/ns0:name='Line of Business'">
             Line of Business: <xsl:value-of
select="ns0:TargetProperties/ns0:value"/>
             </xsl:when>
             </xsl:choose>



  -->
<xsl:choose>
<xsl:when test="normalize-space(ns0:KeyColumn) != ''">
  Key Column:
  <xsl:value-of select="ns0:KeyColumn" />
  Key Values:
  <xsl:value-of select="ns0:KeyValues" />
  </xsl:when>
  </xsl:choose>
  Severity:
  <xsl:value-of select="ns0:Severity" />
  Collection Time:
  <xsl:value-of select="ns0:CollectionTime" />
  Target Host:
  <xsl:value-of select="ns0:TargetHost" />
<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:EventPageURL" />
  </urn:Notes>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
<urn:Notes>
  Incident updated by Oracle Enterprise Manager Remedy Service Desk Connector.
 ------------------------------------------------------------------------------
EM User:
  <xsl:value-of select="ns0:EMUser" />
  Event Information: Job Name:
  <xsl:value-of select="ns0:JobName" />
  Job Type:
  <xsl:value-of select="ns0:JobType" />
  Job Owner:
  <xsl:value-of select="ns0:JobOwner" />
  Job Status:
  <xsl:value-of select="ns0:JobStatus" />
  <xsl:choose>
  <xsl:when test="ns0:JobTarget">
  Job Target:
  <xsl:for-each select="ns0:JobTarget">
  <xsl:value-of select="./ns0:TargetName" /> ( <xsl:value-of
select="./ns0:TargetType" />  );
  </xsl:for-each>
  </xsl:when>
  </xsl:choose>
  Collection Time:
  <xsl:value-of select="ns0:CollectionTime" />
<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:EventPageURL" />
  </urn:Notes>
  </xsl:when>
  </xsl:choose>
<xsl:choose>
<xsl:when test="ns0:EventType = 'Alert'">
<xsl:choose>
<!--   Code 25 - EM Critical  -->
<xsl:when test="(ns0:SeverityCode = '25') or (ns0:Severity = 'Unreachable
Start')">
  <urn:Impact>1-Extensive/Widespread</urn:Impact>
  </xsl:when>
<!-- Code 20 - EM Warning -->
<xsl:when test="(ns0:SeverityCode = '20') or (ns0:Severity = 'Blackout Start') or
(ns0:Severity = 'Metric Error Start')">
  <urn:Impact>2-Significant/Large</urn:Impact>
  </xsl:when>
<xsl:otherwise>
  <urn:Impact>3-Moderate/Limited</urn:Impact>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
<xsl:choose>
<xsl:when test="(ns0:JobStatus = 'Error') or (ns0:JobStatus = 'Failed')">
  <urn:Impact>2-Significant/Large</urn:Impact>
  </xsl:when>
<xsl:otherwise>
  <urn:Impact>3-Moderate/Limited</urn:Impact>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
  </xsl:choose>
<urn:Incident_Number>
```

```
  <xsl:value-of select="ns0:TicketId" />
  </urn:Incident_Number>
  <urn:Manufacturer />
  <urn:Product_Categorization_Tier_1 />
  <urn:Product_Categorization_Tier_2 />
  <urn:Product_Categorization_Tier_3 />
  <urn:Product_Model_Version />
  <urn:Product_Name />
  <urn:Reported_Source>Systems Management</urn:Reported_Source>
<xsl:choose>
<xsl:when test="ns0:EventType = 'Alert'">
<xsl:choose>
<xsl:when test="(ns0:Severity = 'Clear') or (ns0:Severity = 'Blackout End') or
(ns0:Severity = 'Metric Error End') or (ns0:Severity = 'Unreachable 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:Severity" />
  Message:
  <xsl:value-of select="ns0:Message" />
  </urn:Resolution>
  </xsl:when>
<xsl:otherwise>
  <urn:Resolution />
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
<xsl:choose>
<xsl:when test="ns0:JobStatus = 'Succeeded'">
<urn:Resolution>
  Incident resolved by Oracle Enterprise Manager Remedy Service Desk Connector due
to change in Job Status of the associated Job event. JobStatus: <xsl:value-of
select="ns0:JobStatus" /> .
  </urn:Resolution>
  </xsl:when>
<xsl:otherwise>
  <urn:Resolution />
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
  </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:EventType = 'Alert'">
<xsl:choose>
<xsl:when test="(ns0:Severity = 'Clear') or (ns0:Severity = 'Blackout End') or
(ns0:Severity = 'Metric Error End') or (ns0:Severity = 'Unreachable Clear')">
  <urn:Status>Resolved</urn:Status>
  </xsl:when>
<xsl:when test="ns0:GracePeriodCheckMade = 'Yes'">
  <urn:Status>Assigned</urn:Status>
  </xsl:when>
<xsl:otherwise>
  <urn:Status>Assigned</urn:Status>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
<xsl:choose>
<xsl:when test="ns0:JobStatus = 'Succeeded'">
  <urn:Status>Resolved</urn:Status>
  </xsl:when>
<xsl:when test="ns0:GracePeriodCheckMade = 'Yes'">
  <urn:Status>Assigned</urn:Status>
  </xsl:when>
<xsl:otherwise>
  <urn:Status>Assigned</urn:Status>
  </xsl:otherwise>
</xsl:choose>
  </xsl:when>
  </xsl:choose>
<xsl:choose>
<xsl:when test="ns0:EventType = 'Alert'">
<xsl:choose>
<xsl:when test="(ns0:Severity = 'Clear') or (ns0:Severity = 'Blackout End') or
(ns0:Severity = 'Metric Error End') or (ns0:Severity = 'Unreachable Clear')">
  <urn:Status_Reason>Automated Resolution Reported</urn:Status_Reason>
  </xsl:when>
<xsl:otherwise>
  <urn:Status_Reason />
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
<xsl:choose>
<xsl:when test="ns0:JobStatus = 'Succeeded'">
  <urn:Status_Reason>Automated Resolution Reported</urn:Status_Reason>
  </xsl:when>
<xsl:otherwise>
  <urn:Status_Reason />
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
  </xsl:choose>
<xsl:choose>
<xsl:when test="ns0:EventType = 'Alert'">
<xsl:choose>
<!--   Code 25 - EM Critical   -->
<xsl:when test="(ns0:SeverityCode = '25') or (ns0:Severity = 'Unreachable
Start')">
  <urn:Urgency>1-Critical</urn:Urgency>
  </xsl:when>
<!--   Code 20 - EM Warning  -->
<xsl:when test="(ns0:SeverityCode = '20') or (ns0:Severity = 'Blackout Start') or
(ns0:Severity = 'Metric Error Start')">
  <urn:Urgency>2-High</urn:Urgency>
  </xsl:when>
<xsl:otherwise>
  <urn:Urgency>3-Medium</urn:Urgency>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
<xsl:choose>
<!--  JobStatus Error   -->
```

```
<xsl:when test="ns0:JobStatusCode = '3'">
  <urn:Urgency>2-High</urn:Urgency>
  </xsl:when>
 <!--  JobStatus Failed   -->
<xsl:when test="ns0:JobStatusCode = '4'">
  <urn:Urgency>2-High</urn:Urgency>
  </xsl:when>
<xsl:otherwise>
  <urn:Urgency>3-Medium</urn:Urgency>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
  </xsl:choose>
  <urn:Action>MODIFY</urn:Action>
  <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>
<xsl:choose>
<xsl:when test="ns0:EventType = 'Alert'">
<xsl:choose>
<xsl:when test="(ns0:Severity = 'Clear') or (ns0:Severity = 'Blackout End') or
(ns0:Severity = 'Metric Error End') or (ns0:Severity = 'Unreachable Clear')">
<urn:Work_Info_Notes>
  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:Severity" /> . Message:  <xsl:value-of
select="ns0:Message" /> .
  </urn:Work_Info_Notes>
  </xsl:when>
<xsl:when test="ns0:GracePeriodCheckMade = 'Yes'">
<urn:Work_Info_Notes>
  Incident reopened because the associated alert re-triggered within the grace
period with Severity: <xsl:value-of select="ns0:Severity" />  . Message:
  <xsl:value-of select="ns0:Message" />
  </urn:Work_Info_Notes>
  </xsl:when>
<xsl:otherwise>
<urn:Work_Info_Notes>
  Incident updated due to change in severity of the associated alert. Severity:
  <xsl:value-of select="ns0:Severity" />  Message:  <xsl:value-of
select="ns0:Message" />  .
  </urn:Work_Info_Notes>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
<xsl:when test="ns0:EventType = 'JobStatus'">
<xsl:choose>
<xsl:when test="ns0:JobStatus = 'Succeeded'">
<urn:Work_Info_Notes>
  Incident resolved by Oracle Enterprise Manager Remedy Service Desk Connector due
to change in Job Status of the associated Job event. JobStatus:
  <xsl:value-of select="ns0:JobStatus" />  .
  </urn:Work_Info_Notes>
  </xsl:when>
<xsl:when test="ns0:GracePeriodCheckMade = 'Yes'">
<urn:Work_Info_Notes>
  Incident reopened because the associated job event re-triggered with in the
grace period with status:  <xsl:value-of select="ns0:JobStatus" />  .
  </urn:Work_Info_Notes>
  </xsl:when>
```

```
<xsl:otherwise>
<urn:Work_Info_Notes>
  Incident updated due to change in Job Status of the associated Job event.
JobStatus:  <xsl:value-of select="ns0:JobStatus" />.
  </urn:Work_Info_Notes>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:when>
  </xsl:choose>
  <urn:Work_Info_Locked>No</urn:Work_Info_Locked>
  <urn:Work_Info_View_Access>Public</urn:Work_Info_View_Access>
<urn:Work_Info_Summary>
  <xsl:value-of select="ns0:Message" />
  </urn:Work_Info_Summary>
  </urn:HelpDesk_Modify_Status_Service>
  </xsl:otherwise>
  </xsl:choose>
  </xsl:template>
  </xsl:transform>
```

5.3 Mapping the Fields

The tables in this section map the fields in all out-of-box ticket templates shipped with the Remedy Service Desk Connector.

Remedy_DefaultCategory_AutoClose.xsl

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

Table 5–3 Ticket Updates (Remedy_DefaultCategory_AutoClose.xsl)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Categorization_Tier_1		Blank
Categorization_Tier_2		Blank
Categorization_Tier_3		Blank
Closure_Manufacturer		Blank
Closure_Product_Category_Tier1		Blank
Closure_Product_Category_Tier2		Blank
Closure_Product_Category_Tier3		Blank
Closure_Product_Model_Version		Blank
Closure_Product_Name		Blank
Company		"Internal" *
Summary	Message	

Table 5–3 (Cont.) Ticket Updates (Remedy_DefaultCategory_AutoClose.xsl)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Notes	**For metric alerts:** 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. TargetName TargetType MetricColumn — Name of the metric, such as CPU Utilization (%). MetricName — Category of the metric. For the CPU Utilization (%) metric, this would be 'Load.' TargetProperties** — name:value pairs of defined target properties. For example: Line of business: Finance Owner: Finance-DB Team 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, KeyValues is 'USERS' if the USERS tablespace triggered at warning or critical severity. Severity CollectionTime TargetHost NotificationRuleName EventPageURL — URL to the metric details page in the context of the alert.	

Table 5–3 (Cont.) Ticket Updates (Remedy_DefaultCategory_AutoClose.xsl)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Notes (cont'd)	**For job status events:** EMUser — Notification rule owner JobName JobType JobOwner JobStatus JobTarget — Includes TargetName and TargetType, such as the host name of the targetType "Host." CollectionTime NotificationRuleName EventPageURL — URL of the Job Event page.	
Impact	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If severity is Critical, set Impact to 1-Extensive/Widespread. ■ If severity is Warning, set Impact to 2-Significant/Large. ■ Otherwise, set Impact to 3-Moderate/Limited. For job status events: ■ If JobStatus is Error or Failed, set Impact to 2-Significant/Large. ■ Otherwise, set Impact to 3-Moderate/Limited.
Manufacturer		Blank
Product_Categorization_Tier_1		Blank
Product_Categorization_Tier_2		Blank
Product_Categorization_Tier_3		Blank
Product_Model_Version		Blank
Product_Name		Blank
Reported_Source		"Systems Management" *

Table 5–3 (Cont.) Ticket Updates (Remedy_DefaultCategory_AutoClose.xsl)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Resolution	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If severity is Clear, set the Resolution with Message. For job status events: ■ If JobStatus is Succeeded, set the Resolution with JobStatus.
Resolution_Category		Blank
Resolution_Category_Tier_2		Blank
Resolution_Category_Tier_3		Blank
Resolution_Method		Blank
Service_Type		"Infrastructure Event" *
Status	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If severity is Critical, set the ticket status to Closed. ■ Otherwise, set the status to Assigned. For job status events: ■ If JobStatus is Succeeded, set the ticket status to Closed. ■ Otherwise, set the status to Assigned.
Urgency	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If severity is Critical, set Urgency to 1-Critical. ■ If severity is Warning,, set Urgency to "2-High" ■ Otherwise, set Urgency to 3-Medium. For job status events: ■ If JobStatus is Error or Failed, set Urgency to 2-High. ■ Otherwise, set Urgency to 3-Medium.
Action		"MODIFY" *
Work_Info_Summary	Message	
Work_Info_Notes	Message, Severity — Applies to metric alerts JobStatus — Applies to job status events	
Work_Info_Type		"Incident Task/Action" *
Work_Info_Date		Blank

Table 5–3 (Cont.) Ticket Updates (Remedy_DefaultCategory_AutoClose.xsl)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Work_Info_Source		"System Assignment" *
Work_Info_Locked		Blank
Work_Info_View_Access		"Public" *
Incident_Number	TicketId — The connector adds this into the alert context before handling the ticketing action. Required by the Remedy Web service to identify the ticket that must be updated.	

Remedy_DefaultCategory.xsl

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

Table 5–4 Ticket Updates (Remedy_DefaultCategory.xsl)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Categorization_Tier_1		Blank
Categorization_Tier_2		Blank
Categorization_Tier_3		Blank
Closure_Manufacturer		Blank
Closure_Product_Category_Tier1		Blank
Closure_Product_Category_Tier2		Blank
Closure_Product_Category_Tier3		Blank
Closure_Product_Model_Version		Blank
Closure_Product_Name		Blank
Company		"Internal" *
Summary	Message	

Table 5–4 (Cont.) Ticket Updates (Remedy_DefaultCategory.xsl)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Notes	**For metric alerts:** 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. TargetName TargetType MetricColumn — Name of the metric, such as CPU Utilization (%). MetricName — Category of the metric. For the CPU Utilization (%) metric, this would be 'Load.' TargetProperties** — name:value pairs of defined target properties. For example: Line of business: Finance Owner: Finance-DB Team 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, KeyValues is 'USERS' if the USERS tablespace triggered at warning or critical severity. Severity CollectionTime TargetHost NotificationRuleName EventPageURL — URL to the metric details page in the context of the alert.	

Table 5–4 (Cont.) Ticket Updates (Remedy_DefaultCategory.xsl)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Notes (cont'd)	**For job status events:** EMUser — Notification rule owner JobName JobType JobOwner JobStatus JobTarget — Includes TargetName and TargetType, such as the host name of the targetType "Host." CollectionTime NotificationRuleName EventPageURL — URL of the Job Event page.	
Impact	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: ■ If severity is Critical, set Impact to 1-Extensive/ Widespread. ■ If severity is Warning, set Impact to 2-Significant/Large. ■ Otherwise, set Impact to 3-Moderate/Limited. For job status events: ■ If JobStatus is Error or Failed, set Impact to 2-Significant/Large. ■ Otherwise, set Impact to 3-Moderate/Limited.
Manufacturer		Blank
Product_Categorization_ Tier_1		Blank
Product_Categorization_ Tier_2		Blank
Product_Categorization_ Tier_3		Blank
Product_Model_Version		Blank
Product_Name		Blank
Reported_Source		"Systems Management" *
Resolution		Blank
Resolution_Category		Blank
Resolution_Category_Tier_2		Blank
Resolution_Category_Tier_3		Blank
Resolution_Method		Blank

Table 5–4 (Cont.) Ticket Updates (Remedy_DefaultCategory.xsl)

Remedy Ticket Attributes	Enterprise Manager Alert Attributes	Value
Service_Type		"Infrastructure Event" *
Status		- If the grace period test has already been done and the alert is still within the grace period, reopen the ticket by setting the ticket to the Assigned status. - Otherwise, set the status to Assigned.
Urgency	Severity — Applies to metric alerts JobStatus — Applies to job status events	For metric alerts: - If severity is Critical, set Urgency to 1-Critical. - If severity is Warning,, set Urgency to "2-High" - Otherwise, set Urgency to 3-Medium. For job status events: - If JobStatus is Error or Failed, set Urgency to 2-High. - Otherwise, set Urgency to 3-Medium.
Action		"MODIFY" *
Work_Info_Summary	Message	
Work_Info_Notes	Message, Severity — Applies to metric alerts JobStatus — Applies to job status events	
Work_Info_Type		"Incident Task/Action" *
Work_Info_Date		Blank
Work_Info_Source		"System Assignment" *
Work_Info_Locked		"No" *
Work_Info_View_Access		"Public" *
Incident_Number	TicketId — The connector adds this into the alert context before handling the ticketing action. Required by the Remedy Web service to identify the ticket that must be updated.	

5.4 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.

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

Example 5–2 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 5–3 Altering the Message Type

If you only want the alert message to appear as 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 notification rules as a filter to associate proper ticket templates with alerts. You can have as many tickets templates as you want. One notification rule can have only one ticket template.

5.5 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 5–5 provides the Enterprise Manager fields that you can map when using the default Remedy Service Desk Web services:

Table 5–5 Enterprise Manager Attributes

Data Fields	Description
EMUser	■ For auto-ticketing, this is the notification 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 alert (available after ticket creation).
ConnectorID	Identifies the connector that processed the event and issued the ticket creation or ticket update. This is the ID for the Remedy Service Desk Connector.
TargetType	Type of target that the alert is associated with, such as `host`.
TargetName	Name of the target that the alert is associated with. For example, `Database1` or `stadc40.us.oracle.com`.
MetricColumn	Name of the metric that triggered the alert. For example, CPU Utilization(%).
MetricName	Category of the metric. For example, `Load` for the memory utilization alert.

Table 5–5 (Cont.) Enterprise Manager Attributes

Data Fields	Description
TargetProperties	TargetProperties store environmental or usage context information specific to the target. For example, for Host Target , the name /value pair of TargetProperties are: ■ Comment — Host running the management service and repository. ■ Contact — John Doe ■ Deployment Type — Production ■ Line of Business — Development ■ Location — Redwood Shores These are out-of-box user-defined target properties. If additional target properties are added, they are displayed with ticket information.
KeyColumn	For metrics that monitor a set of objects, the KeyColumn indicates the type of object monitored. For example, for the Tablespace Space Used (%) metric that monitors tablespaceobjects, the KeyColumn is 'Tablespace Name'.
KeyValues	Key values associated with a key value base alert. For metrics that monitor a set of objects, the KeyValues indicates the specific object that triggered the severity. For example, for the Tablespace Space Used (%) metric that monitors tablespace objects, KeyValues is 'USERS' if the USERS tablespace triggered at warning or critical severity.
Message	Description of the alert. For example, CPU Utilization is 100%, crossed warning (80) or critical (95) threshold.
Severity	Severity of the alert: `critical, warning, clear,` or `down.`
CollectionTime	Timestamp of an alert occurrence.
EventPageURL	URL to the alert details page of the alert.
NotificationRuleName	Name of the notification rule that generated the notification during auto-ticketing.
TargetTimezone	Timezone of the target associated with the alert.
GracePeriodCheckMade	Value `Yes` indicates that the alert is cleared since the last update or creation, but is within the configured grace period.
TargetHost	Name of the server hosting the target that generated the alert.
JobStatus	New status of the job event. For examplem, job status could be Error, Failed, or Succeeded.
JobOwner	Owner of the job, such as the notification rule owner.
JobType	Type of job, such as Host Command.
JobName	Name of the executed job.
JobTarget	Array of the target name/target type pairs that the job runs on.

Format for Creating Ticket Templates

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

Example 5–4 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/tt"
targetNamespace="http://xmlns.oracle.com/sysman/connector/tt"
elementFormDefault="qualified">

<!--
This template creates an incident type ticket with default categorization
(Category: Default, Type:Default, Item:Default), and low priority. On update,
the description and message fields are updated, and the ticket is closed if the
associated alert has cleared.
-->

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

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

</xsl:when>
<xsl:otherwise>

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

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

6

Enabling SSL for HTTPS

Follow the instructions provided in the following sections if you choose HTTPS as the protocol to establish a connection between the Remedy AR server and Enterprise Manager.

6.1 Generating a Certificate Request File

Generate a certificate request file for the Remedy AR server and send it to the Certificate authority, such as VeriSign.

Note: The certificate request file is dependent on the Web server that Remedy uses.

6.1.1 Adding Signed Certificates to Wallet Manager

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

Do the following on Enterprise 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
   ```

   Note: `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 client certificate `ewallet.p12.`
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.

   You need to import HelpDesk_Query_Service_getIncident.def into your Remedy instance for a getTicket operation. By default on the Enterprise Manager Management Connector page, the web service endpoint for getTicket appears as HPD_IncidentInterface_get_WS. If you are not importing HelpDesk_Query_Service_getIncident.def, you need to modify the web service name in the web service endpoint with your custom web service name.

   If you want to use the Remedy_DefaultCategory_AutoResolve.xsl template, you need to import HPD_IncidentInterface_CustomWS.def. Back up the HPD_IncidentInterface_WS web service before importing. You can get this file from the $ORACLE_HOME/sysman/connector/Remedy_Service_Desk_Connector directory.

Now Java SSL can use this file for communication between Enterprise Manager and the Remedy AR server in HTTPS mode.

> **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).*

6.2 Importing the Certificate from the Certificate Authority

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

6.3 Adding Signed Certificates to Wallet Manager

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

Do the following on Enterprise 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
   ```

   > **Note:** `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 client certificate `ewallet.p12`.
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.

   You need to import HelpDesk_Query_Service_getIncident.def into your Remedy instance for a getTicket operation. By default on the Enterprise Manager Management Connector page, the web service endpoint for getTicket appears as HPD_IncidentInterface_get_WS. If you are not importing HelpDesk_Query_Service_getIncident.def, you need to modify the web service name in the web service endpoint with your custom web service name.

   If you want to use the Remedy_DefaultCategory_AutoResolve.xsl template, you need to import HPD_IncidentInterface_CustomWS.def. Back up the HPD_IncidentInterface_WS web service before importing. You can get this file from the $ORACLE_HOME/sysman/connector/Remedy_Service_Desk_Connector directory.

Now Java SSL can use this file for communication between Enterprise Manager and the Remedy AR server in HTTPS mode.

> **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).*

A

Connector Tips

This section provides various tips that might help you to use Remedy Service Desk Connector more effectively.

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.

Supported Alerts

This release supports the following types of alerts:

- Metric alerts
- Availability alerts

Web Service Details 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_WS

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