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Preface

This guide contains information about administering Oracle Communications Unified Inventory Management (UIM). This guide includes information about how to start and stop UIM, an overview of security for UIM, and how to manage and monitor UIM. It also includes information about improving UIM performance, backing up and restoring UIM data, and managing the UIM database.

Note: Documentation on third-party software products is limited to the information needed to use UIM. If you need additional information on a third-party software application, consult the documentation provided by the product’s manufacturer.

Audience

This guide is intended for system administrators and other individuals who are responsible for ensuring that UIM is operating in the manner required for your business.

This document assumes that you have a good working knowledge of Sun Solaris, Windows, UNIX, IBM AIX, Oracle Fusion Middleware 11gR1, Oracle WebLogic, and Java J2EE software.

Related Documentation

For more information, see the following documents in the Oracle Communications Unified Inventory Management documentation set:

- **UIM Installation Guide**: Describes the requirements for installing UIM, installation procedures, and post-installation tasks.
- **UIM Security Guide**: Provides guidelines and recommendations for setting up UIM in a secure configuration.
- **UIM Concepts**: Provides an overview of important concepts and an introduction to using both UIM and Design Studio.
- **UIM Developer’s Guide**: Explains how to customize and extend many aspects of UIM, including the data model, life-cycle management, topology, security, rulesets, user interface, and localization.
- **UIM Web Services Developer’s Guide**: Describes the UIM Service Fulfillment Web Service operations and how to use them, and describes how to create custom Web services.
- **UIM API Overview**: Provides detailed information and code examples of numerous APIs presented within the context of a generic service fulfillment scenario, and within the context of a channelized connectivity enablement scenario.

- **UIM Information Model Reference**: Describes the UIM information model entities and data attributes, and explains patterns that are common across all entities.

- **Oracle Communications Information Model Reference**: Describes the Oracle Communications information model entities and data attributes, and explains patterns that are common across all entities. The information described in this reference is common across all Oracle Communications products.

- **UIM Cartridge and Technology Pack Guide**: Provides information about how you use cartridges and technology packs with UIM. Describes the content of the base cartridges.

- **UIM technology pack implementation guides**: Describe the content of product technology packs as well as configuration guidelines and implementation considerations.

For step-by-step instructions for performing tasks, log in to each application to see the following:


- **UIM Help**: Provides step-by-step instructions for tasks you perform in UIM.

### Documentation Accessibility


### Access to Oracle Support


### Document Revision History

The following table lists the revision history for this book.

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E51351-01</td>
<td>July 2014</td>
<td>Initial release.</td>
</tr>
</tbody>
</table>
This chapter provides an overview of Oracle Communications Unified Inventory Management (UIM) basic administration tasks and the tools to perform those tasks.

Overview of UIM Administration Tasks

A UIM administrator is responsible for the day-to-day tasks of maintaining and managing UIM and its users. The tasks also include managing UIM components and database.

You perform the following tasks as a UIM administrator:

- Starting and stopping the UIM server. See "Starting and Stopping UIM" for more information.
- Managing UIM security. See "Understanding UIM Security" for more information.
- Monitoring and managing UIM. See "Monitoring and Managing Unified Inventory Management" for more information.
- Improving UIM performance. See "Improving Unified Inventory Management Performance" for more information.
- Backing up and restoring UIM data. See "Unified Inventory Management Backup and Restore" for more information.
- Managing the UIM database. See "Managing the Unified Inventory Management Database" for more information.

Directory Placeholders Used in This Guide

Table 1–1 lists the placeholders that are used in this guide to refer to directories related to the UIM application.
### Table 1–1 Directory Placeholders

<table>
<thead>
<tr>
<th>Placeholder</th>
<th>Default Directory Path</th>
<th>Directory Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MW_Home</strong></td>
<td>/opt/Oracle/Middleware</td>
<td>The location where the Oracle Middleware product was installed. This directory contains the base directory for the WebLogic Server, a utilities directory, and other files and directories.</td>
</tr>
<tr>
<td><strong>WL_Home</strong></td>
<td>/opt/Oracle/Middleware/wlserver_10.3</td>
<td>The base directory for the WebLogic Server core files. It is located in the <strong>MW_Home</strong> directory.</td>
</tr>
<tr>
<td><strong>Domain_Home</strong></td>
<td>/opt/Oracle/Middleware/user_projects/domains/<em>domain_name</em></td>
<td>The directory that contains the configuration for the domain into which UIM is typically installed, but it is frequently set to some other directory at installation.</td>
</tr>
<tr>
<td><strong>UIM_Home</strong></td>
<td>/opt/Oracle/Middleware/user_projects/domains/<em>domain_name</em>/UIM</td>
<td>The directory into which UIM was installed. This directory contains various installation-related files. See Appendix A, &quot;UIM_Home Directory Structure&quot; for more information.</td>
</tr>
</tbody>
</table>
This chapter describes how to start and stop Oracle Communications Unified Inventory Management (UIM).

About Starting and Stopping UIM

Because UIM resides on a WebLogic server, starting or stopping the WebLogic server also starts and stops UIM.

Note: If the UIM environment is in a WebLogic cluster, consult the Oracle WebLogic Server documentation for information about how to start and stop the cluster servers.

Starting the UIM Server

To start the UIM server:

1. Open a command window.
2. Navigate to the Domain_Home/bin directory.
3. Run the following command:

   ./startUIM.sh

Note: For managed servers in a cluster, run the following command for each managed server:

   ./startUIM.sh managed_server_name admin_url

   For example: ./startUIM.sh uim_ms1 machine1.oracle.com:7001

Verifying the UIM Server Started

To verify that the UIM server started:

1. In a Web browser, enter:

   http://ServerName:Port/console

2. Enter the WebLogic server administration user name and password.
3. In the Domain Structure tree, expand Environment, and click Servers.
   The Summary of Servers page appears.
4. View the state of the Administration Server and verify that the state is RUNNING. If the state is not RUNNING, you may need to wait a short period and refresh the page.

5. In the left panel, under Domain Structure, click Deployments. The Summary of Deployments page appears.

6. Verify that the state of the deployments for the UIM related applications are ACTIVE. The following is a list of the UIM related applications and libraries:

- oracle.communications.inventory
- oracle.communications.inventory.cartridgeadapter
- cartridge_management_ws(1.2.1.0.0)
- oracle.communications.inventory.customlib(7.2, 7.2.4.0.0)
- oracle.communications.inventory.externallib(7.2, 7.2.4.0.0)
- oracle.communications.inventory.javadoc
- oracle.communications.inventory.mapviewer
- oracle.communications.platform.poms(11.1.1.7.0, 1.2.1.0.0)
- oracle.communications.platform.ies(11.1.1.7.0, 1.2.1.0.0)
- oracle.communications.platform.cui.webapp(11.1.1.7.0, 1.2.1.0.0)
- oracle.communications.platform.WsFramework(11.1.1.7.0, 1.2.1.0.0)
- cartridge_management_ws(1.2.1.0.0)

**Note:** If any of the deployments are not in the status you expected, you can use the buttons in this window to start and stop individual deployments, if necessary.

---

**Stopping the UIM Server**

To stop the UIM server:

1. Navigate to the Domain_Home/bin directory.

2. Run the following command:

   ```bash
   ./stopWebLogic.sh
   ```

You can also stop the UIM server from the WebLogic Server Administration Console, by doing the following:

1. In a Web browser, enter:

   ```text
   http://ServerName:Port/console
   ```

2. Enter the WebLogic server administration user name and password.


4. Click the Control tab and select AdminServer.

5. Click Shutdown and select Force Shutdown Now.
The Server Life Cycle Assistant page appears.

6. Click Yes.

---

**Note:** The procedure above stops UIM by stopping the Administration server for the WebLogic Server. If the WebLogic Server does not shut down completely, you will not be able to start it again due to a port conflict. If the procedure above has completed, but some WebLogic Server processes are still running for the domain, you can use the `kill` command to stop them. See "Verifying the UIM Server Stopped" for information about verifying whether UIM and WebLogic have stopped completely.

---

**Verifying the UIM Server Stopped**

To verify that UIM has stopped, do one of the following:

- Try connecting to the WebLogic Server Administration Console. If you cannot, WebLogic is probably not running.

- Look at the process list for the user who started the server. If WebLogic is running, there will probably be at least one process with `startUIM.sh` in its description.

- Look in the user's process list for a Java process that was started out of the Java directory for WebLogic. Process descriptions vary from platform to platform, so look at the process list when you know UIM is running to see what the entries look like on your platform. You can later use this information to confirm that the WebLogic server has shut down completely.
This chapter provides an overview of security in Oracle Communications Unified Inventory Management (UIM). You manage most aspects of UIM security externally rather than in the application itself. This chapter does not provide detailed information about how you perform application security tasks in external systems. Consult the documentation for these systems for more information.

UIM Security Overview

UIM supports two categories of application security:

- **Authentication** is the process of identifying users (including computer processes) by user name and password to ensure that they are allowed to access the system. See "Authentication" for more information.

- **Authorization** controls access to specific parts of UIM, such as pages, actions, and data entities. Users are granted access as the result of being assigned to security roles, which are in turn associated with security policies. For example, when an authenticated user logs in to UIM, the content of the main UIM page depends on their level of access. Users with unrestricted access see links to all pages in the Tasks pane; others see only links to the pages they are authorized to access. See "Authorization" for more information.

Figure 3–1 illustrates a simple authentication and authorization flow. A user logs in to UIM, searches for an entity (in this case, a Network entity), views the Summary page of that entity, and then opens the Network Information page to edit data.
By default, you use two external systems to manage most aspects of UIM security:

- WebLogic Server Administration Console enables you to manage users and groups. You create and delete users and assign passwords in this application.
- Oracle Enterprise Manager enables you to create security roles and security policies that define what pages users can access and what actions they can take.
The default systems provide a low-cost, basic set of security features. You can use the following tools, which provide additional security functionality.

- Oracle Internet Directory is an LDAP-compliant security directory that runs on the Oracle database. It is fully integrated into Oracle Fusion Middleware.

- Oracle Identity Management is an enterprise-scale tool for managing the end-to-end life cycle of user identities across all resources. Oracle Identity Management is a member of the Oracle Fusion Middleware family of products.

The use of non-default systems requires configuration of both WebLogic Server and the systems themselves. See the WebLogic Server and the third-party documentation for information.

Entity security is performed by the application itself. API security must be implemented through the extensibility framework. See UIM Developer's Guide for more information about implementing these kinds of security.

**Authentication**

Authentication verifies that you are who you claim to be. UIM requires authentication by user name and password before allowing you access to the application. Login name and password are required for access to the application home page or via direct URL to a specific page.

**Note:** UIM requires a separate sign on from other Oracle Communications applications. Single Sign On (SSO) is not enabled.

The UIM login page is configured to not allow auto-completion of user names and passwords. Password text is not echoed to the field as you type. If you enter an invalid user name or password, an error message is displayed.

A configurable period of user inactivity results in a session timeout. The user must provide a user name and password to resume activity. The default session timeout is 30 minutes, but you can configure a different one. See "Setting the Session Timeout".

Access to UIM from Web services also requires a user name and password. The user name and password are passed into the system in the Simple Object Access Protocol (SOAP) header of each message.

**Note:** Web services are delivered over unencrypted channels, such as HTTP and Java message service (JMS) transports. The user name and password are included in the SOAP headers of the Web service messages. When transported over an unencrypted channel, passwords must not be passed as clear text. To avoid this vulnerability, use a digest password (encrypted hash) instead.

You manage user names and passwords in the WebLogic Server Administration Console (or another application of your choice). The actual authentication process is performed by the Default Authentication provider or the authentication provider provided by the chosen LDAP. The WebLogic Server Administration Console uses embedded LDAP by default.

Password requirements are determined by the authentication provider. In the case of Web Logic Server Embedded LDAP, passwords must be a minimum of eight
characters and include at least one numerical and one alphabetic character. Password expiration policies are also determined by the authentication provider.

You can create groups that include similar users. Grouping users makes it easier to set up authorization. You can assign a group to a role, which automatically grants all permissions associated with the role to all members of the group.

See the WebLogic Server Administration Console documentation and Help for information about creating, deleting, and managing users, groups, and passwords.

To grant access to individual pages and actions in UIM, you associate users and groups with security roles, which in turn are associated with security policies. See “Authorization” for more information.

Setting the Session Timeout

By default, a user session times out after 30 minutes of inactivity. The user must log back in to UIM if the session times out. You can set the session timeout in WebLogic Server Administration Console.

To set the session timeout:

1. Login to the WebLogic Server Administration Console.
2. In the left panel, under Domain Structure, click Deployments.
   The Summary of Deployments page appears.
3. Expand oracle.communications.inventory.
4. Click Inventory.
   The Settings for Inventory page appears.
5. Click the Configuration tab.
6. Click the General sub-tab.
7. In Session Timeout (in seconds), change the value to the desired number of seconds.
8. Click Save.
9. In the left panel, under Domain Structure, click Deployments.
   The Summary of Deployments page appears.
10. Select the check box for oracle.communications.inventory.
11. Click Update.
   The Update Application Assistant page appears.
12. Choose Redeploy this application using the following deployment files.
13. Take the default values for Source Path and Deployment Plan Path, which reflect the paths to the inventory.ear file and the Plan.xml file:
   - UIIM_Home/app/inventory.ear
   - UIIM_Home/app/plan/Plan.xml
14. Click Finish.

See the WebLogic Server Administration Console documentation and online Help for additional information.
Authenticating Web Services

Web service operations require authentication to ensure that the Web service operations have the correct permissions to access the application.

You use the WebLogic Server Administration Console to configure authorization for Web services. You configure authentication by associating a Web service to one or more Web service policies. Web service policies specify the details of the message-level security (digital signatures and encryption) and reliable SOAP messaging capabilities of a Web service.

Policies can be attached to the Web service endpoint, which means that the policy assertions apply to the entire Web service, or at the operation level, which means that the policy assertions apply only to the specific operation.

Web services are defined and stored in one or more Web service policy files. A sample Web service policy file (UIM_HOME/webservices/reference_webservice.zip/security/SampleAuth.xml) is shipped with UIM. You can use that file or create additional files. See UIM Web Services Developer’s Guide for information about how to create Web service policy files.

You associate Web services and Web service policies in the WebLogic Server Administration Console. The following procedure describes at a high level how to make this association. See the WebLogic Server Administration Console documentation and online Help for detailed instructions.

You can associate a policy to a Web service without having to restart the server.

1. In the WebLogic Server Administration Console, open the Settings page for the UIM deployment (oracle.communications.inventory).
2. In the Modules and Components area, select the Web service you want to configure.
   
   For example, to configure the Service Fulfillment Web service, click the oracle.communications.inventory.sfws.ws.UIMServiceFulfillmentPortImpl link.
3. Click the Configuration tab.
   
   The Settings page for the Web service appears.
4. Click the WS-Policy tab.
   
   The table of Web service endpoints and operations appears. The table also displays current Web service policies.
5. Click Lock & Edit.
6. Select a Web service endpoint or operation.
   
   The Configure a Web service policy page appears.
7. Select a pre-packaged or a custom Web service policy file and then click the right arrow.
8. Click OK.
   
   The Save Deployment Plan Assistant page appears.
9. Click the link next to Location.
11. Click Finish.
Authorization

Authorization determines whether an authenticated user has permission to view a page or to take an action. For example, if an authenticated user does not have permission to view or change telephone number information, the link to the Telephone Number Search page does not appear in the Tasks panel of the UIM home page. Similarly, the user would be denied access from a direct URL to a Telephone Number Summary page.

There are two types of authorization in UIM:

- Taskflow authorization controls the ability to view UIM pages, such as entity Summary pages. See "Taskflow Permissions" for a complete list.
- Resource authorization controls the ability to take actions, such as deleting or validating an entity. These actions are triggered by clicking a button or making selections from the Actions menu. See "Resource Permissions" for a complete list.

Users are granted permissions by their assignment to security roles and security policies.

- Security roles define groups of users that require particular kinds of access. For example, you can define a role for users who must be able to view but not change telephone number information. You could define another role for users who need to be able make changes to telephone numbers.
- Security policies are groups of permissions that grant access to pages and actions. You associate security roles to security policies to define the access granted to users who are assigned to those roles. For example, to grant view access for telephone numbers, you can create a policy that includes permissions to view the Telephone Number Summary and Telephone Number Search Results pages.

You use Oracle Enterprise Manager (or another system of your choice) to administer roles and policies for UIM. Changes you make are applied immediately without the need to restart the server. User permission changes require that the user log out and log in again.

UIM provides the ability to extend its security so that customers can create their own custom ways of authorizing what users see. See UIM Developer’s Guide for more information.

Using Security Roles

You create security roles that define the access levels appropriate for users performing particular functions. You can create as many roles as you need and you can assign as many or as few roles to a user as is necessary.

For example, you can assign Jaime to a Number_Admin role, allowing him to both view and edit telephone number entities. You can assign Jagdeep to both Number_Admin and Service_Admin roles, allowing her to view and edit telephone number entities and service entities. You can retrieve user information, including the roles assigned to a user, through the UserEnvironment class. See UIM Developer’s Guide for an example.

The actual permissions associated with any role are the result of the role being associated with security policies. Each policy defines access to a page or action in UIM.

Note: See UIM Web Services Developer’s Guide for more information on developing custom Web services.
See "Using Security Policies".

All users are assigned to a default role called authenticated-role. This role grants no access except the ability to log in to UIM. A user with only this level of access can view the UIM home page, but cannot view any other UIM pages or take any actions.

Another default role, uimuser, grants super user permissions. Users assigned to this role can access all UIM pages and actions. In some cases, such as in testing or development environments, this may be the only role that is required.

You use Oracle Enterprise Manager to create roles and to assign users to them. You can assign users when you create roles. You can also update existing roles by adding and removing users. See the Oracle Enterprise Manager documentation and online Help for more information.

Using Security Policies

You use security policies to associate specific permissions, such as the ability to view the Logical Device Search Results pages or make changes to Equipment entities, with roles. Policies are groupings of specific permissions that you grant to users assigned to roles.

---

Note: It is possible to associate policies directly with users, but using roles reduces duplicative work and is therefore recommended.

---

Because there are separate permissions for each UIM page and for the ability to make changes on those pages, there are a large number of specific permissions that can be assigned. As a result, you can tailor policies to grant exactly the permissions required for a role.

For example, suppose you have two roles associated with telephone numbers. One role (Number_User) is associated with a policy that includes permissions for viewing Telephone Number Summary and Search Results pages. Another role (Number_Admin) is associated with a policy that includes those same permissions as well as permission to edit telephone number information.

You use Oracle Enterprise Manager to manage policies. To create policies, you gather together the permissions that apply to a role or roles and then associate those permissions to the roles.

Figure 3–2 shows a portion of the Oracle Enterprise Manager Application Policies page. The highlighted area represents the permissions associated with Number_Admin_Role. The full names of the three permissions associated with that role are:

- /WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberSearchResultsFlow.xml#TelephoneNumberSearchResultsFlow
- /WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberSummaryFlow.xml#TelephoneNumberSummaryFlow
- /WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberEditFlow.xml#TelephoneNumberEditFlow

---

Note: The permission strings are too long to be fully visible in Oracle Enterprise Manager Application Policies page. See "Taskflow Permissions" and "Resource Permissions" for a list of all of the permissions at full length.
The Oracle Enterprise Manager Application Policies page lists all the policies defined for the application, including the policies for the default roles, which are:

- authenticated-role
- LocationAdministrator
- ProductAdministrator
- uimuser

See the Oracle Enterprise Manager documentation and online Help for detailed information about working with policies.

![Figure 3-2 Security Policies in Oracle Enterprise Manager](image)

### Changing Security Policy Providers

By default, Oracle Enterprise Manager uses an XML file as the security policy store. This file, `Domain_home/config/fmwconfig/system-jazn-data.xml`, is installed automatically during the WebLogic and UIM installations.

You can configure Oracle Enterprise Manager to use a different policy store instead of the default XML file. For example, you may have a pre-existing LDAP server that you want to use for this purpose.

You specify the security policy store in the Enterprise Manager Security Provider Configuration page. See the Oracle Enterprise Manager Help and documentation for detailed instructions.

### Taskflow Permissions

Table 3–1 lists all of the UIM taskflow permissions, sorted by component name.
<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/GroomConnectivitiesFlow.xml#GroomConnectivitiesFlow</td>
<td>Dual Tree View of Source and Target Connectivity involved in Groom operation.</td>
</tr>
<tr>
<td>Component</td>
<td>Access Type</td>
<td>Permission String</td>
<td>Controls the Ability to:</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressSearchResultsFlow.xml#CustomNetworkAddressSearchResultsFlow</td>
<td>Open a Search page for custom network addresses by clicking the Custom Network Address link in the Tasks panel.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressSummaryFlow.xml#CustomNetworkAddressSummaryFlow</td>
<td>Open a Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressEditFlow.xml#CustomNetworkAddressEditFlow</td>
<td>Edit a custom network address from search results or a Summary page.</td>
</tr>
<tr>
<td>Condition</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ConditionListFlow.xml#ConditionListFlow</td>
<td>Open the list of conditions associated by using the Related Pages menu in an entity page.</td>
</tr>
<tr>
<td>Configuration</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationSummaryFlow.xml#ConfigurationSummaryFlow</td>
<td>Open a Configuration Summary page. (For all configurations except Pipe.)</td>
</tr>
<tr>
<td>Configuration</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationEditFlow.xml#ConfigurationEditFlow</td>
<td>Edit an entity configuration. (For all configurations except Pipe.)</td>
</tr>
<tr>
<td>Configuration</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/configuration/flow/ConfigurationItemAddFlow.xml#ConfigurationItemAddFlow</td>
<td>Add a configuration item from a Configuration Summary page. (For all configurations, except Pipe.)</td>
</tr>
</tbody>
</table>
Table 3–1  (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/TDMConnectivityCreateFlow.xml#TDMConnectivityCreateFlow</td>
<td>Create Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/TDMConnectivityChannelFlow.xml#TDMConnectivityChannelFlow</td>
<td>View Connectivity Channel page.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/ConnectivityGapAnalysisFlow.xml#ConnectivityGapAnalysisFlow</td>
<td>View Gap Analysis.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/customobject/flow/CustomObjectSearchResultsFlow.xml#CustomObjectSearchResultsFlow</td>
<td>Open a Search page for custom objects by clicking the Custom Objects link in the Tasks panel.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/customobject/flow/CustomObjectEditFlow.xml#CustomObjectEditFlow</td>
<td>Edit a custom object from search results or a Summary page.</td>
</tr>
<tr>
<td>Device Interface</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/deviceinterface/flow/DeviceInterfaceSearchResultsFlow.xml#DeviceInterfaceSearchResultsFlow</td>
<td>Open a Search page for device interfaces by clicking the Device Interface link in the Tasks panel.</td>
</tr>
</tbody>
</table>
### Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device Interface</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/deviceinterface/flow/DeviceInterfaceSummaryFlow.xml#DeviceInterfaceSummaryFlow</td>
<td>Open a Device Interface Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentSearchResultsFlow.xml#EquipmentSearchResultsFlow</td>
<td>Open a Search page for equipment by clicking the Equipment link in the Tasks panel.</td>
</tr>
<tr>
<td></td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentEditFlow.xml#EquipmentEditFlow</td>
<td>Edit an Equipment entity from search results or a Summary page.</td>
</tr>
<tr>
<td>Equipment Holder</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/equipmentholder/flow/EquipmentHolderSearchResultsFlow.xml#EquipmentHolderSearchResultsFlow</td>
<td>Open a Search page for device interfaces by clicking the Device Interface link in the Tasks panel.</td>
</tr>
<tr>
<td>Favorite Items</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/platform/cui/flows/FavoriteItemsFlow.xml#FavoriteItemsFlow</td>
<td>View the Favorites menu in the UIM main page.</td>
</tr>
<tr>
<td></td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/platform/cui/flows/ManageFavoritesFlow.xml#ManageFavoritesFlow</td>
<td>Edit the contents of the Favorites menu in the UIM main page.</td>
</tr>
<tr>
<td>Import</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/admin/flow/ExecuteRuleFlow.xml#ExecuteRuleFlow</td>
<td>View the Inventory Import page.</td>
</tr>
<tr>
<td>Component</td>
<td>Access Type</td>
<td>Permission String</td>
<td>Controls the Ability to:</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Inventory Group</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupSearchResultsFlow.xml#InventoryGroupSearchResultsFlow</td>
<td>Open a Search page for inventory groups by clicking the <strong>Inventory Group</strong> link in the Tasks panel.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupSummaryFlow.xml#InventoryGroupSummaryFlow</td>
<td>View an Inventory Group Summary page.</td>
</tr>
<tr>
<td></td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupEditFlow.xml#InventoryGroupEditFlow</td>
<td>Edit an inventory group from search results or a Summary page.</td>
</tr>
<tr>
<td>Involvement</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/custominvolvement/flow/CustomInvolvementEditFlow.xml#CustomInvolvementEditFlow</td>
<td>Edit a custom involvement from an entity Summary page. The user can edit the custom involvement by clicking <strong>Edit</strong> in the <strong>Custom Involvement</strong> list in the entity Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceSearchResultsFlow.xml#LogicalDeviceSearchResultsFlow</td>
<td>Open a Search page for logical devices by clicking the <strong>Logical Device</strong> link in the Tasks panel.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceSummaryFlow.xml#LogicalDeviceSummaryFlow</td>
<td>Open a Logical Device Summary page.</td>
</tr>
<tr>
<td></td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceEditFlow.xml#LogicalDeviceEditFlow</td>
<td>Edit a logical device from search results or a Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/device/MaintainMappingsFlow.xml#MaintainMappingsFlow</td>
<td>Map a device interface to a physical connector or physical port.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceCopyFlow.xml#LogicalDeviceCopyFlow</td>
<td>Copy Logical Device.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldeviceaccount/flow/LogicalDeviceAccountSearchResultsFlow.xml#LogicalDeviceAccountSearchResultsFlow</td>
<td>Open a Search page for logical device accounts by clicking the <strong>Logical Device Account</strong> link in the Tasks panel.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/logicaldeviceaccount/flow/LogicalDeviceAccountEditFlow.xml#LogicalDeviceAccountEditFlow</td>
<td>Edit a logical device account from search results or a Summary page.</td>
</tr>
</tbody>
</table>
### Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Map Profile</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/network/flow/MapProfileEditFlow.xml#MapProfileEditFlow</td>
<td>Edit a the map profile from a Network Summary page.</td>
</tr>
<tr>
<td>Map Viewer</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/network/flow/MapViewFlow.xml#MapViewFlow</td>
<td>Open the Map Viewer application.</td>
</tr>
<tr>
<td>Media Resource</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaResourceLogicalDeviceListFlow.xml#MediaResourceLogicalDeviceListFlow</td>
<td>Open a list of media resources in a Logical Device or Media Stream Summary page.</td>
</tr>
<tr>
<td>Media Stream</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaStreamSearchResultsFlow.xml#MediaStreamSearchResultsFlow</td>
<td>Open a Search page for media streams by clicking the Media Streams link in the Tasks panel.</td>
</tr>
<tr>
<td>Media Stream</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaStreamSummaryFlow.xml#MediaStreamSummaryFlow</td>
<td>Open a Media Stream Summary page.</td>
</tr>
<tr>
<td>Media Stream</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/mediaresource/flow/MediaStreamEditFlow.xml#MediaStreamEditFlow</td>
<td>Edit a Media Stream entity from search results or a Summary page.</td>
</tr>
<tr>
<td>Network</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/networknode/flow/NetworkNodeSearchResultsFlow.xml#NetworkNodeSearchResultsFlow</td>
<td>Open a Search page for network nodes. The page is opened from the topology visualization.</td>
</tr>
<tr>
<td>Network</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/network/flow/NetworkSearchResultsFlow.xml#NetworkSearchResultsFlow</td>
<td>Open a Search page for Network entities by clicking the Network link in the Tasks panel.</td>
</tr>
<tr>
<td>Network</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/networkedge/flow/NetworkEdgeEditFlow.xml#NetworkEdgeEditFlow</td>
<td>Edit a network edge from Network canvas.</td>
</tr>
<tr>
<td>Network</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/network/flow/NetworkEditFlow.xml#NetworkEditFlow</td>
<td>Edit a Network entity from search results or a Summary page.</td>
</tr>
</tbody>
</table>
### Table 3–1  (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Party</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/party/flow/PartySearchResultsFlow.xml#PartySearchResultsFlow</td>
<td>Open a Search page for parties by clicking the Party link in the Tasks panel.</td>
</tr>
<tr>
<td>Party</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/party/flow/PartyEditFlow.xml#PartyEditFlow</td>
<td>Edit a party from search results or a Summary page.</td>
</tr>
<tr>
<td>Path Analysis</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PathAnalysisFlow.xml#PathAnalysisFlow</td>
<td>Open a Path Analysis page from a Pipe or Pipe Configuration page.</td>
</tr>
<tr>
<td>Physical Connector</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorSearchResultsFlow.xml#PhysicalConnectorSearchResultsFlow</td>
<td>Open a Search page for physical connectors from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Physical Connector</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorSummaryFlow.xml#PhysicalConnectorSummaryFlow</td>
<td>Open a Physical Connector Summary page from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Physical Connector</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorEditFlow.xml#PhysicalConnectorEditFlow</td>
<td>Edit a physical connector from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicaldevice/flow/PhysicalDeviceSearchResultsFlow.xml#PhysicalDeviceSearchResultsFlow</td>
<td>Open a Search page for physical devices by clicking the Physical Device link in the Tasks panel.</td>
</tr>
<tr>
<td>Physical Device</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicaldevice/flow/PhysicalDeviceEditFlow.xml#PhysicalDeviceEditFlow</td>
<td>Edit a physical device from search results or a Summary page.</td>
</tr>
<tr>
<td>Physical Port</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortSearchResultsFlow.xml#PhysicalPortSearchResultsFlow</td>
<td>Open a Search page for physical ports from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Physical Port</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortSummaryFlow.xml#PhysicalPortSummaryFlow</td>
<td>Open a Physical Port Summary page from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Component</td>
<td>Access Type</td>
<td>Permission String</td>
<td>Controls the Ability to:</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Physical Port</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortEditFlow.xml#PhysicalPortEditFlow</td>
<td>Edit a physical port from a Physical Device or Equipment Summary page.</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeSearchResultsFlow.xml#PipeSearchResultsFlow</td>
<td>Open a Search page for pipes by clicking the Pipe link in the Tasks panel.</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeSummaryFlow.xml#Pipe SummaryFlow</td>
<td>Open a Pipe Summary page.</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTerminationPointSearchResultsFlow.xml#PipeTerminationPointSearchResultsFlow</td>
<td>Open a Search page for pipe termination points.</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTerminationPointSummaryFlow.xml#PipeTerminationPointSummaryFlow</td>
<td>Open a Pipe Termination Point Summary page from a Pipe Summary page.</td>
</tr>
<tr>
<td>Pipe</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/configuration/flow/PipeConfigurationSummaryFlow.xml#PipeConfigurationSummaryFlow</td>
<td>Open a Pipe Configuration Summary page.</td>
</tr>
<tr>
<td>Pipe</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeEditFlow.xml#PipeEditFlow</td>
<td>Edit a pipe from search results or a Summary page.</td>
</tr>
<tr>
<td>Pipe</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTerminationPointEditFlow.xml#PipeTerminationPointEditFlow</td>
<td>Edit a pipe termination point from a Pipe Summary page.</td>
</tr>
<tr>
<td>Place</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/place/flow/PlaceSearchResultsFlow.xml#PlaceSearchResultsFlow</td>
<td>Open a Search page for places by clicking the Place link in the Tasks panel.</td>
</tr>
<tr>
<td>Place</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/place/flow/PlaceSummaryFlow.xml#PlaceSummaryFlow</td>
<td>Open a Place Summary page.</td>
</tr>
<tr>
<td>Place</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/place/flow/PlaceEditFlow.xml#PlaceEditFlow</td>
<td>Edit a place from search results or a Summary page.</td>
</tr>
<tr>
<td>Product</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/product/flow/ProductSearchResultsFlow.xml#ProductSearchResultsFlow</td>
<td>Open a Search page for products by clicking the Product link in the Tasks panel.</td>
</tr>
</tbody>
</table>
### Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/product/flow/ProductEditFlow.xml#ProductEditFlow</td>
<td>Edit a product from search results or a Summary page.</td>
</tr>
<tr>
<td>Project</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectSearchResultsFlow.xml#ProjectSearchResultsFlow</td>
<td>Project Search Results.</td>
</tr>
<tr>
<td>Project</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectCreateFlow.xml#ProjectCreateFlow</td>
<td>Create Project.</td>
</tr>
<tr>
<td>Project</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectDetailsFlow.xml#ProjectDetailsFlow</td>
<td>View Project Details.</td>
</tr>
<tr>
<td>PropertyLocation</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/location/flow/LocationSearchResultsFlow.xml#LocationSearchResultsFlow</td>
<td>View Property Location Search Page.</td>
</tr>
<tr>
<td>PropertyLocation</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/location/flow/LocationDetailsFlow.xml#LocationDetailsFlow</td>
<td>View Property Location Create/Edit Page.</td>
</tr>
<tr>
<td>Reservation</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ReservationListFlow.xml#ReservationListFlow</td>
<td>View the reservation list for an entity by selecting from the Related Pages menu in an entity Summary page.</td>
</tr>
<tr>
<td>Reservation</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ReservationSearchResultsFlow.xml#ReservationSearchResultsFlow</td>
<td>Open a Search page for reservations by clicking the Reservation link in the Tasks panel.</td>
</tr>
<tr>
<td>Reservation</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/consumer/flow/RedeemReservationFlow.xml#RedeemReservationFlow</td>
<td>Open the Redeem Reservation page.</td>
</tr>
<tr>
<td>Role</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/role/flow/InventoryRoleEditFlow.xml#InventoryRoleEditFlow</td>
<td>Edit a role from an entity Summary page.</td>
</tr>
<tr>
<td>RuleSet</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/role/flow/RuleSearchResultsFlow.xml#RuleSearchResultsFlow</td>
<td>Open a Search page for rulesets by clicking the Rule Set link in the Tasks panel.</td>
</tr>
<tr>
<td>Service</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceSearchResultsFlow.xml#ServiceSearchResultsFlow</td>
<td>Open a Search page for services by clicking the Service link in the Tasks panel.</td>
</tr>
</tbody>
</table>
# Table 3–1 (Cont.) Taskflow Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Access Type</th>
<th>Permission String</th>
<th>Controls the Ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceSummaryFlow.xm#ServiceSummaryFlow</td>
<td>Open a Service Summary page.</td>
</tr>
<tr>
<td>Service</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceTopologyViewFlow.xm#ServiceTopologyViewFlow</td>
<td>Open the topology view for a service.</td>
</tr>
<tr>
<td>Service</td>
<td>Edit</td>
<td>/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceEditFlow.xm#ServiceEditFlow</td>
<td>Edit a service from search results or a Summary page.</td>
</tr>
<tr>
<td>Tag</td>
<td>View</td>
<td>/WEB-INF/oracle/communications/inventory/ui/tag/flow/TagSearchResultsFlow.xm#TagSearchResultsFlow</td>
<td>Tag Search Results.</td>
</tr>
</tbody>
</table>
### Resource Permissions

Table 3–2 lists all the UIM resource permissions, sorted by component.

#### Table 3–2 Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Menu Action</td>
<td>Activity.VALIDATE</td>
<td>Validate the Activity.</td>
</tr>
<tr>
<td>Activity</td>
<td>Menu Action</td>
<td>Activity.SUBMIT</td>
<td>Submit the Activity.</td>
</tr>
<tr>
<td>Activity</td>
<td>Menu Action</td>
<td>Activity.CANCEL</td>
<td>Cancel the Activity.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Button Action</td>
<td>BusinessInteraction.DELETE</td>
<td>Delete a business interaction from the search results.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Button Action</td>
<td>BusinessInteractionItem.DELETE</td>
<td>Delete a business interaction item from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Button Action</td>
<td>BusinessInteractionItem.TRANSFER</td>
<td>Transfer a business interaction item from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu</td>
<td>BusinessInteraction.ASSOCIATE</td>
<td>Associate a business interaction item from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu Action</td>
<td>BusinessInteraction.APPROVE_CONFIGURATIONS</td>
<td>Approve a business interaction from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu Action</td>
<td>BusinessInteraction.CANCEL</td>
<td>Cancel a business interaction from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Component</td>
<td>Type</td>
<td>Permission Name</td>
<td>Purpose</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------------</td>
<td>----------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu Action</td>
<td>BusinessInteraction.DEACTIVATE</td>
<td>Deactivate a business interaction from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu Action</td>
<td>BusinessInteraction.ISSUE_CONFIGURATIONS</td>
<td>Issue a service configuration from from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu Action</td>
<td>BusinessInteraction.SEND_REQUEST</td>
<td>Send a request from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Business Interaction</td>
<td>Menu Action</td>
<td>BusinessInteraction.VALIDATE</td>
<td>Validate a business interaction from the Business Interaction Summary page.</td>
</tr>
<tr>
<td>Common Configuration</td>
<td>Menu Action</td>
<td>Configuration.MAINTAIN_CONFIG_ITEMS</td>
<td>Maintain configuration items from the hierarchy in the Configuration Summary page.</td>
</tr>
<tr>
<td>Condition</td>
<td>Button Action</td>
<td>Condition.DELETE</td>
<td>Delete a condition from the Condition List page.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Menu Action</td>
<td>TDMFacility.ACTIVATE</td>
<td>Activate the Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Menu Action</td>
<td>TDMFacility.DEACTIVATE</td>
<td>De-activate the Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Menu Action</td>
<td>TDMFacility.COMPLETE</td>
<td>Complete the Design version of Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Menu Action</td>
<td>TDMFacility.CANCEL</td>
<td>Cancel the Design version of Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button Action</td>
<td>TDMFacility.DELETE</td>
<td>Delete the connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button Action</td>
<td>TDMConnectivityDetails.SAVE</td>
<td>Save the TDM Connectivity details.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button Action</td>
<td>TDMConnectivityDetails.SAVE_AND_CLOSE</td>
<td>Save the TDM Connectivity details and navigate back to the view mode.</td>
</tr>
</tbody>
</table>
### Table 3–2 (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>Button Action</td>
<td>TDMConnectivityDetails.EDIT</td>
<td>Edit the TDM Connectivity details.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button Action</td>
<td>TDMConnectivityCreate.SAVE</td>
<td>Create the TDM Connectivity.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button Action</td>
<td>TDMConnectivityCreate.SAVE_AND_CLOSE</td>
<td>Create the TDM Connectivity and navigate back to the Search page.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button Action</td>
<td>TDMConnectivityCreate.EDIT</td>
<td>Open the TDM Connectivity details in the Edit mode in the Create Page.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Button Action</td>
<td>TDMConnectivityCreate.DELETE</td>
<td>Delete the TDM Connectivity from the New Channelized Connectivity table.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Menu Action</td>
<td>TDMFacility.DISCONNECT</td>
<td>Disconnect Connectivity.</td>
</tr>
<tr>
<td>Cross Connect</td>
<td>Button Action</td>
<td>CrossConnectsView.DELETE</td>
<td>Delete the cross connect from the Cross Connect Visual page.</td>
</tr>
<tr>
<td>Cross Connect</td>
<td>Button Action</td>
<td>CrossConnectsView.CREATE_CROSS_CONNECTS</td>
<td>Create a cross connect in the Cross Connect Visual page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Button Action</td>
<td>CustomNetworkAddress.DELETE</td>
<td>Delete a custom network address from search results.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Menu Action</td>
<td>CustomNetworkAddress.ACTIVATE</td>
<td>Activate a custom network address from the Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Menu Action</td>
<td>CustomNetworkAddress.DEACTIVATE</td>
<td>Deactivate a custom network address from the Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Menu Action</td>
<td>CustomNetworkAddress.VALIDATE</td>
<td>Validate a custom network address from the Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Menu Action</td>
<td>CustomNetworkAddress.ASSOCIATE_CNA</td>
<td>Add a child custom network address to the hierarchy in the Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Network Address</td>
<td>Menu Action</td>
<td>CustomNetworkAddress.DISASSOCIATE_CNA</td>
<td>Remove a child custom network address from the hierarchy in the Custom Network Address Summary page.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Button Action</td>
<td>CustomObject.DELETE</td>
<td>Delete a custom object from search results.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Menu Action</td>
<td>CustomObject.ACTIVATE</td>
<td>Activate a custom object from the Custom Object Summary page.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Menu Action</td>
<td>CustomObject.DEACTIVATE</td>
<td>Deactivate a custom object from the Custom Object Summary page.</td>
</tr>
</tbody>
</table>
Table 3–2  (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custom Object</td>
<td>Menu Action</td>
<td>CustomObject.VALIDATE</td>
<td>Validate a custom object from the Custom Object Summary page.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Menu Action</td>
<td>CustomObject.ASSOCIATE_CO</td>
<td>Add a child custom object to the hierarchy in the Custom Object Summary page.</td>
</tr>
<tr>
<td>Custom Object</td>
<td>Menu Action</td>
<td>CustomObject.DISASSOCIATE_CO</td>
<td>Remove a child custom object from the hierarchy in the Custom Object Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Button Action</td>
<td>EquipmentHolder.DELETE</td>
<td>Delete an equipment holder from search results.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Button Action</td>
<td>Equipment.DELETE</td>
<td>Delete an Equipment entity from search results.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Button Action</td>
<td>Equipment.DUPLICATE</td>
<td>Duplicate an Equipment entity from search results.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Menu Action</td>
<td>Equipment.ACTIVATE</td>
<td>Activate an Equipment entity from the Equipment Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Menu Action</td>
<td>Equipment.DEACTIVATE</td>
<td>Deactivate an Equipment entity from the Equipment Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Menu Action</td>
<td>Equipment.VALIDATE</td>
<td>Validate an Equipment entity from the Equipment Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Button Action</td>
<td>Equipment.ASSOCIATE</td>
<td>Associate an entity with Equipment from the Equipment portlet on the Entity Summary Page and/or from the hierarchy in the Physical Device Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Menu Action</td>
<td>Equipment.DISASSOCIATE</td>
<td>Disassociate Equipment from the hierarchy in the Physical Device Summary page.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Button Action</td>
<td>Equipment.DISASSOCIATE</td>
<td>Disassociate the Equipment.</td>
</tr>
<tr>
<td>Inventory Group</td>
<td>Button Action</td>
<td>InventoryGroup.DELETE</td>
<td>Delete an inventory group from search results.</td>
</tr>
<tr>
<td>Inventory Group</td>
<td>Button Action</td>
<td>InventoryGroupItem.DELETE</td>
<td>Delete an inventory group from search results.</td>
</tr>
<tr>
<td>Inventory Group</td>
<td>Menu Action</td>
<td>InventoryGroup.ACTIVATE</td>
<td>Activate an inventory group from the Inventory Group Summary page.</td>
</tr>
<tr>
<td>Inventory Group</td>
<td>Menu Action</td>
<td>InventoryGroup.DEACTIVATE</td>
<td>Deactivate an inventory group from the Inventory Group Summary page.</td>
</tr>
<tr>
<td>Inventory Group</td>
<td>Menu Action</td>
<td>InventoryGroup.VALIDATE</td>
<td>Validate an inventory group from the Inventory Group Summary page.</td>
</tr>
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</table>
### Table 3–2 (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>Inventory Group</td>
<td>Button</td>
<td>InventoryGroup.ASSOCIATE</td>
<td>Associate an entity with an inventory group from the Inventory Group portlet on the Entity Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory Group</td>
<td>Menu</td>
<td>InventoryGroup.ASSOCIATE_IG</td>
<td>Add a child inventory group to the hierarchy in the Inventory Group Summary page and/or add a parent inventory group to the Parent Inventory Group section in the Inventory Group Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory Group</td>
<td>Menu</td>
<td>InventoryGroup.DISASSOCIATE_IG</td>
<td>Remove a child inventory group from the hierarchy in the Inventory Group Summary page and/or remove a parent inventory group from the Parent Inventory Group section in the Inventory Group Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory Group</td>
<td>Button</td>
<td>InventoryGroupItem.ASSOCIATE</td>
<td>Associate inventory group items from the Inventory Group Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
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<tr>
<td>Involvement</td>
<td>Button</td>
<td>Involvement.DELETE</td>
<td>Delete an involvement from an entity Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Device</td>
<td>Button</td>
<td>LogicalDevice.DELETE</td>
<td>Delete a logical device from search results.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Device</td>
<td>Button</td>
<td>DeviceMapping.DELETE</td>
<td>Map a physical port or connector to a device interface from the Device Interface Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu</td>
<td>LogicalDevice.ACTIVATE</td>
<td>Activate a logical device from the Logical Device Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu</td>
<td>LogicalDevice.DEACTIVATE</td>
<td>Deactivate a logical device from the Logical Device Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu</td>
<td>LogicalDevice.VALIDATE</td>
<td>Validate a logical device from the Logical Device Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Device</td>
<td>Button</td>
<td>LogicalDevice.DUPLICATE</td>
<td>Duplicate a logical device from the search results page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu</td>
<td>LogicalDevice.ASSOCIATE_LD</td>
<td>Add a logical device to the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Physical Device Summary page.</td>
</tr>
<tr>
<td></td>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu</td>
<td>LogicalDevice.DISASSOCIATE_LD</td>
<td>Remove a logical device from the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Physical Device Summary page.</td>
</tr>
</tbody>
</table>

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### Table 3–2 (Cont.) Resource Permissions

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>Logical Device</td>
<td>Menu Action</td>
<td>DeviceInterface.ASSOCIATE_DI</td>
<td>Add a device interface to the hierarchy in the Logical Device Summary page and/or to the hierarchy in the Device Interface Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu Action</td>
<td>LogicalDevice.MAINTAIN_MAPPINGS</td>
<td>Maintain mappings from the hierarchy in the Logical Device Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Menu Action</td>
<td>DeviceInterface.DISASSOCIATE_DI</td>
<td>Remove a device interface from the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Device Interface Summary page.</td>
</tr>
<tr>
<td>Logical Device</td>
<td>Button Action</td>
<td>LogicalDevice.ASSOCIATE</td>
<td>Associate the Logical Device.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Button Action</td>
<td>LogicalDeviceAccount.DELETE</td>
<td>Delete a logical device account from search results.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Menu Action</td>
<td>LogicalDeviceAccount.ACTIVATE</td>
<td>Activate a logical device account from the Logical Device Account Summary page.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Menu Action</td>
<td>LogicalDeviceAccount.DEACTIVATE</td>
<td>Deactivate a logical device account from the Logical Device Account Summary page.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Menu Action</td>
<td>LogicalDeviceAccount.VALIDATE</td>
<td>Validate the logical device account from the Logical Device Account Summary page.</td>
</tr>
<tr>
<td>Logical Device Account</td>
<td>Button Action</td>
<td>LogicalDeviceAccount.ASSOCIATE</td>
<td>Associate an entity with a logical device account from the Logical Device Account portlet on the Entity Summary page.</td>
</tr>
<tr>
<td>Logical Device Account Configuration</td>
<td>Menu Action</td>
<td>LDAccountConfigurationVersion.APPROVE</td>
<td>Approve a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
<tr>
<td>Logical Device Account Configuration</td>
<td>Menu Action</td>
<td>LDAccountConfigurationVersion.AUTO_CONFIGURE</td>
<td>Auto Configure a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
<tr>
<td>Logical Device Account Configuration</td>
<td>Menu Action</td>
<td>LDAccountConfigurationVersion.CANCEL</td>
<td>Cancel a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
<tr>
<td>Logical Device Account Configuration</td>
<td>Menu Action</td>
<td>LDAccountConfigurationVersion.COMPLETED</td>
<td>Complete a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
<tr>
<td>Logical Device Account Configuration</td>
<td>Menu Action</td>
<td>LDAccountConfigurationVersion.CREATE_NEW_VERSION</td>
<td>Create a new configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
<tr>
<td>Logical Device Account Configuration</td>
<td>Menu Action</td>
<td>LDAccountConfigurationVersion.ISSUE</td>
<td>Issue a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
</tbody>
</table>
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### Logical Device Configuration

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<tr>
<th>Menu Action</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resume</td>
<td>LDAccountConfigurationVersion.RESUME</td>
<td>Resume a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
<tr>
<td>Suspend</td>
<td>LDAccountConfigurationVersion.SUSPEND</td>
<td>Suspend a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
<tr>
<td>Validate</td>
<td>LDAccountConfigurationVersion.VALIDATE</td>
<td>Validate a Configuration from LogicalDeviceAccount Configuration Summary page.</td>
</tr>
<tr>
<td>Approve</td>
<td>LogicalDeviceConfigurationVersion.APPROVE</td>
<td>Approve a configuration from the Logical Device Configuration Summary page.</td>
</tr>
<tr>
<td>Auto Configure</td>
<td>LogicalDeviceConfigurationVersion.AUTO_CONFIGURE</td>
<td>Auto-configure a configuration from the Logical Device Configuration Summary page.</td>
</tr>
<tr>
<td>Cancel</td>
<td>LogicalDeviceConfigurationVersion.CANCEL</td>
<td>Cancel a configuration from the Logical Device Configuration Summary page.</td>
</tr>
<tr>
<td>Complete</td>
<td>LogicalDeviceConfigurationVersion.COMPLETE</td>
<td>Complete a configuration from the Logical Device Configuration Summary page.</td>
</tr>
<tr>
<td>Create New Version</td>
<td>LogicalDeviceConfigurationVersion.CREATE_NEW_VERSION</td>
<td>Create a new configuration from the Logical Device Configuration Summary page.</td>
</tr>
<tr>
<td>Issue</td>
<td>LogicalDeviceConfigurationVersion.ISSUE</td>
<td>Issue a configuration from the Logical Device Configuration Summary page.</td>
</tr>
<tr>
<td>Resume</td>
<td>LogicalDeviceConfigurationVersion.RESUME</td>
<td>Resume a configuration from the Logical Device Configuration Summary page.</td>
</tr>
<tr>
<td>Suspend</td>
<td>LogicalDeviceConfigurationVersion.SUSPEND</td>
<td>Suspend a configuration from the Logical Device Configuration Summary page.</td>
</tr>
<tr>
<td>Validate</td>
<td>LogicalDeviceConfigurationVersion.VALIDATE</td>
<td>Validate a configuration from the Logical Device Configuration Summary page.</td>
</tr>
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</table>

### Media Button

<table>
<thead>
<tr>
<th>Button Action</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delete</td>
<td>Media.DELETE</td>
<td>Delete a media file from search results.</td>
</tr>
<tr>
<td>Delete</td>
<td>MediaStream.DELETE</td>
<td>Delete a media stream from search results.</td>
</tr>
<tr>
<td>Duplicate</td>
<td>MediaStream.DUPLICATE</td>
<td>Duplicate a media stream from search results.</td>
</tr>
<tr>
<td>Activate</td>
<td>MediaStream.ACTIVATE</td>
<td>Activate a media stream from the Media Stream Summary page.</td>
</tr>
<tr>
<td>Deactivate</td>
<td>MediaStream.DEACTIVATE</td>
<td>Deactivate a media stream from the Media Stream Summary page.</td>
</tr>
<tr>
<td>Validate</td>
<td>MediaStream.VALIDATE</td>
<td>Validate a media stream from the Media Stream Summary page.</td>
</tr>
</tbody>
</table>
Table 3–2  (Cont.) Resource Permissions

<table>
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<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Resource</td>
<td>Button</td>
<td>MediaResource.DUPLICATE</td>
<td>Duplicate a media resource from the Media Resource portlet on the Entity Summary page.</td>
</tr>
<tr>
<td>Media Resource</td>
<td>Button</td>
<td>MediaResource.DELETE</td>
<td>Delete a media resource from the Media Resource portlet on the Entity Summary page.</td>
</tr>
<tr>
<td>Network</td>
<td>Button</td>
<td>Network.DELETE</td>
<td>Delete a network from search results.</td>
</tr>
<tr>
<td>Network</td>
<td>Menu</td>
<td>Network.ACTIVATE</td>
<td>Activate a network from the Network Summary page.</td>
</tr>
<tr>
<td>Network</td>
<td>Menu</td>
<td>Network.DEACTIVATE</td>
<td>Deactivate a network from the Network Summary page.</td>
</tr>
<tr>
<td>Network</td>
<td>Menu</td>
<td>Network.VALIDATE</td>
<td>Validate a network from the Network Summary page.</td>
</tr>
<tr>
<td>Network</td>
<td>Menu</td>
<td>NetworkNodeEdge.DISASSOCIATE</td>
<td>Disassociate a network node/node edge from the Network Map View and Network View.</td>
</tr>
<tr>
<td>Network</td>
<td>Menu</td>
<td>NetworkNodeEdge.UPDATE_ASSOCIATION</td>
<td>Update a network node/node edge association from the Network Map View &amp; Network View.</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>Menu</td>
<td>NetworkConfigurationVersion.APPROVE</td>
<td>Approve a configuration from the Network Configuration Summary page.</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>Menu</td>
<td>NetworkConfigurationVersion.AUTOCONFIGURE</td>
<td>Auto-configure a configuration from the Network Configuration Summary page.</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>Menu</td>
<td>NetworkConfigurationVersion.CANCEL</td>
<td>Cancel a configuration from the Network Configuration Summary page.</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>Menu</td>
<td>NetworkConfigurationVersion.COMplete</td>
<td>Complete a configuration from the Network Configuration Summary page.</td>
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<td>NetworkConfigurationVersion.CREATE_NEW_VERSION</td>
<td>Create a new configuration from the Network Configuration Summary page.</td>
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<td>Menu</td>
<td>NetworkConfigurationVersion.ISSUE</td>
<td>Issue a configuration from the Network Configuration Summary page.</td>
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<td>Resume a configuration from the Network Configuration Summary page.</td>
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<tr>
<td>Component</td>
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<td>Purpose</td>
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<td>Suspend a configuration from the Network Configuration Summary page.</td>
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<td>Action</td>
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<td>Network Configuration</td>
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<td>NetworkConfigurationVersion.VALIDATE</td>
<td>Validate a configuration from the Network Configuration Summary page.</td>
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<td>Party</td>
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<td>Party.DELETE</td>
<td>Delete a party from search results.</td>
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<td>Action</td>
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<td>Party</td>
<td>Button</td>
<td>Party.EDIT</td>
<td>Edit a party from Party search results or the Service Summary page.</td>
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<td>Action</td>
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<td>Party.ACTIVATE</td>
<td>Activate a party from the Party Summary page.</td>
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<td>Action</td>
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<td>Party.DEACTIVATE</td>
<td>Deactivate a party from the Party Summary page.</td>
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<td>Validate a party from the Party Summary page.</td>
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<td>Associate an entity with a party from the Party portlet on the Entity Summary page.</td>
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<td>Button</td>
<td>PhysicalDevice.DELETE</td>
<td>Delete a physical device from search results.</td>
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<td>Action</td>
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<td>Physical Device</td>
<td>Button</td>
<td>PhysicalDevice.DUPLICATE</td>
<td>Duplicate a physical device from search results.</td>
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<td></td>
<td>Action</td>
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<td>Menu</td>
<td>PhysicalDevice.ACTIVATE</td>
<td>Activate physical device from the Physical Device Summary page.</td>
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<td>Action</td>
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<td>PhysicalDevice.DEACTIVATE</td>
<td>Deactivate a physical device from the Physical Device Summary page.</td>
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<td>PhysicalDevice.VALIDATE</td>
<td>Validate a physical device from the Physical Device Summary page.</td>
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<td>PhysicalDevice.ASSOCIATE</td>
<td>Add a physical device to the Equipment Summary page and/or to the hierarchy in the Logical Devie Summary page and/or to the Physical Device portlet.</td>
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<td>Add a physical device to the hierarchy in the Physical Device Summary page.</td>
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<td>Physical Device</td>
<td>Menu</td>
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<td>Remove a physical device from the Equipment Summary page and/or from the hierarchy in the Logical Device Summary page and/or from the Physical Device portlet.</td>
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<td>PhysicalDevice.MAINTAIN_MAPPINGS</td>
<td>Maintain mappings from the hierarchy in the Physical Device Summary page.</td>
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<td>Associate the Physical Device in Equipment Summary Page.</td>
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<td>PhysicalJumperView.CREATE_PHYSICALJUMPER</td>
<td>Create Physical Jumper.</td>
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<td>Delete a pipe from search results.</td>
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<td>Duplicate a pipe from search results.</td>
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<td>Activate a pipe from the Pipe Summary page.</td>
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<td>Deactivate a pipe from the Pipe Summary page.</td>
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<td>Associate a signal structure to a pipe from the Pipe Summary page.</td>
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<td>Pipe.REMOVE_SIGNAL_STRUCTURE</td>
<td>Disassociate a signal structure from a pipe from the Pipe Summary page.</td>
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<td>Update Capacity from Pipe Summary page.</td>
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<td>Pipe.MAINTAIN_DIRECTIONALITY</td>
<td>Create Directionality from Pipe Summary page.</td>
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<td>Pipe.MAINTAIN_TERMINATION_RESOURCES</td>
<td>Delete TPs from Pipe TP Summary page.</td>
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<td>PipeProvides.DELETE</td>
<td>Delete on Pipe Provides page.</td>
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<td>PipeTrail.ASSOCIATE</td>
<td>Associate a pipe trail from the Manual Configure page.</td>
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<td>PipeTrail.DELETE</td>
<td>Delete a pipe trail from the Manual Configure page.</td>
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<td>PipeTrail.UPDATE</td>
<td>Update a pipe trail from the Manual Configure page.</td>
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<td>Pipe.DISCONNECT</td>
<td>Disconnect Pipe.</td>
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<td>Pipe Configuration</td>
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<td>PipeConfigurationVersion.APPROVE</td>
<td>Approve a configuration from the Pipe Configuration Summary page.</td>
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<td>Pipe Configuration</td>
<td>Menu</td>
<td>PipeConfigurationVersion.AUTO_CONFIGURE</td>
<td>Auto-configure a configuration from the Pipe Configuration Summary page.</td>
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### Table 3-2 (Cont.) Resource Permissions

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<tr>
<th>Component</th>
<th>Type</th>
<th>Permission Name</th>
<th>Purpose</th>
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<td>Cancel a configuration from the Pipe Configuration Summary page.</td>
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<td>Complete a configuration from the Pipe Configuration Summary page.</td>
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<td>PipeConfigurationVersion.CREATE_NEW_VERSION</td>
<td>Create a new configuration from the Pipe Configuration Summary page.</td>
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<td>Issue a configuration from the Pipe Configuration Summary page.</td>
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<td>Resume a configuration from the Pipe Configuration Summary page.</td>
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<td>Suspend a configuration from the Pipe Configuration Summary page.</td>
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<td>PipeConfigurationVersion.VALIDATE</td>
<td>Validate a configuration from the Pipe Configuration Summary page.</td>
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<td>PipeConfigurationVersion.ACTIONS</td>
<td>Actions on the Pipe Config Trail List from the Pipe Configuration Summary page.</td>
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<td>Place.DELete</td>
<td>Delete a place from search results.</td>
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<td>Action</td>
<td>Place.EDIT</td>
<td>Edit a place from search results or an entity Summary page.</td>
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<td>Place</td>
<td>Menu</td>
<td>Place.ASSOCIATE</td>
<td>Associate a place from the hierarchy in the Place Summary page and/or Place portlet.</td>
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<td>Place</td>
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<td>Place.ASSOCIATE_PLACE</td>
<td>Add a child place to the hierarchy in the Place Summary page.</td>
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<td>Place.DISASSOCIATE_PLACE</td>
<td>Remove a child place from the hierarchy in the Place Summary page.</td>
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<td>Approve a configuration from the Place Configuration Summary page.</td>
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<td>Auto-configure a configuration from the Place Configuration Summary page.</td>
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<td>Menu</td>
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### Table 3–2 (Cont.) Resource Permissions

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<th>Component</th>
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<td>Create a new configuration from the Place Configuration Summary page.</td>
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<td>Issue a configuration from the Place Configuration Summary page.</td>
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<td>Action</td>
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<td>Resume a configuration from the Place Configuration Summary page.</td>
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<td>Suspend a configuration from the Place Configuration Summary page.</td>
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<tr>
<td>Place Configuration</td>
<td>Action</td>
<td>PlaceConfigurationVersion.VALIDATE</td>
<td>Validate a configuration from the Place Configuration Summary page.</td>
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<td>Delete a product from search results.</td>
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<td>Product.ACTIVATE</td>
<td>Activate a product from the Product Summary page.</td>
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<tr>
<td>Product</td>
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<td>Product.DEACTIVATE</td>
<td>Deactivate a product from the Product Summary page.</td>
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<td>Product.VALIDATE_PRODUCT</td>
<td>Validate a product from the Product Summary page.</td>
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<td>Product</td>
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<td>Product.ASSOCIATE_PRODUCT</td>
<td>Associate a product to the hierarchy in the Product Summary page.</td>
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<td>Product.DISASSOCIATE_PRODUCT</td>
<td>Disassociate a product from the hierarchy in the Product Summary page.</td>
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<td>Delete the Property Location.</td>
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<td>LocationDetails.EDIT</td>
<td>Edit the Location Details.</td>
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<td>LocationDetails.VALIDATE_ADDRESS</td>
<td>Validate the Address provided in Location Details Page.</td>
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<td>LocationDetails.CREATE_NEC</td>
<td>Create Network Entity Code.</td>
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<td>LocationDetails.DELETE_NEC</td>
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<td>Delete a reservation from the Reservations list.</td>
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<td>Delete a role from the Roles list in an entity Summary page.</td>
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<td>Cancel a service from the Service Summary page.</td>
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<td>Add a service to the hierarchy in the Service Summary page.</td>
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<td>Approve a configuration from the Service Configuration Summary page.</td>
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<td>Auto-configure a configuration from the Service Configuration Summary page.</td>
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<td>Cancel a configuration from the Service Configuration Summary page.</td>
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<td>Telephone Number</td>
<td>Button</td>
<td>TelephoneNumber.DELETE</td>
<td>Delete a telephone number from search results.</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>Menu</td>
<td>TelephoneNumber.ACTIVATE</td>
<td>Activate a telephone number from the Telephone Number Summary page.</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>Menu</td>
<td>TelephoneNumber.DEACTIVATE</td>
<td>Deactivate a telephone number from the Telephone Number Summary page.</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>Menu</td>
<td>TelephoneNumber.SNAPBACK</td>
<td>Configure the Snapback action on a telephone number from the Telephone Number Summary page.</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>Menu</td>
<td>TelephoneNumber.VALIDATE</td>
<td>Validate a telephone number from the Telephone Number Summary page.</td>
</tr>
</tbody>
</table>

Application Role Management

For any administrative tasks related to Application Roles using Enterprise Manager Console, it is recommended to take a backup of system-jaxn-data.xml located in the Domain_home/config/fmwconfig/ directory.

All the changes made to Application Roles will be in effect immediately, without a restarting the application server.

Creating the Application Role

To create Application Role, perform the following.

1. Login to Enterprise Manager Console.
2. Navigate to Inventory Application on the left navigation bar.
4. Click the Create button to create a new Application Role.
5. In the New Application Role page, enter the role details.
6. To associate a user to the application role, click the Add User button. Click the Search button, of the User Name field, to view the available users in the mapping page.
7. From the Available Users field, select the user to be assigned to the new application role and click the Move button to move the user to the Selected Users field.
8. Click OK.

9. On the Application Role Creation page, click the OK button to complete the association of a user to an application role.

**Updating the Application Role**

To update the Application Role, perform the following:

1. Login to Enterprise Manager Console.

2. Navigate to Inventory Application on the left navigation bar.


4. In the Application Roles page, click the Search button, of the Role Name field, to view a list of existing application roles.

5. Click the application role you want to update and click the Edit button to navigate to the Edit Application Role page.

   From the Edit Application Role page, you can add an existing Application Role/User/Group to an application role.

6. In this case, we shall add a new user to resourceAdmin application Role. Click on Add User to view a popup.

7. Select a user, click the Move button to move the user to the Select Users box and click OK.

8. Click OK in the Edit Application Role page to add the user to Application Role.

**Deleting the Application Role**

To delete the Application Role, perform the following:

1. Login to Enterprise Manager Console.

2. Navigate to Inventory Application on the left navigation bar.


4. In the Application Roles page, click the Search button to view a list of existing application roles.

5. Click on the application role you want to delete and click Delete.

6. In the confirmation popup page click Yes to delete the application role.

   The role is deleted.

**Application Policy Management**

For any administrative tasks related to Application Policies using Enterprise Manager Console, it is recommended to take a backup of system-jaxn-data.xml located under Domain_Home/config/fmwconfig/.

All the changes made to Application Policies will be in effect immediately, without restarting the application server.

**Creating the Policy**

A Policy can be created by adding User Interface page permissions and Action permissions to an existing policy.
Adding User Interface (UI) Page Permissions to an Existing Policy

To add User Interface (UI) page permissions to an existing policy, perform the following:

1. Login to Enterprise Manager Console.
2. Navigate to **Inventory Application** on the left navigation bar.
3. Navigate to **Security Policies** page. Right-click `oracle.communications.inventory` and select **Security>Application Policies**.
   
   The Application Policies List page appears.
4. Click the **Create** button to create a new Application Policy.
   
   The Create Application Grant page appears.
5. Click the **Add** button, in the **Grant Details** section.
   
   The Add Permission popup appears.
6. Enter the `resource_name` in the **Resource Name** field and click the **Search** button, of the Resource Name field, to list all the resources that start with `resource_name`.

   **Note:** The search is NOT cases sensitive.

7. From the Search results section, all the resources that start with `resource_name` are displayed. Select a resource to see details in the **Customize** section.
6. If customization is required, enter the custom information and click **OK**.
6. If customization is not required, click **OK**.
8. The resource is added to the **Permissions** list.
9. Repeat steps 7 and 8 for the remaining resources that start with `resource_name`.
10. Click the **Add Application Role** button in the **Grantee** section.
11. Select the `applicationrole_name` and click **Move**, to move the application role to the **Selected Roles** section.
12. Click **OK** to complete the Application Grant Creation process.

Adding Action Permissions to an Existing Policy

To add Action permissions to an existing policy, perform the following:

1. Login to Enterprise Manager Console.
2. Navigate to **Inventory Application** on the left navigation bar.
3. Navigate to **Security Policies** page. Right-click `oracle.communications.inventory` and select **Security>Application Policies**.
   
   The Application Policies List page appears.
4. Click the **Search** button, of the Permissions field, to search for existing policies.
   
   The Edit Application Grant page appears.
5. Select the Policy to be modified and click the **Edit** button.
   
   The Applications Grant page appears.
6. Click the **Add** button to add a new Permission.
   The Add Permission popup page appears.

7. In the **Customize** section, enter customized data in the following fields:
   - Permission Class
   - Resource Name
   - Permission Actions
   Click **OK** to add the permissions.

8. Click **OK** to complete the Add Application Permissions process.

**Updating the Policy Role**
To update the Policy Role, perform the following:

1. Login to Enterprise Manager Console.

2. Navigate to **Inventory Application** on the left navigation bar.

3. Navigate to **Security Policies** page. Right-click **oracle.communications.inventory** and select **Security>Application Policies**.

4. In the **Application Policies** page, click the **Search** button, of the Permission field, to view a list of existing application policies.

5. Select the application policy you want to edit and click the **Edit** button to navigate to the **Edit Application Grant Page** page.
   From the **Edit Application Role** page, you can add/remove the following aspects of a policy:
   - **Permissions** (TaskFlow permissions or Resource Permissions). TaskFlow Permissions are used for UI pages whereas Resource Permissions are used for UI Actions.
   - **Grantee** (User/Group/Role). Note that if multiple Roles/Groups are associated to a Policy, the Application Policy will be applicable to the user only if the user is part of all Roles/Groups.

6. Click the **Add** button to add Permissions.
   The Add Permissions page appears.

7. Enter **TelephoneNumber** in the **Resource Name** section and click the **Search** button to view all the UI resources having TelephoneNumber in their name.

8. Select the first row (TelephoneNumberEditFlow) and click **OK** to add the Permission to the role.

9. Repeat steps 7 and 8 to add **TelephoneNumberSearchResultsFlow** and **TelephoneNumberSummaryFlow**.

10. Click **OK** to update the policy.

**Deleting the Policy Role**
To delete the Application Role, perform the following:

1. Login to Enterprise Manager Console.

2. Navigate to **Inventory Application** on the left navigation bar.

4. In the Application Policies page, click the Search button, of the Permission field, to view a list of existing application policies.

5. Select the application role you want to delete and click Delete.

6. In the confirmation popup, click Yes to delete the application policy.
   The policy is deleted.

**Enabling Web Service Authentication at Runtime**

Web Service policies can be associated with deployed Web services using the Admin Console.

---

**Note:** Each time the application is deployed, the WS_Policies will have to be reconfigured.

---

This approach is better suited for applications that do not need frequent deployments.

**Creating the Application Role**

To create Application Role, perform the following.

1. Login to Admin Console.

2. In the left panel, under Domain Structure, select Deployments.
   The Summary of Deployments page appears.

3. Expand the deployed application.

4. Click the deployed Web service.

5. Select the Configuration tab and WS-Policy sub-tab.

6. Click on the + sign next to the Service Endpoint listed to see all the operations that the Web service supports.

7. Click on the Service Endpoint to configure the policy type for the Web service.

8. Select the policy for this end point and click Finish.

9. To attach a policy to an operation, click the operation. On the next screen select the policy that you would like to associate with the operation and click the > sign. The selected policy or policies get moved over to the Chosen Message Policies list. Click Next.

10. To use the same policy for inbound (i.e. requests) and outbound (i.e. response) message, click Next on: Configure the WS-Policy for the Inbound SOAP Message of an Operation & Configure the WS-Policy for the outbound SOAP Message of an Operation pages.

11. Click Finish.

**Partitioning the Database**

This section explains how to partition your UIM database by using user groups, within a security realm, to represent data partitions. Partitioning allows the user to control data access to an entity.
The UIM database management tasks include:

- Creating Partitions in the UIM Database
- Updating the system-config.properties File

Creating Partitions in the UIM Database

To create partitions in the UIM database, do the following:

1. Ensure you are logged into the WebLogic server administration console.
2. Click Lock and Edit.
   - The Summary of Security Realms page appears.
4. Select the security_realm.
   - The Settings for security_realm page appears.
5. Click the Users and Groups tab.
6. Click the Groups tab.
7. Click on New.
   - The Create a New Group page appears.
8. Enter the name for the new group. Use the following format for the new group: `ora_uim_partition#name`

   **Note:** If you do not use the `ora_uim_partition#name` prefix, UIM will not recognize the group as a partition and the partitioning will not work.

9. Click Ok.
   - Repeat steps 8 and 9 for each partition that is to be created.
   - The Settings for security_realm page appears.
10. Click the Users tab.
11. Click on the user name that you want to add to the new group.
    - The Settings for user_name page appears.
12. Click the Groups tab.
13. From the Parents Groups Available: list, select the group or groups that you want to add the user to and then click on the single arrow to move the group or groups to the Chosen: list.
14. Click Save.
15. Click Release Configuration.

   **Note:** Changes made to groups in WebLogic Server are immediate, but you must log out/log back into UIM to pick up the changes.

Updating the system-config.properties File

To update the system-config.properties file, do the following:
1. In the UIM_Home/config directory, open the system-config.properties file.
2. Set the uim.security.filter.enabled property value to True.
   
   uim.security.filter.enabled=true
This chapter provides monitoring and managing activities that you may need to perform after installing or upgrading the Oracle Communications Unified Inventory Management (UIM) software.

**Monitoring and Managing Overview**

The following list includes tasks that you may need to perform on both a single server environment and a clustered server environment.

- Sharing JAR Files
- Disabling the HTTP Port
- Setting the Database RowPrefetch Size
- Modifying the Default File Encoding
- Modifying the Time Zone
- Configuring Your Server’s Timers
- Registering Entities to the LifeCycle Listener
- Configuring Exception-Type-to-Error-Code Mappings
- Localizing UIM Error Messages
- Localizing the UIM Server and the Application Server
- Shutting Down an Application Server
- Configuring the SSL Policy/Certificate
- Resetting/Changing the WebLogic Server’s Database Connections
- Setting the Default Telephone Number Edit Mask
- Load Balancing a Clustered Server
- Configuring Topology Updates
- Configuring a Geocode Service
- Performing a UIM Service Purge
Sharing JAR Files

After you install UIM, you need to share specific JAR files with Oracle Communications Design Studio for use with tech packs. Each individual UIM System Administrator must determine the best method for sharing these JAR files, based on your company’s standard practices.

The following is a list of directories, with the JAR files that need to be shared:

- **UIM_Home/lib**
  - capacity_caps.jar
  - characteristic_caps.jar
  - consumable_caps.jar
  - core_caps.jar
  - groupenabled_caps.jar
  - ora_uim_commonLib.jar
  - persistence.jar
  - platform-persistence.jar
  - poms.jar
  - uim-api-framework.jar
  - uim-caps.jar
  - uim-entities.jar
  - uim-entity-xmlbean.jar
  - uim-managers.jar
  - uim-tools.jar
  - uim-webservices-framework.jar

- **POMSCClient/lib**
  - platformWsFramework.jar

- **WL_Home/server/lib**
  - log4j.jar
  - weblogic.jar
  - webservices.jar
  - wlclient.jar
  - xbean.jar

- **UIM_Home/cartridges/base**
  - ora_uim_baseextpts
  - ora_uim_basemeasurements
  - ora_uim_basephone_mgmt
  - ora_uim_baserulesets
  - ora_uim_basespecifications
  - ora_uim_canada_tn
Disabling the HTTP Port

After you install UIM, you can disable the HTTP (non-SSL) port if it was enabled during installation.

To disable the HTTP port:

1. Ensure you are logged into the WebLogic Administration Console.
2. Click Lock & Edit.
3. In the Domain Structure tree, expand Environment, and then click Servers. The Summary of Servers page appears.
4. Select the AdminServer.
   The Settings for AdminServer page appears.
5. Deselect the Listen Port Enabled setting.

Note: If you disable this port, then you must enable the SSL port.

6. Click Save.
7. Click Activate Changes.

Setting the Database RowPrefetch Size

You can specify the number of result set rows to prefetch.

1. Ensure you are logged into the WebLogic Administration Console.
2. Click Lock & Edit.
3. In the Domain Structure tree, expand Services, then expand JDBC and then click Data Sources.
   The Summary of JDBC Data Sources page appears.
4. Click the InventoryDataSource data source.
   The Settings for InventoryDataSource page appears.
5. Under Configuration, click the Connection Pool tab.
6. In the Properties field, enter the following:
   
   ```
   defaultRowPrefetch=50
   ```

7. Click Save.

8. Repeat steps 3 through 7 for InventoryTxDataSource.

9. Click Activate Changes.

10. Restart the WebLogic Application Server.

### Modifying the Default File Encoding

The UIM installer automatically sets the default file encoding to UTF8 for both full installations and upgrades. Check the startup script to verify that the default file encoding is set to UTF8. If this setting is incorrect, you can manually change the default file encoding setting in the CUSTOM SECTION segment of the startup script.

The following example shows the correct command syntax:

```java
JAVA_OPTIONS="$(JAVA_OPTIONS)-Dfile.encoding=UTF-8"
```

### Modifying the Time Zone

For full installations and upgrades, the UIM installer automatically sets the time zone for your locale. You should check your startup script to verify that the time zone setting for your locale is correct. If this setting is incorrect, add a line to the CUSTOM SECTION segment of your startup script. Enter the time zone ID in a format that is recognizable by the `java.util.TimeZone` object. The following example shows the command syntax:

```java
JAVA_OPTIONS="$(JAVA_OPTIONS) -Duser.timezone=Asia/Shanghai"
```

To view a list of valid time zone values, run the following command:

```java
import java.util.*;
public class TimeZoneList {
    public static void main(String[] args) {
        String[] sZoneIds = TimeZone.getAvailableIDs();
        List lZoneIdList = Arrays.asList(sZoneIds);
        Collections.sort(lZoneIdList);
        System.out.println(lZoneIdList);
    }
}
```

**Note:** If your application server and database server are located in different time zones, set the application server’s `user.timezone` value to match the database server’s time zone. The application server and database server time zones must match.
Configuring Your Server’s Timers

You can create and configure timers for:

- Monitoring whether the server that manages the cluster-aware timers is still running
- Custom extensions
- Cleaning up expired reservations
- Detecting telephone number jeopardy and publishing notification events

You configure the timers for your servers in the `UIM_Home/config/timers.properties` file. For more information, see the comments in the `timers.properties` file.

Registering Entities to the LifeCycle Listener

You can register all or a subset of entities for create, retrieve, update, and delete (CRUD) events. For example, you can specify that create events are generated when any entity is created. Likewise, you can specify that update events are generated only when Equipment and TelephoneNumber entities are updated.

Configuring Exception-Type-to-Error-Code Mappings

You can map error codes to exception types to help the persistence framework manage validation exceptions. For example, you can map error codes to `DuplicateEntityException` or to `AttributeRequiredException`.

You map error codes to exception types by using the `UIM_Home/config/resources/logging/exception.properties` file. For more information, see the comments in the `exception.properties` file.

Localizing UIM Error Messages

You can localize UIM error messages and items by modifying properties files in the `UIM_Home/config/resources/logging` directory.

Table 4–1 lists each property’s file name, error ID range, and the error messages or items it localizes.

<table>
<thead>
<tr>
<th>Property File Name</th>
<th>Error ID Range</th>
<th>Error Message or Item It Localizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>addressrange.properties</td>
<td>N/A</td>
<td>Property names for the address range cartridge</td>
</tr>
</tbody>
</table>
## Table 4–1  (Cont.) Properties Files for Localizing UIM Error Messages and Items.

<table>
<thead>
<tr>
<th>Property File Name</th>
<th>Error ID Range</th>
<th>Error Message or Item It Localizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>businessInteraction.properties</td>
<td>270000-279999</td>
<td>Error messages generated by the business interaction module</td>
</tr>
<tr>
<td>capacity.properties</td>
<td>320000-329999</td>
<td>Error messages generated by the capacity module</td>
</tr>
<tr>
<td>configaction.properties</td>
<td>240000-249999</td>
<td>Error messages generated by the configuration actions</td>
</tr>
<tr>
<td>configuration.properties</td>
<td>240000-249999</td>
<td>Tree node label names</td>
</tr>
<tr>
<td>connectivity.properties</td>
<td>260000-269999</td>
<td>Error messages generated by the connectivity module</td>
</tr>
<tr>
<td>consumer.properties</td>
<td>220000-229999</td>
<td>Error messages generated by the consumer module</td>
</tr>
<tr>
<td>countries.properties</td>
<td>N/A</td>
<td>Error messages generated by the countries module</td>
</tr>
<tr>
<td>custom.properties</td>
<td>280000-289999</td>
<td>Error messages generated by the custom module</td>
</tr>
<tr>
<td>enum.properties</td>
<td>N/A</td>
<td>Error messages generated by enumeration</td>
</tr>
<tr>
<td>equipment.properties</td>
<td>210000-219999</td>
<td>Error messages generated by the equipment module</td>
</tr>
<tr>
<td>extensibility.properties</td>
<td>180000-189999</td>
<td>Error messages generated by the extensibility module</td>
</tr>
<tr>
<td>inventoryGroup.properties</td>
<td>190000-199999</td>
<td>Error messages generated by the inventory group module</td>
</tr>
<tr>
<td>location.properties</td>
<td>420000-429999</td>
<td>Error messages generated by the location module</td>
</tr>
<tr>
<td>logicaldevice.properties</td>
<td>290000-299999</td>
<td>Error messages generated by the logical device module</td>
</tr>
<tr>
<td>media.properties</td>
<td>350000-359999</td>
<td>Error messages generated by the media module</td>
</tr>
<tr>
<td>mediaResource.properties</td>
<td>360000-369999</td>
<td>Error messages generated by the mediaResource module</td>
</tr>
<tr>
<td>network.properties</td>
<td>300000-309999</td>
<td>Error messages generated by the network module</td>
</tr>
<tr>
<td>number.properties</td>
<td>120000-129999</td>
<td>Error messages generated by the number module</td>
</tr>
<tr>
<td>party.properties</td>
<td>230000-239999</td>
<td>Error messages generated by the party role module</td>
</tr>
<tr>
<td>place.properties</td>
<td>250000-259999</td>
<td>Error messages generated by the place module</td>
</tr>
<tr>
<td>product.properties</td>
<td>390000-399999</td>
<td>Error messages generated by the product module</td>
</tr>
<tr>
<td>project.properties</td>
<td>140000-149999</td>
<td>Error messages generated by the project module</td>
</tr>
<tr>
<td>resource.properties</td>
<td>330000-339999</td>
<td>Resource entity names and resource-related error messages</td>
</tr>
</tbody>
</table>
Localizing the UIM Server and the Application Server

By default, the UIM and application server software display information in English. You can set the software to display information in another language by localizing text strings in the UIM properties files. For more information, see *UIM Developer’s Guide*.

Shutting Down an Application Server

UIM provides a script to shut down an application server. Use the following command or the `kill` command on the machine running the server to be shut down:

```
stopWebLogic.sh AdminUserID AdminPassword ServerName AdminServerURL
```

where `AdminServerURL` is in the format: `t3://ServerName:PortNumber`

For example:

```
stopWebLogic.sh weblogic password server03 t3://wp1snroyall:7101
```

Configuring the SSL Policy/Certificate

This section describes the configuration of SSL with Oracle WebLogic server. You must configure the new self-signed certificate in the WebLogic Administration Console.

To generate a new private key and self-signed certificate:

1. Navigate to the `WL_home/server/lib` directory and run the following command:

```
keytool -alias alias -genkey -keypass keypass -keystore keystore.jks -storepass keystorepass
```
where:
- **alias** is the name
- **keypass** is the password
- **keystore.jks** is the key store name
- **keystorepass** is the key store password

2. For **What is your first and last name?**, enter the application server IP address.

3. Provide relevant information for the following prompts:
   - What is the name of your organizational unit?
   - What is the name of your organization?
   - What is the name of your City or Locality?
   - What is the name of your State or Province?
   - What is the two-letter country code for this unit?

   A summary is displayed showing the information you entered, as shown in the example below:

   Is CN=IPAddressProvided, OU=OrganizationalUnit, O=Organization, L=Locality, ST=State, C=CountryCode correct?

   - Enter Yes.

   The keystore **keystore.jks** file is created.

To configure the new self-signed certificate in the WebLogic Administration Console:

1. Log in to the WebLogic server Administration Console using the Administrator credentials.

   The Home page appears.

2. Click **Lock & Edit**.

3. In the **Domain Structure** tree, expand **Environment** and then click **Servers**.

   The Summary of Servers page appears.

4. In the Servers table, click **AdminServer**.

   The Settings for AdminServer page appears.

   The **General** tab is displayed by default.

5. Select **SSL Listen Port Enabled**.

6. In the **SSL Listen Port** field, update the value as appropriate.

7. Click **Save**.

8. Click the **Keystores** tab.

9. Click **Change** and then from the **Keystores** list, select **Custom Identity and Java Standard Trust**.

10. Do the following:
   - In the **Custom Identity Keystore** field, enter the full path to your JKS file as follows:
     
     \( WL_{-}Home/server/lib/keystore.jks \)
   - In the **Custom Identity Keystore Type** field, enter **jks**.
In the **Custom Identity Keystore Passphrase** field, enter the keystore password.

- Leave the Java standard trust key as the default.
- Click **Save**.

11. Click the **SSL** tab.

12. Do the following:
   - From the **Identity and Trust Locations** list, select **Keystores**.
   - In the **Private Key Alias** field, enter the alias name.
   - In the **Private Key Passphrase** field, enter the private key password.
   - Click **Save**.
   - Click **Advanced**.
   - From the **Two Way Client Cert Behavior** list, select **Client Certs Requested But Not Enforced**.
   - Click **Save**.

13. Click **Activate Changes** in the Change Center in the left pane.

For more information on SSL configuration, see the WebLogic Server Administration Console Help.

---

**Note:** To replace a self-signed certificate with a production-quality certificate, or to import a trusted CA certificate into a keystore, run the following command:

```bash
keytool -import -alias alias -file cert.pem -keypass keypass -keystore keystore.jks -storepass keystorepass
```

**Note:** If you import a trusted CA certificate, no existing entry for `alias` should be in the keystore.

While accessing the application, the browser asks to install the certificate. Install the certificate in **Trusted Root Certification Authorities**.

---

**Resetting/Changing the WebLogic Server’s Database Connections**

You may need to reset the WebLogic server’s database connections when the following occurs:

- The database goes down while UIM is active
- UIM is started when the database is down

You reset the database connections by resetting the following JDBC data sources in the WebLogic server administration console: **InventoryDataSource**, **InventoryTxDataSource**, **CMDSInventoryPersistentDataSource**, **InventoryMapDataSource**, **InvJMSPersistentDataSource**, **mds-commsRepository**, and **UIMAdapterDataSource**.

To reset/change the database connections:

1. Log in to the WebLogic server administration console at:
Setting the Default Telephone Number Edit Mask

The default telephone number edit mask defines the length format for telephone numbers entered into the UIM system. This value is used when a Telephone Number specification fails to specify the extension point rule set Formatting - SpecManager.getEditMask.

The initial value is ######## (eight digits).

When the rule, the properties file, or both the rule and the properties file fail to provide a default edit mask, the UIM application forces the edit mask to the value in the number.properties file.

To modify the default telephone number edit mask:

1. Open UIM_Home/config/resources/logging.
2. Find the following entry:
   ```java
   number.defaultEditMask=##########
   ```
3. Change ####### to the desired length.
   For example, enter ####### to set the telephone number length to 10 digits. Each pound sign symbol (#) represents one digit.
Load Balancing a Clustered Server

The two methods for load balancing a clustered server include a hardware-based load balancer and a software-based proxy server.

Note: Oracle recommends using the hardware-based load balancer in production environments. Use either the hardware-based load balancer or the software-based proxy server in test or development environments.

Depending on the type of environment being deployed, do one of the following:
- Configure the load balancer
- Configure the proxy server

Configuring the Load Balancer

The requirement for the load balancer service is server affinity, also known as a sticky session. For example, a user starts a new session and it is load balanced to server #2. The subsequent HTTP requests in this session will be always routed to server #2 until server #2 fails.

For information on load balancer requirements, refer to the WebLogic document: Using WebLogic Server Clusters (see Load Balancing in a Cluster).

F5 BIG-IP Configuration


Model: BIG-IP LTM 6400
Software version: 9.4.0 Build 517.5

The following were configured in the BIG-IP load balancer:

Monitor, HTTP profile with rechunk, persistence profile with HTTP cookie insert, stream profile, OneConnect, TCP profile, pools, and a virtual server.

Cisco CSS 1150X Configuration Example

The following is an example configuration using Cisco CSS 1150X machines.

```
service uim01
port 8026
protocol tcp
string uim01
keepalive type http
keepalive maxfailure 2
keepalive retryperiod 2
keepalive uri '/inv'
ip address 10.143.34.53 (uim01 listening ip address)
active
  service uim02
  port 8026
  protocol tcp
  string uim02
  keepalive type http
```
Configuring Topology Updates

To configure topology updates, see the following topics:

- Configuring Asynchronous Topology Updates
- Turning Off Topology Updates
- Rebuilding Topology

Configuring Asynchronous Topology Updates

By default, the UIM topology is updated synchronously with business model changes. The topology and the business model are updated in single transaction to reflect new, changed, and deleted entities. See UIM Concepts and UIM Developer’s Guide for more information about topology.

You can configure UIM to update the topology asynchronously from business model updates. In this scenario, topology updates are performed in a separate transaction from business model updates. Configuring UIM to update the topology asynchronously can improve performance by reducing the system overhead associated with business model changes.

To configure UIM for asynchronous topology updates:

1. Stop the UIM application server.
2. Open the UIM_home/config/topologyProcess.properties file.
3. Change the value of the processSynchronous entry to false.
4. Save the file.

Turning Off Topology Updates

If you use topology infrequently or want to optimize UIM performance, you can turn off topology updates entirely. If updates are turned off and you want to use topology-related features, such as path analysis, you must first rebuild the topology.
See "Rebuilding Topology".

To turn off topology updates:

1. Stop the UIM application server.
2. Open the $UIM_home/config/topologyProcess.properties$ file.
3. Change the value of the disableTopology entry to true.
4. Save the file.

---

### Rebuilding Topology

If you have turned off topology updates, you must rebuild the topology before you can use any topology-related features, such as path analysis or visualization. You should schedule this as a maintenance task during time when no changes to the inventory will take place.

---

**Caution:** When you rebuild, the old topology is deleted and a new one created. You should back up your old topology to ensure that you can return to it if necessary.

---

If UIM is installed in a cluster environment, only one instance can be rebuilt at a time. When a rebuild is in progress on one instance, the rebuild operation is disabled for other instances.

You should schedule topology rebuilds during times when no changes to the inventory will take place.

To rebuild the UIM topology:

1. Log in to UIM.
2. In the Tasks panel, click Rebuild Topology.
   The Rebuild Topology page appears.
3. Click the Rebuild Topology button.
   The topology begins to be rebuilt. You can refresh the page to see status updates. When the process is complete, the page reverts to its original appearance and the Rebuild Topology button becomes available.
   You can check on the success of the rebuild by consulting the log at:

   $WLServer_Home/user_projects/domains/Domain_Home/uim/logs/****Server_uim_rebuild.log$

---

### Configuring a Geocode Service

To configure a geocode service, see the following topics:

- About Oracle eLocation
- Using a Geocode Service other than Oracle eLocation

---

**About Oracle eLocation**

UIM uses Oracle eLocation as the default geocode service, but you may opt to use a different geocode service. This section describes Oracle eLocation, and provides information about configuring UIM to use a different geocode service.
UIM interfaces with Oracle eLocation through an XML API request that is sent when you click Validate Address from within UIM when creating a location. Oracle eLocation returns an XML API response to UIM, indicating whether or not the address sent in the request was a valid address. For valid addresses, the response includes a geocode, which is a specific latitude and longitude that represents the location.

Using a Geocode Service other than Oracle eLocation

Upon installation, UIM is configured to use the Oracle eLocation geocode service. However, you can configure UIM to use a geocode service other than the default Oracle eLocation. For example, you may opt to use a third-party geocode service, or create a custom geocode service to use.

UIM is tightly coupled with Oracle eLocation. As a result, when you click Validate Address from within UIM when creating a location, UIM creates an XML request based on what the Oracle eLocation geocode service is expecting. Similarly, UIM expects an XML response based on what the Oracle eLocation geocode service returns. You can find detailed information about the eLocation XML request and response structures at the following Web site:

http://elocation.oracle.com/geocoder/concept.html

Using a Third-Party Geocode Service

To use a third-party geocode service, you can host your own eLocation service that:

- Handles the input XML request from UIM
- Creates a new XML request based on what the third-party geocode service is expecting
- Maps the data from the input XML request to the new XML request
- Sends the new XML request to the third-party geocode service
- Handles the response from the third-party geocode service
- Creates a new XML response based on what UIM is expecting
- Maps the data from the XML response to the new XML response
- Sends the new XML response to UIM

In this scenario, the eLocation service is just a middle tier that performs XML mapping, allowing UIM and the third-party geocode service to communicate.

For information on how to host your own eLocation service, see Oracle Spatial eLocation Quick Start Guide:


Using a Custom Geocode Service

To use a custom geocode service, you can host your own eLocation service that:

- Handles the input XML request from UIM
- Performs custom address analysis based on input XML request data to determine the geocode
- Creates an XML response based on what UIM is expecting
- Sends the new XML response to UIM
In this scenario, the eLocation service hosts the custom geocode service.

For information on how to host your own eLocation service, including how to develop the custom geocode service that runs on your eLocation service, see Oracle Spatial eLocation Quick Start Guide:


Configuring UIM

After your eLocation service is up and running, you must configure the UIM_Home/config/system-config.properties file to point to your eLocation service. This file defines several properties related to the geocode service that UIM is using, such as host name, user ID, password, and so forth. See “Updating the system-config.properties File” for more information.

Performing a UIM Service Purge

This section describes how to perform a service purge for UIM. The tool is available as part of the ora_uim_dbtools.jar file, located in the UIM_Home/util/ folder.

WARNING: Performing a service purge will delete database records permanently. Ensure that the database has been backed up before proceeding with any service purge operations.

Prerequisites

The prerequisites to perform a UIM service purge include the following:

- Gather the statistics of the schema before and after running purge scripts, use the following command:
  
  EXEC DBMS_STATS.gather_schema_stats(uim_db_schema_username);

- Provide admin privileges to the database user.

- Back up the database before executing purge scripts, as scripts will delete the records matching specified criteria permanently.

- Must have correct version of Java installed. See UIM Installation Guide for system requirements.

- Must run ServicePurgeScripts.sql on the database, which is part of ora_uim_dbtools.jar. ServicePurgeScripts.sql is located at ora_uim_dbtools.jar/sqlscripts.
  To install this script, use sqlplus to run the sql script, following are the steps to install the scripts:
  1. Log in to sqlplus.
  2. Execute following command:

    @<dbtools_extracted_dir>/sqlscripts/ServicePurgeScripts.sql

Configuring the UIM Service Purge Environment

Extract the ora_uim_dbtools.jar from the UIM Installer. Use the following command to extract the file:

jar -xvf ora_uim_dbtools.jar
After the file is extracted, edit the `servicePurge.sh` file and set the following variables:

1. Set `JAVA_HOME`.
2. Modify these parameters to point to the database:
   - `DB_HOSTNAME` - hostname of the database.
   - `DB_PORT` - database port
   - `DB_SERVICE_NAME` - database service name
3. Add extracted folder path to `<add-extracted-path>` for the `sqlFileLocation` variable.

### Database Tables

The following tables will be created to capture the Service Purge execution audit and error details:

- **Purge_Error_Log**
- **Purge_Audit**

**Purge_Error_Log**

This table is used to record errors/failures. The Service Purge can fail due to any invalid data created using tools which are not part of UIM. Such failures are recorded in this table. Table 4–2 contains the following information about the failure:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>Refers to purge helper’s ID</td>
</tr>
<tr>
<td>Error Code</td>
<td>SQL error code</td>
</tr>
<tr>
<td>Error Message</td>
<td>SQL error message</td>
</tr>
<tr>
<td>Reported Date</td>
<td>Time when error is recorded</td>
</tr>
</tbody>
</table>

**Purge_Audit**

This table records the Service Purge execution information. Table 4–3 contains the following detailed information for each attribute:

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOBID</td>
<td>For every execute or resume purge operation, a new record will be created in this table.</td>
</tr>
<tr>
<td>PURGETYPE</td>
<td>Defaulted to SERVICE.</td>
</tr>
<tr>
<td>START_DATE</td>
<td>The date when the purge process is initiated.</td>
</tr>
<tr>
<td>END_DATE</td>
<td>The date when the purge process is completed or cancelled.</td>
</tr>
<tr>
<td>USERNAME</td>
<td>The database schema user name through which the user will perform the operation.</td>
</tr>
</tbody>
</table>
Performing a UIM Service Purge

The Service Purge can be executed with the following options:

- Report
- Execute
- Status
- Suspend
- Resume
- Cancel

Report

The report option allows the user to specify criteria, determine the total number of records to be deleted, and estimate the amount of disc space to be freed up. This option provides the report, but does not actually purge the records.

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Description</th>
</tr>
</thead>
</table>
| CRITERIA       | This field contains the criteria string which will be generated by API, using criteria specified by the user. The field will also contain information about parallel processes and batch size specified by the user. For example: 

(ADMINSTATE LIKE 'CANCELLED') AND LASTMODIFIEDDATE <= to_date('07/30/2012:23:59:59', 'mm/dd/yyyy:hh24:mi:ss'):10 : 1000

Where the first part of the value is the criteria ("(ADMINSTATE LIKE 'CANCELLED') AND LASTMODIFIEDDATE <= to_date('07/30/2012:23:59:59', 'mm/dd/yyyy:hh24:mi:ss')") followed by the parallel processes ("10") and batch size ("1000"). |
| STATUS         | This is the status of the service purge, with one of the following values: INPROGRESS, SCHEDULED, CANCELLED, or FAILED. Following is a description for each of the status. INPROGRESS: the purge execution has started. SCHEDULED: a purge execution is scheduled. **Note:** When a scheduled purge execution starts, the STATUS and START_DATE will be updated to INPROGRESS and with the scheduled time respectively. CANCELLED: the purge execution has been cancelled. FAILED: the purge execution has failed, due to errors when one or more services were not processed, one of the reasons can be inconsistent data. |
| PARENTJOB      | New child record, created when a job is suspended and resumed, which will refer to the parent record through this attribute. For example, if a purge is executed and later suspended, there will be a record for this job with a status of SUSPENDED. When the purge is resumed, the older record which was suspended will be updated with a status of COMPLETED and a new record will be created which will refer to the completed record through JOBD. This will enable us to maintain a history of the operations that were performed. |
| REPORTNAME     | Report name generated when service purge execution is performed. |
The following arguments can be used during report generation:

- **-status**: This argument is optional. The status argument indicates the admin state of the service. As a value for this argument only "disconnected" can be mentioned. All services with a "disconnected" admin state will be considered for purge and by default services in a "cancelled" state will be considered for purge. For example:

```
./servicePurge.sh report -status disconnected
```

In the above example, all services with an admin state of disconnected or cancelled will be considered for report generation.

- **-ed**: This argument is mandatory. The ed argument stands for End Date, which means that services with a "last modified date" on or before this date will be considered for purge. The user must specify this date in the following format: [MM/DD/YYYY]. Following is an example:

```
./servicePurge.sh report -ed 02/21/2000
```

- **-sd**: This argument is optional. The sd argument stands for Start Date, which means that services with a "last modified date" on or before this date will be considered for purge. The date must be specified in the following format: [MM/DD/YYYY]. Following is an example:

```
./servicePurge.sh report -ed 02/21/2000 -sd 02/21/1990
```

- **-icsc**: This argument is optional. The isc argument stands for ignore cancelled service configuration, which means that all the cancelled service configuration versions, that were part of any "in-service" services, will not be purged and will be retained. Following is an example:

```
./servicePurge.sh report -ed 02/21/2000 -icsc
```

**Execute**

**WARNING:** Performing a service purge will delete database records permanently. Ensure that the database has been backed up before proceeding with any service purge operations.

The execute option enables the user to purge cancelled and (or) disconnected services, which includes rows from several tables listed below, using the specified criteria. The execute option always creates a report for the specified criteria and prompts the user for confirmation, if the purge end date specified is within one year range from now. The user cannot run more than one execute operation at a time. If the user wishes to start a new execute operation, then the old execute operation must be cancelled. In case of a suspended purge operation, no new execute operations can be initiated unless the suspended operation is cancelled.

The following is the list of tables which will be impacted:

- Service
- Service_Char
- Party_ServiceRel
- Place_ServiceRel
- ServiceAssignment
- ServiceConsumer
Performing a UIM Service Purge

Monitoring and Managing Unified Inventory Management

- ServiceReservation
- ServiceCondition
- ServiceConfigurationVersion
- BusinessInteraction
- ConfigurationInput
- TopologyProfile
- TopologyProfileEdge
- TopologyProfileNode
- ServiceConfigurationItem
- ServiceConfigurationItem_Char
- BusinessInteractionItem
- <Entity>Consumer
- <Entity>Assignment
- <Entity>ConfigRef

In the above list of tables, the <Entity>Consumer, <Entity>Assignment and <Entity>ConfigRef tables are applicable to the following entity resources, which can be consumed by Service:

- Custom Network Address
- Custom Object
- Device Interface
- Equipment
- Equipment Holder
- Geographic Location
- Geographic Site
- Logical Device Account
- Logical Device
- Network
- Physical Connector
- Physical Device
- Physical Port
- Pipe
- Service
- Telephone Number

When an execute operation is performed, a new record with a status of INPROGRESS is created in the Purge Audit table. After the execute operation completes successfully, the status is updated to COMPLETED.

The following arguments can be used during the execute operation:

- -status: This argument is optional. This argument indicates the admin state of the service. If not specified, cancelled services will be purged. The only value you can
specify for this argument is disconnected. If specified, cancelled services and disconnected services will be purged. For example:

```
./servicePurge.sh execute -status disconnected
```

- **-ed**: This argument is mandatory. This argument stands for purge end date, which indicates that services with a last modified date on or before the purge end date will be considered for purge. The purge end date must be specified with a format of MM/DD/YYYY. For example:

```
./servicePurge.sh execute -ed 02/21/2000
```

- **-sd**: This argument is optional. This argument stands for purge start date, which indicates that services with a last modified date on or after the purge start date will be considered for purge. The purge start date must be specified with a format of MM/DD/YYYY. For example:

```
./servicePurge.sh execute -ed 02/21/2000 -sd 02/21/1990
```

- **-icsc**: This argument is optional. This argument stands for ignore cancelled service configuration, which indicates that the purge operation will not purge cancelled service configurations for in-service services. For example:

```
./servicePurge.sh execute -ed 02/21/2000 -icsc
```

- **-force**: This argument is optional. This argument forces the service purge operation to run without prompting you for confirmation. For example:

```
./servicePurge.sh execute -ed 02/21/2000 -force
```

- **-s**: This argument is optional. This argument is used to schedule a date and time for the execution of the purge. The parameter value must be specified with a format of MM/DD/YYYY:HH:mm:ss. For example:

```
./servicePurge.sh execute -ed 02/21/2000 -s 06/26/2012:19:30:00
```

- **-c**: This argument is optional. This argument is used to set the commit size for the purge. By default, commit size is set to 1000. The max value you can specify for this argument is 10000. If you specify a value higher than 10000, the purge ignores the specified value and uses the max value of 10000. For example:

```
./servicePurge.sh execute -ed 02/21/2000 -c 200
```

- **-t**: This argument is optional. This argument is used to set the number of parallel processes to the given value. By default, the number of parallel processes is set to 10. The max value you can specify for this argument is 100. If you specify a value higher than 100, the purge ignores the specified value and uses the max value of 100. For example:

```
./servicePurge.sh execute -ed 02/21/2000 -t 15
```

---

**Note**: The service purge execute operation will exclude disconnected services, which have any of its Telephone Number resources Aging.

The service purge execute operation will only delete Entity Assignment information. It does not delete resources which were consumed/referred by the service.
Performing a UIM Service Purge

Status
The status option shows information for in-progress/suspended purge operations. It also provides the following information, related to the purge process before seeking confirmation on cancellation:

- Active service purge operation.
- Number of services purged.
- All the jobs related to service purge.
- Report file name which is generated while services are purged.
- Number of services purged.

Suspend
The suspend option will suspend the service purge operation and allow active parallel processes to continue to run and complete, but no new processes will be created. Before suspending the active service purge operation, the service purge will provide the following information:

- Active service purge operation.
- Number of services purged.
- All the jobs related to service purge.
- Report file name which is generated while services are purged.
- Number of services purged.

A suspended operation can be cancelled or resumed, but once the operation is in a suspended state, no new purge operations can be initiated. After an execute operation is suspended, the Purge Audit table Status record will be updated to a COMPLETED state and a new record will be created with a status of SUSPENDED.

Please note that there are processes which are still in RUNNING status when a purge operation is suspended. After these processes complete execution, the processes will change to a DISABLED state. When all the processes have changed to a DISABLED status, no new processes will be created.

Resume
The resume option restarts the service purge operation, using arguments specified by the user. In this case, the Purge Audit table Status record is updated with a status of INPROGRESS for the record which was in a 'suspended' state. The following arguments can be specified while resuming purge operations:

- -s: This is an optional argument. This argument will schedule the execution of the purge. The user must specify the date in the following format [MM/DD/YYYY:HH:mm:ss]. For example:
  
  ./servicePurge.sh resume -s 06/26/2012:19:30:00

- -c: Sets the commit size to the given value. By default it is set to 1000 Services. Max value this argument will take it 10000. If the user prompts more than this value tool will take it as 10000. For example:

  ./servicePurge.sh resume -c 200

- -t: Sets the Number of Parallel Processes to the given value. Max value that user can specify is 100, if the user specifies more than this only 100 parallel processes
will get created. This is optional argument and by default it is set to 10. For example

./servicePurge.sh resume -t 15

Cancel
The cancel option terminates all service purge related processes with a status of INPROGRESS or SUSPENDED. It also provides the following information related to purge process, before seeking confirmation on cancellation:

- Active service purge operation.
- Number of services purged.
- All the jobs related to service purge.
- Report file name which is generated while services are purged.
- Number of services purged.

After this information is provided, the user will be asked for a confirmation to go ahead with cancellation of In-progress/Suspended operations. When the Service Purge is cancelled, the Purge Audit table Status record will be updated with a status of CANCELLED for records with an INPROGRESS/SUSPENDED status.
This chapter describes ways to improve Oracle Communications Unified Inventory Management (UIM) performance.

**Improving UIM Performance Overview**

The following list includes tasks that you may need to perform to improve UIM performance.

- Configuring a Shared Index Directory
- Changing the Logging Level
- Enabling SQL and Other EclipseLink Logging
- Updating the System Configuration Files
- Setting Timeout Values for UIM
- Changing the Query Behavior and Row Limit Parameters

**Configuring a Shared Index Directory**

For multiserver deployment environments (including configurations for multiple single servers, administration/managed servers, and administration/clustered servers), you must deploy a common shared storage, such as a storage area network, for all UIM WebLogic application servers. Without a storage area network, results may vary on different servers because some servers may have different domains.

**Changing the Logging Level**

UIM is using log4j for the logging services. For details on log4j, refer to: [http://logging.apache.org/log4j/1.2/index.html](http://logging.apache.org/log4j/1.2/index.html)

The logging level is defined in the `loggingconfig.xml` file. The file is located in `UIM_Home/config`.

**Appender Configuration**

Three default appenders are supplied by default:

- Stdout
Changing the Logging Level

- **Console Appender** - used to log messages to the standard output

- **rollingFile**
  Rolling File Appender - used to log messages to the rolling file
  `UIM_Home/logs/WebLogic_Name_uim.log`

- **rebuildRollingFile**
  Rolling File Appender - used to log the rebuild topology messages to the rolling file
  `UIM_Home/logs/WebLogic_Name_uim_rebuild.log`

The following is an example of the layout of the *appender* log message:

```
%d{yyyy-MM-dd HH:mm:ss,SSS} %-5p [%X{userName}] [%X{requestSession}] [%c{1}] %m%n
```

where:

- `%d{yyyy-MM-dd HH:mm:ss,SSS}` is the Date in the format `yyyy-MM-dd HH:mm:ss,SSS`)
- `%5p` is the priority of the logging event
- `%X{userName}` is the user name associated with the thread that generated the logging event
- `%X{requestSession}` is the session ID associated with the thread that generated the logging event. Note that the `requestSession` is not included by default. The layout value needs to be modified to add the `requestSession`.
- `%c{1}` is the category of the logging event with the *precision specifier* (ie: the decimal constant in brackets). The precision specifier corresponds to the right most components of the category name. For example, for the category name `oracle.communications.inventory.techpack.video.impl.VideoManagerImpl` the pattern `%c{1}` will output `VideoManagerImpl`.
- `%m` is the application supplied message associated with the logging event. For example: `[INV-801005] No subscriber is associated to the service.`
- `%n` is the platform dependent line separator character or characters

For all parameters, see:


This is a localized logging output message example:

```
2012-01-03 15:20:22,087 ERROR [uimuser1] [VideoManagerImpl] [INV-801005] No subscriber is associated to the service.
```

It's possible to filter the logging messages by the UIM user. To enable the UIM user filter, we need to add the following element to the default *appender*:

```
<filter class="oracle.communications.inventory.api.logging.util.FilterUtil">
```
Changing the Logging Level

Improving Unified Inventory Management Performance

The filter is already available, but commented out, in the default appender. To enable the UIM user filter, we can uncomment the filter and add a value to the userName parameter. For example:

```xml
<filter class="oracle.communications.inventory.api.logging.util.FilterUtil">
  <param name="userName" value="Justin"/>
</filter>

We can list multiple users in the filter by repeating the param element. For example:

```xml
<filter class="oracle.communications.inventory.api.logging.util.FilterUtil">
  <param name="userName" value="Justin"/>
  <param name="userName" value="Lili-Mai"/>
  <param name="userName" value="Marilou"/>
</filter>
```

Logger Configuration

By default the root logger is set to error and will log the messages to the standard output and the UIM rolling file:

```xml
<root>
  <priority value="error"/>
  <appender-ref ref="stdout"/>
  <appender-ref ref="rollingFile"/>
</root>
```

Loggers may be assigned levels. The set of possible levels are (in the order message logging rank):

- **all**: Lowest possible rank and is intended to turn on all logging
- **trace**: Finer-grained informational events than the debug
- **debug**: Fine-grained informational events that are most useful to debug an application
- **info**: Informational messages that highlight the progress of the application at coarse-grained level
- **warn**: Potentially harmful situations
- **error**: Error events that might still allow the application to continue running
- **fatal**: Very severe error events that will presumably lead the application to abort
- **off**: Highest possible rank and is intended to turn off logging

Several application loggers are also pre-configured in the loggingconfig.xml file. Additional ones may be added as needed. For example, if the root logger level is set to error, but we would like to set the UIM Tech Packs logger level to debug, then we would add the following to the loggingconfig.xml:

```xml
<logger name="oracle.communications.inventory.techpack" additivity="false">
  <level value="debug"/>
  <appender-ref ref="stdout"/>
  <appender-ref ref="rollingFile"/>
</logger>
```
Connecting debugger to UIM

**Tip:** To enable debug logging for the UIM Ruleset Extension Point Framework, you can add the following to the `loggingconfig.xml` file:

```xml
<level value="debug" />
    <appender-ref ref="stdout"/>
    <appender-ref ref="rollingFile"/>
</logger>

<logger name="RuleSetLogger" additivity="false">
    <level value="debug"/>
    <appender-ref ref="stdout"/>
    <appender-ref ref="rollingFile"/>
</logger>
```

If you add the above, then you can comment out or remove the logger for `oracle.communications.inventory.extensibility.rules.impl`. It'll become redundant because debug level is enable on its parent package.

If we need to connect a debugger to the UIM WebLogic server, then we would need to edit the file `Domain_Home/bin/setUIMEnv.sh` and add the following string to the USER_MEM_ARGS variable:

```
-Xdebug -Xnoagent -Xrunjdwp:transport=dt_socket, address=1234, server=y, suspend=n -Djava.compiler=NONE
```

Example:

**Before change:**

```
USER_MEM_ARGS="-Xms1024m -Xmx3000m -Xmn850m -XX:MaxPermSize=1024m -Xrs -XX:+HeapDumpOnOutOfMemoryError -XX:+UseConcMarkSweepGC -XX:+CMSClassUnloadingEnabled -XX:+CMSPermGenSweepingEnabled"
```

**After change:**

```
USER_MEM_ARGS="-Xms1024m -Xmx3000m -Xmn850m -XX:MaxPermSize=1024m -Xrs -XX:+HeapDumpOnOutOfMemoryError -XX:+UseConcMarkSweepGC -XX:+CMSClassUnloadingEnabled -XX:+CMSPermGenSweepingEnabled -Xdebug -Xnoagent -Xrunjdwp:transport=dt_socket, address=1234, server=y, suspend=n"
```
Enabling SQL and Other EclipseLink Logging

To enable SQL and other EclipseLink logging, perform the following:

1. Open a command window.
2. Navigate to the `MW_Home/oracle_common/common/bin` directory.
3. Start the WebLogic Scripting Tool (WLST) using the following command:
   
   ```
   ./wlst.sh
   ```
4. Connect to the server on which you want to change the logging level, use the following command:
   
   ```
   connect(userid,password,'t3://hostname:port')
   ```
5. Go to Custom settings using the following command:
   
   ```
   custom()
   ```
6. Go to TopLink using the following command:
   
   ```
   cd('TopLink')
   ```
7. List the sessions at this level using the following command:
   
   ```
   ls()
   ```
8. Copy the session and go to that session using the following command:
   
   ```
   cd('session')
   ```
9. Change the EclipseLink logging level using the following command:
   
   ```
   set('CurrentEclipseLinkLogLevel',newLevel)
   ```

EclipseLink provides nine logging levels, refer to Table 5–1 for a list of the different logging levels and a brief description of each.
10. To enable SQL logging use the following command:

```
set('CurrentEclipseLinkLogLevel','FINE')
```

### Updating the System Configuration Files

The system configuration files located in `UIM_Home/config` are:

- `castor.properties`
- `config-reload.properties`
- `consumer.properties`
- `reference.properties`
- `ruleProcess.properties`
- `system-config.properties`
- `timers.properties`
- `topologyProcess.properties`

You may need to update these files depending on your environment.

If you are working with telephone numbers, see "Updating the consumer.properties File" and "Updating the timers.properties File".

See the following sections for property default values and examples.

### Updating the castor.properties File

The `castor.properties` file is used to configure Castor. You can update the values in this file or leave the defaults. The properties are:

### Table 5–1 EclipseLink Logging Levels

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>This setting disables the generation of the log output. You may want to set logging to OFF during production to avoid the overhead of logging.</td>
</tr>
<tr>
<td>SEVERE</td>
<td>This level enables reporting of failure cases only. Usually, if the failure occurs, the application stops.</td>
</tr>
<tr>
<td>WARNING</td>
<td>This level enables logging of issues that have a potential to cause problems. For example, a setting that is picked by the application and not by the user.</td>
</tr>
<tr>
<td>INFO</td>
<td>This level enables the standard output. The contents of this output is very limited. It is the default logging level if a logging level is not set.</td>
</tr>
<tr>
<td>CONFIG</td>
<td>This level enables logging of such configuration details as your database login information and some metadata information. You may want to use the CONFIG log level at deployment time.</td>
</tr>
<tr>
<td>FINE</td>
<td>This level enables logging of the first level of the debugging information and SQL. You may want to use this log level during debugging and testing, but not at production.</td>
</tr>
<tr>
<td>FINER</td>
<td>This level enables logging of more debugging information than the FINE setting. For example, the transaction information is logged at this level. You may want to use this log level during debugging and testing, but not at production.</td>
</tr>
<tr>
<td>FINEST</td>
<td>This level enables logging of more debugging information than the FINER setting, such as a very detailed information about certain features (for example, sequencing). You may want to use this log level during debugging and testing, but not at production.</td>
</tr>
<tr>
<td>ALL</td>
<td>This level currently logs at the same level as FINEST.</td>
</tr>
</tbody>
</table>
- **org.exolab.castor.indent**
  
  This property is used to control whether or not output documents should be indented.

  The default value is true. For example:
  
  `org.exolab.castor.indent=true`

- **org.exolab.castor.xml.naming**

  This property is used to preserve the Java mixed-case conventions. By default, all names are treated as the "lower" option. Uncomment the property to preserve the Java mixed-case conventions. For example:

  `org.exolab.castor.xml.naming=mixed`

- **org.exolab.castor.parser**

  This property is used to define the default XML parser to be used by Castor. The parser must implement `org.xml.sax.Parsers`.

  The default value is `org.apache.xerces.parsers.SAXParser`. For example:

  `org.exolab.castor.parser=org.apache.xerces.parsers.SAXParser`

- **org.exolab.castor.xml.serializer.factory**

  The default value is `org.exolab.castor.xml.XercesJDK5XMLSerializerFactory`. For example:

  `org.exolab.castor.xml.serializer.factory=org.exolab.castor.xml.XercesJDK5XMLSerializerFactory`

  By default, UIM does not ship the external Xerces jar file and uses the Xerces file shipped with the JDK.

  The `org.exolab.castor.xml.XercesJDK5XMLSerializerFactory` is only valid for Sun JDK for Windows, Linux and Solaris. For IBM AIX JDK, the `org.exolab.castor.xml.serializer.factory` property value should be set to `org.exolab.castor.xml.XercesXMLSerializerFactory`. For example:

  `org.exolab.castor.xml.serializer.factory=org.exolab.castor.xml.XercesXMLSerializerFactory`

---

**Updating the config-reload.properties File**

The **config-reload.properties** file is used to control inventory automatic reload. You can update the values in this file or leave the defaults. The properties are:

- **inventory.auto.reload.enabled**

  This property is used to enable/disable auto reload of System configuration properties.

  The default value is true. For example:

  `inventory.auto.reload.enabled=true`

- **inventory.auto.reload.interval**

  This property is used to set the reload interval in milliseconds.

  The default value is 3000 milliseconds. For example:
Updating the consumer.properties File

The consumer.properties file is used to control consumption of entities. You can update the values in this file or leave the defaults.

The tn.* properties pertain to the telephone number aging process and the telephone number lifecycle process. The properties are:

- **deleteReservation.batchsize**
  
  This property is used to control the number of expired reservation records to be deleted for each execution of the Cleanup Expired Reservation timer process.
  
  The default value is 1000 records. For example:
  
  deleteReservation.batchSize=1000

- **tn.defaultDisconnectedStateExpiry**
  
  This property is used to change the expiration period for transitional TN assignment state from Disconnected state to Transitional state.
  
  The default value is 30 days. For example:
  
  tn.defaultDisconnectedStateExpiry=30

- **tn.defaultTransitionalStateExpiry**
  
  This property is used to change the expiration period for transitional TN assignment state from Transitional state to Unassigned state.
  
  The default value is 30 days. For example:
  
  tn.defaultTransitionalStateExpiry=30

- **tn.recallTNSearchResultsLimit**
  
  This property is used to control the number of telephone number assignment records selected for the TN Aging and Recall Timer process.
  
  The default value is 500 records. For example:
  
  tn.recallTNSearchResultsLimit=500

- **tn.portabilityCharacteristicName**
  
  This property is used to specify the characteristic name of the TN which will be used in portability logic.
  
  The default value is tnType. For example:
  
  tn.portabilityCharacteristicName=tnType

- **tn.winbackCharacteristicName**
  
  This property is used to specify the characteristic name of the TN which will be used in winback (stealback) logic.
  
  The default value is winback. For example:
  
  tn.winbackCharacteristicName=winback

- **tn.enableTNDeletion**
When this property is absent (the default) or set to \texttt{false}, telephone numbers that are not consumed but were previously assigned to services cannot be deleted. When set to \texttt{true}, such telephone numbers can be deleted.

The default value is \texttt{false}. For example:

\begin{verbatim}
tn.enableTNDeletion= false
\end{verbatim}

\section*{Updating the reference.properties File}

The \texttt{reference.properties} file is used to control referenced properties. You can update the values in this file or leave the defaults. The properties are:

\begin{itemize}
  \item \textbf{AllowDeactivateReferencedCustomNetworkAddress}
    This property is used to deactivate the \texttt{ReferencedCustomNetworkAddress} property.
    The default value is \texttt{false}. For example:
    \begin{verbatim}
    AllowDeactivateReferencedCustomNetworkAddress=false
    \end{verbatim}

  \item \textbf{AllowDeactivateReferencedCustomObject}
    This property is used to deactivate the \texttt{ReferencedCustomObject} property.
    The default value is \texttt{false}. For example:
    \begin{verbatim}
    AllowDeactivateReferencedCustomObject=false
    \end{verbatim}

  \item \textbf{AllowDeactivateReferencedEquipment}
    This property is used to deactivate the \texttt{ReferencedCustomEquipment} property.
    The default value is \texttt{false}. For example:
    \begin{verbatim}
    AllowDeactivateReferencedEquipment=false
    \end{verbatim}

  \item \textbf{AllowedDeactivateReferencedLogialDevice}
    This property is used to deactivate the \texttt{ReferencedLogicalDevice} property.
    The default value is \texttt{false}. For example:
    \begin{verbatim}
    AllowDeactivateReferencedLogicalDevice=false
    \end{verbatim}

  \item \textbf{AllowDeactivateReferencedLogicalDeviceAccount}
    This property is used to deactivate the \texttt{ReferencedLogicalDeviceAccount} property.
    The default value is \texttt{false}. For example:
    \begin{verbatim}
    AllowDeactivateReferencedLogicalDeviceAccount=false
    \end{verbatim}

  \item \textbf{AllowDeactivateReferencedNetwork}
    This property is used to deactivate the \texttt{ReferencedNetwork} property.
    The default value is \texttt{false}. For example:
    \begin{verbatim}
    AllowDeactivateReferencedNetwork=false
    \end{verbatim}

  \item \textbf{AllowDeactivateReferencedPhysicalDevice}
    This property is used to deactivate the \texttt{ReferencedPhysicalDevice} property.
    The default value is \texttt{false}. For example:
\end{itemize}
AllowDeactivateReferencedPhysicalDevice=false

- **AllowDeactivateReferencedPipe**
  This property is used to deactivate the ReferencedPipe property.
  The default value is false. For example:
  AllowDeactivateReferencedPipe=false

- **AllowDeactivateReferencedTelephoneNumber**
  This property is used to deactivate the ReferencedTelephoneNumber property.
  The default value is false. For example:
  AllowDeactivateReferencedTelephoneNumber=false

- **AllowSuspendReferencedService**
  This property is used to suspend the ReferencedService property.
  The default value is true. For example:
  AllowSuspendReferencedService=true

- **AllowDisconnectReferencedService**
  This property is used to disconnect the ReferencedService property.
  The default value is true. For example:
  AllowDisconnectReferencedService=true

- **AllowCancelReferencedService**
  This property is used to cancel the ReferencedService property.
  The default value is true. For example:
  AllowCancelReferencedService=true

- **AllowCancelReferencedBusinessInteraction**
  This property is used to cancel the ReferencedBusinessInteraction property.
  The default value is true. For example:
  AllowCancelReferencedBusinessInteraction=true

### Updating the ruleProcess.properties File

The `ruleProcess.properties` file is used to control the Work Manager. You can update the values in this file or leave the defaults. The properties are:

- **WORK_MANAGER_JNDI**
  This property is a setting only for WebLogic. For example:
  WORK_MANAGER_JNDI=java:comp/env/wm/ruleWorkManager

- **timeOutSec**
  This property is used to set the timeout in WorkManager during cartridge install.
  The default value is 10000 milliseconds. For example:
  timeOutSec=10000
Updating the system-config.properties File

The `system-config.properties` file is used to control system configuration properties. You can update the values in this file or leave the defaults. The properties are:

- **createTN.flushSize**
  This property controls the number of telephone number entities to create before calling the flush transaction. Do not set the `createTN.flushSize` property to more than 500.
  
  The default value is 500. For example:
  
  ```
  createTN.flushSize=500
  ```

- **securityViolationLoggingEnabled**
  This property is used for setting security access violation logging. For example:
  
  ```
  securityViolationLoggingEnabled=true
  ```

- **system.***
  The following properties are used for setting system-specific settings:
  
  ```
  system.minDate=0
  system.maxDate=2147483647000
  system.lastModifiedDateThreshold=15
  ```

- **businessInteraction.allowCancelWithCompletedChild**
  This property is used to allow a business interaction to be canceled if it has completed children. For example:
  
  ```
  businessInteraction.allowCancelWithCompletedChild=false
  ```

- **businessInteraction.allowCancelWithCompletedConfiguration**
  This property is used to allow a business interaction to be canceled if it is associated to a completed configuration version. For example:
  
  ```
  businessInteraction.allowCancelWithCompletedConfiguration=false
  ```

- **lockPolicy.defaultRowLockExpirationDuration**
  This property is used for setting the default row lock expiration duration for the entity. The value is defined in milli seconds. This value should be defined as that it should be less than or equal to transaction time out.
  
  The default value is 30000. For example:
  
  ```
  lockPolicy.defaultRowLockExpirationDuration=30000
  ```

- **lockPolicy.MaxSupportedRowLocks**
  This property is used for setting the default maximum number of entities to be row locked. This should be in sync with the maximum number or range.
  
  The default value is 100. For example:
  
  ```
  lockPolicy.MaxSupportedRowLocks=100
  ```

- **system.auth.debug**
  This property is used to enable/disable the system authentication when debugging. For example:
system.auth.debug=false

- **db.sequence.cacheSize**
  
  This property is used for setting the cache size for Oracle Sequence used for Auto ID generation.

  The default value is 75000. For example:

  
  ```
  db.sequence.cacheSize=75000
  ```

- **cmws.asynch.mode**

  This property is used for setting the Cartridge deployment mode to either synchronous or asynchronous.

  The default value is true (asynchronous). For example:

  ```
  cmws.asynch.mode=true
  ```

- **ui.search.pageSize**

  This property is used for setting the number of rows in a page in the UI. This number is applicable to the searches. When a search is performed, only a page of data is brought back to the server. As the user scrolls beyond this page, next page is automatically retrieved from the database.

  The default value is 200. For example:

  ```
  ui.search.pageSize=200
  ```

- **ui.search.queryBehavior**

  This property is used for setting the query behavior. There are various choices presented to the system about how much data is queried from the database and whether the count is retrieved for the UI. Based on performance evaluations, one of the following values can be picked:

  - FULL_COUNT_FULL_QUERY(1)(This is the default value)
  - NO_COUNT_FULL_QUERY(2)
  - LIMIT_COUNT_FULL_QUERY(3)
  - LIMIT_COUNT_LIMIT_QUERY(4)

  See "Changing the Query Behavior and Row Limit Parameters" for more information about these query behaviors, including the pros and cons to consider when using them.

  The default value is 1. For example:

  ```
  ui.search.queryBehavior=1
  ```

- **ui.search.queryLimit**

  This property is used for setting the limit to be applied to the query and the count, through the UI. The default value is -1, which indicates that no limit is applied. Change this value if you want to apply a limit. See "Changing the Query Behavior and Row Limit Parameters" for more information on how this query limit is used.

  The default value is -1. For example:

  ```
  ui.search.queryLimit=-1
  ```

- **uim.default.paging.query.hint**
This property is used to improve performance of the finder APIs when invoked from Web Services. When a search query is fired from a Web service without a SearchPolicy, then the API sets this default query hint.

For example:

```plaintext
uim.default.paging.query.hint=FIRST_ROWS(25)
```

- **uim.security.filter.enabled**
  
  This property is used for setting security access to allow for the configuring of partitions. For example:
  
  ```plaintext
  uim.security.filter.enabled=false
  ```

- The following properties refine performance of logging by indicating whether to include the location and class name in the log when an exception occurs. For example:
  
  ```
  feedmessage.logexactlocation=false
  logfactory.logexactclass=false
  ```

- **uim.cache.config.customization.enabled**
  
  This property is a persistence unit property. For example:
  
  ```plaintext
  uim.cache.config.customization.enabled=true
  ```

- The following properties refine UIM auto suggest. For example:
  
  ```plaintext
  uim.default.autosuggest.rowlimit=20
  uim.default.autosuggest.disable=false
  ```

- The following properties are used to set eLocation-specific settings:
  
  ```plaintext
  eLocation.URL=http://eLocation.oracle.com/eLocation/lbs
  eLocation.matchMode=Default
  eLocation.http.proxyExists=false
  eLocation.http.proxyHost=
  eLocation.http.proxyPort=
  eLocation.http.proxyUser=
  eLocation.http.proxyPassword=
  ```

  For detailed information on eLocation configuration, see *UIM Developer’s Guide*.

- The following properties are used for setting Property Location settings:
  
  ```plaintext
  uim.networkentitycode.maxlength=3
  uim.propertylocation.name.maxlength=200
  uim.networklocation.code.minlength=3
  uim.networklocation.code.maxlength=10
  uim.networkentitylocation.code.delimiter.enabled=true
  uim.propertylocation.name.delimiter=
  ```

- **connectivity.capacityVariant**
  
  This property is used for setting Pipe Capacity.
  
  The default value is 4. For example:
  
  ```plaintext
  connectivity.capacityVariant=4
  ```

- **groom.items.per.transaction**
This property defines the number of riders having COMPLETED pipe config versions that are to be processed per transaction.

The default value is 5. For example:

groom.items.per.transaction=5

- **uim.telephonenumber.validation.leadingzeros.included**
  This property controls validation settings for creating telephone numbers with leading zeros.
  Setting the property to `false` (the default setting) means that leading zeroes are stripped before checking for duplicate numbers. Setting the property to `true` allows leading zeroes. For example:
  
uim.telephonenumber.validation.leadingzeros.included=false

- **uim.entity.maxCreateRange**
  This property controls the maximum number of entities that can be created at once for entities that allow bulk creation.
  The default value is 10000. For example:
  
uim.entity.maxCreateRange=10000

- **uim.entity.flushTriggerBufferSize**
  This property refines performance of bulk creation. The default value is 1000, which is equal to the EclipseLink batch writing size as defined in the `poms.properties` file. The value determines the number of persistent entities held in memory before being persisted to the database. The value should be less than or equal to the batch writing size. For example:
  
uim.entity.flushTriggerBufferSize=1000

- **system.exception.writableStackTrace**
  This property is used to reduce CPU usage. For example:
  
  system.exception.writableStackTrace=false

- **uim.query.MaxSearchResults**
  This property sets a limit on the number of entities retrieved for a search. The default value is -1, which implies no limit; search result pages display all retrieved entities (unless a range is explicitly set on the finder). For example:
  
uim.query.MaxSearchResults=-1

- **uim.disable.entity.event.listeners**
  This property enables/disables entity level listeners. The default value is `true`, which disables the event listeners. To enable event listeners, set this property value to `false`. For example:
  
uim.disable.entity.event.listeners=true

- The following properties are used for setting the connectivity schematic view colors:
  
  default.connectivity.color=0,0,153
  default.gap.color=165,165,165
  default.crossconnect.color=0,204,255
Updating the System Configuration Files

```
default.jumper.color=84,141,212
default.pipe.color=165,165,165
selected.connectivity.patchcolor=0,175,0
```

- **uim.query.cache.hint.entitylist**
  This property adds the RESULTS_CACHE hint to queries involving entities. For example:
  ```
  uim.query.cache.hint.entitylist=CharacteristicSpecUsageDAO
  ```

  **Note:** You must flush shared pool after cartridge installation; otherwise, the results you see in RESULTS_CACHE may be stale.

- **uim.attachment.ws.log.information.enabled**
  This property value is used by the Web service request. The default value is **false**, which disables information logging for the attachment if the resource to be preconfigured is blocked or reserved. For example:
  ```
  uim.attachment.ws.log.information.enabled=false
  ```

### Updating the timers.properties File

The **timers.properties** file is used to control system timer events. You can update the values in this file or leave the defaults.

Each timer can be defined by five properties: **firstTime**, **period**, **fixedRate**, **listener**, and **cluster**, as described by the following:

- **firstTime:** The first time to call the listener. If it is specified as relative time (without ":"), such as 600 (in seconds), then the listener will be called 10 minutes after the system is started.
  If it is specified as absolute time, such as 12:00:00(noon), or 23:00:00(11PM), then the listener will be called at the specified time after the system is started.
  If it is specified as "onTheHour", then the listener will be executed on the next hour (for example 08:00:00) after the system is started (for example 07:28:34).
  The default is 60 seconds in relative time.

- **period:** After the listener is called the first time, the number of seconds between repeating expiration intervals. The listener will be called when the timer expires.
  The default is 600 seconds.

- **fixedRate:** This is not used.

- **listener:** The listener’s class name. The listener’s timerExpired (Timer timer) method will be executed when the timer expired.
  There is no default. This property must be specified.

- **cluster:** The flag indicates whether this timer is cluster aware. If it is set to true, then there will only one instance of this timer running in the cluster. If it is set to false, then each server will have this timer instance running locally.
Most of the timer should be cluster aware. An example of non-cluster aware timer is the timer which monitors whether the server which manages the cluster aware timers is still alive.

The default value is true.

The properties for the timers.properties file are:

- **clusterTimerMonitor**
  This property is a timer to monitor if the current server which manages the cluster aware timers is still alive.
  
  This timer should be running on every server in the cluster. For example:
  
  ```
  clusterTimerMonitor.firstTime=10
  clusterTimerMonitor.period=10
  clusterTimerMonitor.listener=oracle.communications.inventory.api.framework.timer.TimerController
  clusterTimerMonitor.cluster=false
  ```

- **customTimer**
  This property is a customer timer for custom extensions.
  
  There should be only one instance of this timer in the cluster. For example:
  
  ```
  customTimer.firstTime=300
  customTimer.period=600
  customTimer.listener=oracle.communications.inventory.api.common.TimeoutEventListener
  ```

- **cleanReservation**
  This property is a timer to cleanup expired reservations.
  
  There should be only one instance of this timer in the cluster. For example:
  
  ```
  cleanReservation.firstTime=600
  cleanReservation.period=600
  cleanReservation.listener=oracle.communications.inventory.api.consumer.impl.ReservationManagerImpl
  ```

- **telephoneNumberAging**
  This property is a timer for recalling disconnected telephone numbers. For example:
  
  ```
  telephoneNumberAging.firstTime=600
  telephoneNumberAging.period=600
  telephoneNumberAging.listener=oracle.communications.inventory.api.number.TelephoneNumberHelper
  ```

- **rowLockExpiration**
  This property is a timer to cleanup the expired entity row locks. For example:
  
  ```
  rowLockExpiration.firstTime=120
  rowLockExpiration.period=600
  rowLockExpiration.listener=oracle.communications.inventory.api.common.impl.RowLockExpiryTimerListener
  ```

For more information on telephone number aging and telephone number life cycles, see *UIM Concepts.*
Updating the topologyProcess.properties File

The topologyProcess.properties file is used to control referenced properties. You can update the values in this file or leave the defaults. The properties are:

- **disableTopology**
  
  This property is used to turn topology refresh on or off.
  
  The default value is false. For example:
  
  ```
  disableTopology=false
  ```

- **processSynchronous**
  
  This property is used to refresh Topology as part of the transaction (true) or asynchronously in a separate transaction (false).
  
  The default value is true. For example:
  
  ```
  processSynchronous=true
  ```

- **mapperClass**
  
  This property defines the class that maps the business model to the topology. For example:
  
  ```
  mapperClass=oracle.communications.inventory.api.topology.mapper.impl.TopologyMapperImpl
  ```

- **The following properties are settings only for oc4j:**
  
  ```
  WORK_MANAGER_CLASS=com.tangosol.coherence.commonj.WorkManager
  WORK_MANAGER_NAME=TopologyWorkManager
  WORK_MANAGER_THREADS=20
  ```

- **The following property is a setting only for WebLogic. For example:**
  
  ```
  WORK_MANAGER_JNDI=java:comp/env/wm/TopologyWorkManager
  ```

- **The following properties are used to set the default Map Profile settings:**
  
  ```
  defaultBaseMap=elocation_mercator.world_map
  defaultApplicationDatasource=UIMDATA
  defaultMapTileServerUrl=http://elocation.oracle.com/mapviewer/mcserver
  defaultMapCopyright=Copyright © 2007, 2012 Oracle Corp © 2010 NAVTEQ
  ```

- **MapViewerUrl**
  
  This property is used if mapviewer is running in a separate domain. Uncomment the following line:
  
  ```
  mapviewerUrl=http://hostname:port/mapviewer
  ```

- **The following properties are used to set the Path Analysis properties:**
  
  ```
  simpleLinearMode=false
  simpleLinearModeMaxCycles=5
  continueProcessingIndicator=true
  ```

- **The following properties, used by Topology (rebuild/async) processing, are not to be modified. If modified, Topology may not work as expected.**
  
  ```
  topology.threadedEntityList=LogicalDevice,PhysicalDevice,Equipment,GeographicPlace
  topology.nonThreadedEntityList=Network,NetworkNode,Pipe,NetworkEdge
  ```
Setting Timeout Values for UIM

The WebLogic server supports distributed transactions, which are transactions that update multiple resource managers, such as an application server and a database, in a single transaction. This guarantees data integrity by ensuring that transactional updates are either committed or rolled back in all of the participating databases.

This section explains how to set transaction timeouts for the Oracle database and JTA. In general, the JTA timeout should be less than or equal to the Oracle database timeout:

JTA timeout <= database timeout

Oracle recommends setting the transaction timeouts to 1800 seconds.

Setting the Oracle Database Timeout

The DISTRIBUTED_LOCK_TIMEOUT is a parameter of the database. There are two ways to change this parameter. You can use Oracle Enterprise Manager or use sql.

To change the DISTRIBUTED_LOCK_TIMEOUT parameter using sql:

1. Open sqlplus.
2. Connect to the database.
3. Enter:
   
   'alter system set distributed_lock_timeout=1800 scope=spfile'

   The default value for this parameter is 60 seconds, but Oracle recommends setting this parameter to 1800 seconds.

   **Note:** Oracle recommends setting the database timeout value higher than the XA transaction timeout value. Otherwise, in-doubt table locks can occur on the database side before the WebLogic server JTA or JDBC XA can close the transaction.

4. Exit sqlplus.

Setting the JTA Timeout

You specify how long a transaction can remain in the Active state until the transaction is rolled back by using the WebLogic server administration console.

To set the JTA timeout value:

1. Log in to the WebLogic server administration console at:
   
   http://ServerName:PortNumber/console
Changing the Query Behavior and Row Limit Parameters

The query behavior and row limit parameters are defined in the `system-config.properties` file.

The file is located in the `UIM_Home/config/system-config.properties`.

This example shows the default options:

- `ui.search.queryLimit=-1`  (-1 indicates no limit)
- `ui.search.queryBehavior=1`
- `ui.search.pageSize=200`

Table 5–2 describes the options available for the Query Behavior and Row Limit parameters.

<table>
<thead>
<tr>
<th>Behavior (option #)</th>
<th>Row Limit</th>
<th>Count</th>
<th>Scrolling</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULL_COUNT_FULL_QUERY (1)</td>
<td>N/A</td>
<td>The exact count is displayed.</td>
<td>User can scroll through the entire result set.</td>
</tr>
<tr>
<td>NO_COUNT_FULL_QUERY (2)</td>
<td>N/A</td>
<td>Not displayed</td>
<td>User can scroll through the entire result set.</td>
</tr>
<tr>
<td>LIMIT_COUNT_FULL_QUERY (3)</td>
<td>Used for count only</td>
<td>If total count &lt; row limit, then total count is displayed else: Total count: row limit (Limit Reached) is displayed</td>
<td>User can scroll the results up to the row limit.</td>
</tr>
<tr>
<td>LIMIT_COUNT_LIMIT_QUERY (4)</td>
<td>Used for count and query</td>
<td>If total count &lt; row limit, then total count is displayed else Total count: row limit (Limit Reached) is displayed</td>
<td>User can scroll the results up to the row limit.</td>
</tr>
</tbody>
</table>

To change the Query Behavior and Row Limit parameters, perform the following:

1. Open a command window.
2. Navigate to the `UIM_Home/config/system-config.properties` file.
3. Open the `system-config.properties` file and scroll down to the `ui.search.queryLimit`, `ui.search.queryBehavior` and `ui.search.pageSize` entries.
4. Change the parameters as required, to meet the specific needs of your deployment. Refer to Table 5–3 for a description of the pros and cons of the parameter options.
5. Save and close the `system-config.properties` file.
### Table 5–3 Parameter Options Pros and Cons

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULL_COUNT_FULL_QUERY(1)</td>
<td>You know the exact count of rows satisfying the criteria.</td>
<td>If the user does not give meaningful criteria, and the number of rows matching the criteria is large, it may take a while to calculate the count. If the database is not tuned correctly, sorting the entire data set may take a while.</td>
</tr>
<tr>
<td></td>
<td>You can scroll through the entire result set.</td>
<td></td>
</tr>
<tr>
<td>NO_COUNT_FULL_QUERY(2)</td>
<td>The query for finding the total count is not performed. So it will help the performance of the pages.</td>
<td>Usability of the page is not as good. The scrollbar in the page is not representative of the number of rows satisfying the data and so user never knows how much he needs to scroll. If the database is not tuned correctly, sorting the entire data set may take a while.</td>
</tr>
<tr>
<td>LIMIT_COUNT_FULL_QUERY(3)</td>
<td>If the criteria is meaningful, and the number of rows satisfying the criteria is less than the row limit, there is no difference in the results brought back and usability of the pages as compared to Behavior (1) or Behavior (4). Better performance as compared to Behavior (1), as the count query is limited. Results are more accurate as compared to Behavior (4).</td>
<td>User cannot scroll to the rows past the row limit.</td>
</tr>
<tr>
<td>LIMIT_COUNT_LIMIT_QUERY(4)</td>
<td>If the criteria is meaningful, and the number of rows satisfying the criteria is less than the row limit, there is no difference in the results brought back and usability of the pages as compared to Behavior (1) or Behavior (3). Better performance as compared to Behavior (1), as the count query is limited. Better performance as compared to Behavior (3), as the query is limited.</td>
<td>User cannot scroll to the rows past the row limit. If the number of rows matching the criteria is more than the row limit, the row limit is applied before the ordering, so the first rows displayed maybe not be the first in the sort order of the entire dataset.</td>
</tr>
</tbody>
</table>
Unified Inventory Management Backup and Restore

This chapter describes how to backup and restore Oracle Communications Unified Inventory Management (UIM) data. It covers the following topics:

It is important to understand how to back up critical data to protect the system against different failures. You can save backup artifacts in various ways—by using periodic backups to tape or fault-tolerant disks, or by manually copying files to another machine.

WebLogic Server Related Artifacts

The following sections describe the artifacts that you should back up.

Static Artifacts

Static artifacts are those that change less frequently. These include:

- **MW_Home** (except user_projects/domains/domain_name) for the Administration Server and all the Managed Servers
- **WL_Home** (by default, it resides in MW_Home and it can be configured by the user to point to a different location) for the Administration Server and all the Managed Servers

This data is changed only while patching or upgrading the environment.

Runtime Artifacts

Runtime artifacts are those that change more frequently. These include:

- **Domain_Home** and **UIM_Home** directories in all the servers (By default, it resides in Domain_Home, but it can be configured by the user to point to a different location.)

- UIM Application artifacts (.ear files, .war files, .properties files) which reside outside of the domain directory on each of the servers (in case of no_stage or external_stage application staging modes)

This data changes frequently while updating the domain configurations, deploying an application, and while performing other administrative changes.

Persistent Stores

A persistent store provides a built-in, high-performance storage solution for WebLogic Server subsystems and services that require persistence. For example, it can store...
persistent JMS (Java Messaging Service) messages or durable subscriber information, as well as temporarily store messages sent to an unavailable destination using the Store-and-Forward feature. The persistent store supports persistence to a file-based store (File Store) or to a JDBC enabled database (JDBC Store). The default store maintains its data in the `Domain_Home/servers/AdminServer/data/store/default` directory inside the servername subdirectory of a domain’s root directory.

### Using a Shared File System to Backup the Artifacts

The best practice is to store snapshots of the above artifacts either at the file system level, or using one of the models suggested below in "Using the WebLogic Backup Utility" and "Using the Pack and Unpack Utility", onto a Storage Area Network (SAN). This would ensure the local machine failure at the physical level doesn’t impact the backups.

It is best to take backups before configuration changes are done.

---

**Note:** Verify that the file/folder being backed up meets the file size or pathname length requirements for the backup utility being used. For example, the maximum pathname length for the `tar` application is 256 characters.

---

### Using the WebLogic Backup Utility

You can configure Oracle WebLogic Server to make backup copies of the configuration files. This facilitates recovery in cases where configuration changes need to be reversed or in the unlikely case that configuration files become corrupted. When the Administration Server starts up, it saves a JAR file named `config-booted.jar` that contains the configuration files. When you make changes to the configuration files, the old files are saved in the `configArchive` directory under the `Domain_Home` directory, in a JAR file with a sequentially numbered name such as `config-1.jar`. The configuration archive is always local to the Administration Server host. It is a best practice to back up the archives to an external location.

### Using the Pack and Unpack Utility

This utility provides a way to define templates and use the template to pack a domain for unpacking later or to unpack in another node. Please note that the domain UIM is deployed in, may contain other applications and the administrator needs to ensure the UIM specific components are packed, if the upgrade or patch is happening in UIM. You can use a template that contains a subset of a domain to create a Managed Server domain directory hierarchy on a remote machine. It would ensure that when unpacked only the UIM artifacts are restored.

Refer to the *Oracle WebLogic Server* documentation for more details.

### Restoring WebLogic Related Configurations and Artifacts

The following link describes the different scenarios and what needs to be restored in each of the scenarios.

Embedded LDAP

If any of your security realms use the Default Authentication, Authorization, Credential Mapping, or Role Mapping providers, you should maintain an up-to-date backup of the following directory tree:

\textit{Domain\_Home/servers/AdminServer/data/ldap}

In the preceding directory, \textit{Domain\_Home} is the domain root directory and \textit{AdminServer} is the directory in which the Administration Server stores run-time and security data.

For more information backing up the embedded LDAP server data, see the following topics:

- "Configure backups for embedded LDAP servers" in the Oracle WebLogic Server Administration Console Help
- "Back Up LDAP Repository" in \textit{Managing Server Startup and Shutdown for Oracle WebLogic Server} located at the following link:
  \url{http://docs.oracle.com/cd/E12840_01/wls/docs103/server_start/failures.html}

If the embedded LDAP server file becomes corrupt or unusable, the Administration Server will generate a NumberFormatException and fail to start. This situation is rare but can occur if the disk becomes full and causes the embedded LDAP file to enter into an invalid state.

Do not update the configuration of a security provider while a backup of LDAP data is in progress. If a change is made—for instance, if an administrator adds a user—while you are backing up the ldap directory tree, the backups in the ldapfiles subdirectory could become inconsistent. If this does occur, consistent, but potentially out-of-date, LDAP backups are available, because once a day, a server suspends write operations and creates its own backup of the LDAP data. It archives this backup in a ZIP file below the \textit{ldap/backup} directory and then resumes write operations. This backup is guaranteed to be consistent, but it might not contain the latest security data.

Restoring Embedded LDAP Server File

To recover from an unusable embedded LDAP server file, complete the following steps:

1. Change to the following directory:
   \textit{Domain\_Home/servers/AdminServer/data}

2. Rename the embedded LDAP server file, as in the following example:
   \texttt{mv ldap ldap.old}
   where \texttt{mv} is the Unix command used to rename the file.
   By renaming the file, and not deleting it completely, it remains available to you for analysis and potential data recovery.

3. Start the Administration Server.
   When the Administration Server starts, a new embedded LDAP server file is created.

4. Restore any data to the new embedded LDAP server that was added since the time the WebLogic domain was created.
If you have configured a backup of the embedded LDAP server, you can restore the backed up data by importing it. For information, see "Exporting and Importing Information in the Embedded LDAP Server".

http://docs.oracle.com/cd/E17904_01/web.1111/e13707/ldap.htm

**Export and Import of LDAP Data**

Alternatively the export and import functions could also be used as described in Exporting and Importing Information in the Embedded LDAP Server.

**Database Backup and Restore**

Use Recovery Manager (RMAN) to back up, restore, and recover data files, control files, server parameter files (SPFILEs) and archived redo log files. You can use RMAN with a media manager to back up files to external storage. You can also configure parallelism when backing up or recovering Oracle RAC databases. In Oracle RAC, RMAN channels can be dynamically allocated across all of the Oracle RAC instances. Channel failover enables failed operations on one node to continue on another node. You can start RMAN from Oracle Enterprise Manager Backup Manager or from the command line.

For more information about using RMAN, see "Configuring Recovery Manager and Archiving", at the following link:

http://docs.oracle.com/cd/E11882_01/rac.112/e16795/rman.htm

---

**Note:** In addition to the UIM schema the MDS schema which was used in the installation process should also be backed up for failure handling.

---

**Backup SerializedSystemIni.dat and Security Certificates**

Each server instance creates a file named `SerializedSystemIni.dat` and locates it in the `Domain_Home/security` directory. This file contains encrypted security data that must be present to boot the server. You must back up this file.

If you configured a server to use SSL, you must also back up the security certificates and keys. The location of these files is user-configurable.
Managing the Unified Inventory Management Database

This chapter provides information about managing your Oracle Communications Unified Inventory Management (UIM) database and file system.

Overview of Managing the UIM Database
The UIM database management tasks include:

Tuning the Database

This section explains how to tune your UIM database.

Table 7–1 and Table 7–2 provide recommended database parameters for tuning your database. These are the minimum requirements for UIM.

Table 7–1 Database Creation Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Recommended Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGA+PGA</td>
<td>At least 4 GB in total. Oracle recommends that you use as much memory as you have available in the system, and also use Automatic Memory Management.</td>
</tr>
<tr>
<td>Processes</td>
<td>2000</td>
</tr>
<tr>
<td>Connection mode</td>
<td>Dedicated server</td>
</tr>
<tr>
<td>Redo log file size</td>
<td>1024 MB minimum</td>
</tr>
</tbody>
</table>

Table 7–2 Database Initialization Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Recommended Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>db_file_multiblock_read_count</td>
<td>16</td>
</tr>
<tr>
<td>distributed_lock_timeout</td>
<td>1800</td>
</tr>
<tr>
<td>dml_locks</td>
<td>9700</td>
</tr>
<tr>
<td>job_queue_processes</td>
<td>10</td>
</tr>
<tr>
<td>log_buffer</td>
<td>31457280</td>
</tr>
<tr>
<td>Parameter</td>
<td>Recommended Value</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>open_cursors</td>
<td>5000</td>
</tr>
<tr>
<td>parallel_max_servers</td>
<td>640</td>
</tr>
<tr>
<td>plsql_code_type</td>
<td>NATIVE</td>
</tr>
</tbody>
</table>
Oracle Communications Unified Inventory Management (UIM) supports Oracle Business Intelligence Publisher 11G (BI Publisher), which is the reporting standard for UIM. Through a downloadable patch, UIM provides sample reports that you can run in BI Publisher.

This chapter provides the following information:

- Installing and Configuring BI Publisher
- Downloading and Installing the Sample Reports
- Understanding the Sample Reports
- Running the Sample Reports
- Modifying Existing Sample Reports
- Creating New Reports
- Viewing Example Queries
- Troubleshooting

BI Publisher documentation is available as part of the BI Publisher installation, and you should read the BI Publisher documentation prior to reading this chapter:

http://docs.oracle.com/cd/E28280_01/bi.htm

## Installing and Configuring BI Publisher

The following sections provide information on installing and configuring BI Publisher.

### Installing BI Publisher

BI Publisher is not part of UIM Installer. To use BI Publisher for UIM reporting, you must install it manually.

BI Publisher is installed as part of Oracle Business Intelligence. So, to install BI Publisher, install Business Intelligence by following the instructions in *Installation Guide for Oracle Business Intelligence 11g*, located here:


### Configuring BI Publisher

After you have successfully installed BI Publisher, you need to configure BI Publisher by performing the tasks described in this section.
Getting Started
To get started with configuring BI Publisher, do the following:

1. Start the BI Publisher WebLogic server by following the instructions in User’s Guide for Oracle Business Intelligence Publisher, located here:
   http://docs.oracle.com/cd/E28280_01/bi.1111/e22257/toc.htm
2. Ensure you have privileges to log in to BI Publisher as an administrator.

Adding a Data Source and Establishing a Database Connection
To run reports against UIM data using BI Publisher, you must add UIM as a data source to BI Publisher and establish a database connection to UIM.

To add a data source and establish a database connection:
1. Log in to BI Publisher as an administrator.
2. Follow the instructions for creating data sources in the Quick Start Guide for Oracle Business Intelligence Publisher, located here:

Adding Users and Roles
To provide users with view access, roles to view the reports must be created and assigned to the users.

To add a user and a role, and assign the role to the user:
1. Log into BI Publisher as Administrator.
2. Follow the instructions for creating roles, managing roles, creating users, and granting catalog permissions to a role in Quick Start Guide for Oracle Business Intelligence Publisher, located here:

Downloading and Installing the Sample Reports
This section provides information on downloading and installing the UIM sample reports, which are described later in this chapter.

Downloading the Sample Reports
To download the sample reports:
1. Go to the My Oracle Support web site at:
   https://support.oracle.com
2. Log in using your credentials.
3. Click the Patches and Updates tab.
4. Search for patch number 17823429.
5. Download the p1782349_72_Generic.zip file to tempDir, where tempDir is a temporary directory.
The downloaded ZIP file contains:

- The BIPubReports.zip file, which contains data model files and sample report files that are used to run the sample reports
- A ReadMe HTML file
- A technical specifications document

Note: The information in the technical specifications document is the same information that is described in this chapter.

7. Extract the BIPubReports.zip file to tempDir.

Installing the Sample Reports

You can install the sample reports by using one of the following methods:

- Copying the ZIP file to the BI Publisher Repository
- Uploading the Sample Reports from within BI Publisher

Copying the ZIP file to the BI Publisher Repository

To install the sample reports by copying the ZIP file to the BI Publisher Repository:

1. If you have not already done so, download the sample reports.
   See "Downloading the Sample Reports".
2. Open the tempDir/BIPubReports.zip file.
3. Extract the BIPubReports folder to the BIPublisher_HOME/repository/Reports directory.
4. Log in to BI Publisher.
5. In the upper right corner of the Home page, click the Catalog link.
   The Catalog appears.
6. Expand Shared Folders, and select the BIPubReports folder.
   The sample reports are located in the BIPubReports folder, as shown in Figure 8–1.
7. Change the data model file to point it to the data source you created earlier.
   See "Changing the Data Model Source" for instructions.
Figure 8–1 Sample Reports in the BI Publisher Catalog

Uploading the Sample Reports from within BI Publisher

To install the sample reports by uploading them from within BI Publisher:

1. Log in to BI Publisher.
2. In the upper right corner of the Home page, click the Catalog link.
   The Catalog appears.
3. Select Shared Folder.
4. Create a new folder named BIPubReports under Shared Folder.
5. Select the BIPubReports folder.
6. Create a new folder named Data Models under BIPubReports.
7. Select the BIPubReports folder.
8. Click the Upload Resource icon.
   The Upload dialog box appears.

Note: Regarding the BI Publisher Catalog, files in Shared Folders are accessible to other users, while files in My Folder are user-specific and are not accessible to other users.
9. Click Browse.
   The Choose File to Upload window appears.
10. Navigate to tempDir/BIPubReports.
11. Select an .xdoz file and click Open. (These are the report files.)
    The Upload dialog box appears.
12. Click Upload.
13. Repeat steps 7 through 12 to upload each .xdoz file.
14. Select the Data Models folder.
15. Click the Upload Resource icon.
    The Upload dialog box appears.
16. Click Browse.
    The Choose File to Upload window appears.
18. Select an .xdmz file and click Open. (These are the data model files.)
    The Upload dialog box appears.
19. Click Upload.
20. Repeat steps 14 through 19 to upload each .xdmz file.
21. The sample reports are located in the BIPubReports folder, as shown in Figure 8–1, “Sample Reports in the BI Publisher Catalog”.
22. Change the data model file to point it to the data source you created earlier.
    See “Changing the Data Model Source” for instructions.

Understanding the Sample Reports

This section describes the following sample reports:

■ Connectivity Report
■ Connectivity Activation Report for Project Activity Report
■ Customer Service Resource Allocation Report
■ Customer Services Supported by Logical Device Report
■ Device Utilization Report
■ Pipe Capacity by Terminating Place Report
■ Services In Progress Report
■ Telephone Number Reports

See "Running the Sample Reports" for information on how to run the sample reports that are described in the following sections.

Connectivity Report

This report lists available channelized connectivities based on the location provided. Also, based on the selected connectivity, the report shows Channelized Connectivity,
its riders, capacity consumed by riders, and the service and party associated with the rider.

When running this report, you select a location or locations from the Location list. The Connectivity list is then populated with channelized connectivities that are present at the selected locations. You can then select a connectivity from the Connectivity list to view its riders.

Figure 8–2 shows an example of the Connectivity Report:

**Figure 8–2  Connectivity Report**

![Connectivity Report](image)

**Connectivity Activation Report for Project Activity Report**

**Note:** Within the BI Publisher Catalog, this report name is listed as Project Activation Report. However, when the report runs, the title of the report is Connectivity Activation Report.

This report provides the activation details to provision the connectivity that has been redesigned as part of a Project Activity that may involve Grooming, Rehoming, Insert Node, or Remove Node operation. This report contains various sections that provide necessary information to provision the changes in the network that have been planned in the inventory project.

You can select project, activity, and impacted connectivity from the respective lists to view Connectivity Activation for a project Activity. Current version and previous versions will be populated automatically.

- **General Information**
  This section provides the details about the connectivity and the corresponding Project and Activity that is making changes in the connectivity.

- **Cross-Connect**
  This section provides the details of the cross connectivity needs to be activated or deactivated in the devices to provision the connectivity.

- **Jumper**
  This section provides the details of the jumpers needs to be created or removed by the field engineer in the devices to provision the connectivity.

- **Reference**
  This section provides the design details the connectivity before and after the completion of the Project Activity. This section is not directly used in the
provisioning but rather serves as a reference to see the end to end design of the connectivity and understand what has changed in the project Activity.

When running this report, you select project, activity, and impacted connectivity. Current version and previous versions are automatically populated.

Figure 8–3 shows an example of the Connectivity Activation Report for Project Report:

**Figure 8–3 Connectivity Activation Report for Project Activity**

---

**Customer Service Resource Allocation Report**

This report shows all services and allocated resources for a particular customer. You select a customer name to initiate the report.

When running the report, you select a customer name.

Figure 8–4 shows an example of the Customer Service ResourceAllocation Report:
Understanding the Sample Reports

Figure 8–4  Customer Service Resource Allocation Report

Customer Services Supported by Logical Device Report

This report shows all services and associated customers for a particular logical device such as router. This report is designed for service impact analysis based on a specific logical device.

When running the report, you select a logical device.

Figure 8–5 shows an example of the Customer Services Supported by Logical Device Report:

Figure 8–5  Customer Services Supported by Logical Device Report

Device Utilization Report

This report shows the capacity consumed for logical devices. It shows logical devices, assigned device interface specifications, and utilization of the device interfaces for a given location or logical device.

When running the report, you enter a location or a device ID, or both.

Figure 8–6 shows an example of the Device Utilization Report:
Figure 8–6  Device Utilization Report

Pipe Capacity by Terminating Place Report
This report shows pipe capacity information based on the terminating place.
When running the report, you select a terminating place to see all the pipes and their capacity for that place.
Figure 8–7 shows an example of the Pipe Capacity by Terminating Place Report:

Figure 8–7  Pipe Capacity by Terminating Place Report

Services In Progress Report
This report shows all service instances for a particular service specification where a service configuration is in progress.
When running the report, you select a service specification to show the services in progress.
Figure 8–8 shows an example of the Services in Progress Report:
Telephone Number Reports

A set of predefined utilization reports shows the numbers of telephone numbers within a pre-defined range. These reports can be used to determine which telephone numbers are assigned and which are still available for consumption. In addition, this view provides categorization based on the consumer, such as reservation, assignment, or condition. Below is a description of each report:

- **Utilization Report by 1K Block**
  
  This report shows the number of assigned, reserved, and available telephone numbers for a block of 1,000 numbers. The report also shows the utilization percentage.

  When running the report, you select the telephone number specification to view utilization for the blocks created using that specification.

  *Figure 8–9* shows an example of the Utilization Report by 1K Block:

- **Utilization Report by 10K Block**
  
  This report shows the number of assigned, reserved, and available telephone numbers for a block of 10,000 numbers. The report also shows the utilization percentage.
When running the report, you select the telephone number specification to view utilization for the blocks created using that specification.

Figure 8–10 shows an example of the Utilization Report by 10K Block:

**Figure 8–10  Utilization Report by 10K Block**

- **Utilization Report for 1K/10K Block by Category**
  This report shows the assignment status, reservation type, and condition type for telephone numbers within a block of 1,000 or 10,000.

  When running the report, you select the block to view utilization of the numbers in that block.

  Figure 8–11 shows an example of the Utilization Report for 1K/10K Block by Category:

**Figure 8–11  Utilization Report for 1K/10K Block by Category**

- **Utilization Report by Category for Toll Free Numbers**
  This report shows the assignment status, reservation type and condition type for toll free numbers.

  Figure 8–12 shows an example of the Utilization Report by Category for Toll Free Numbers:
Running the Sample Reports

To run the sample reports:

1. Log into BI Publisher.
2. In the upper right corner of the Home page, click the Catalog link.
   The Catalog appears.
3. If this is the first time you are running the sample reports, edit the data model to point to a data source. For instructions on how to do this, see "Changing the Data Model Source".
4. Expand Shared Folders, and select the BIPubReports folder.
5. Click the Open link for the report you want to run.
   Depending on the report you opened, a list or lists from which to select data appears.
6. Select data from the list or lists that are present for the report you are running.
7. Click Apply to apply your data selections and run the report.
   The report appears.

Modifying Existing Sample Reports

You can modify the existing sample reports by:

- Editing Existing Sample Reports to alter the report format
- Changing the Data Model Source to alter the data that appears in existing sample reports
- Setting Default Parameter Values to alter the data that appears in the report
Any reports you create by modifying the existing sample reports can be run in the same manner as the sample reports. See “Running the Sample Reports” for more information.

**Editing Existing Sample Reports**

To edit an existing sample report:

1. Log into BI Publisher.
2. In the upper right corner of the Home page, click the **Catalog** link. The Catalog appears.
3. Expand **Shared Folders**, and select the **BIPubReports** folder.
4. Click the **Edit** link for the report you want to edit.
5. Edit the report format.
   For detailed information on editing the report format, click the Help icon on this page.
6. Click the **Save** icon.

**Changing the Data Model Source**

To change the Data Model Source:

1. Log into BI Publisher.
2. In the upper right corner of the Home page, click the **Catalog** link. The Catalog appears.
3. Expand **Shared Folders**.
4. Expand **BIPubReports**, and select the **Data Models** folder.
5. Click the **Edit** link for the data model you want to edit.
6. Click **Data Model**.
   The Properties page for the selected data model appears.
7. From the **Default Data Source** list, select a different data source, as shown in **Figure 8–13**.

![Figure 8–13 Data Model Properties Page](image)

8. Expand **Data Model**, and select **Data Sets**.
9. Select a data set.
   The **Diagram** tab for the selected data set appears.
10. Click the **View Actions** list menu located in right corner of the data set, as shown in **Figure 8–14**.

**Figure 8–14  View Actions Menu**

11. From the View Actions menu, select **Edit Data Set**.

The Edit Data Set dialog box appears, as shown in **Figure 8–15**.

**Figure 8–15  Edit Data Set Dialog Box**

12. Change **Data Source**.

13. Close the Edit Data Set dialog box.

14. Click the **Save** icon.

**Setting Default Parameter Values**

To set default parameter values:
1. Log into BI Publisher.
2. In the upper right corner of the Home page, click the Catalog link. The Catalog appears.
3. Expand Shared Folders.
4. Expand BIPubReports, and select the Data Models folder.
5. Click the Edit link for the data model you want to edit.
6. Expand Data Model, and select Parameters.
7. Select a parameter.
   The Parameters page for the selected parameter appears, as shown in Figure 8–16.

Figure 8–16 Data Model Parameters Page

8. Set or change the value in the Default Value field.
9. Click the Save icon.

Creating New Reports

You can create a new data model to create a new report. To view example queries when creating new reports, see "Viewing Example Queries".

To create a new report:

1. Understand the data model entities you intend to use in your custom report.
2. In the upper right corner of the Home page, click the New icon, and select Data Model.
   The Properties page for the new data model appears.
3. From the Default Data Source list, select a data source.
4. Expand Data Model and select Data Sets.
   The Diagram tab for the selected data set appears.
5. Click the New Data Set list menu and select SQL Query, as shown in Figure 8–17.
Creating New Reports

The Create Data Set - SQL dialog box opens.

6. Do one of the following:
   - Click **Query Builder**, select the appropriate tables, and build the query to populate the **SQL Query** field.
   - Copy and paste a pre-written query directly into the **SQL Query** field.

7. Click **OK** to close the Create Data Set - SQL dialog box.

8. Click the **Save** icon to save the data set.

9. Click the **Get XML Output** icon located next to the **Save** icon.

10. From the **Number of rows to return** list, select the number of rows to return.

11. Click **Run**.

12. Open the list menu located in the upper right corner of the page, and select **Save as Sample Data** to save the data.

The **Diagram** tab for the new data set appears.

13. In the upper right corner of the page, click the **New** icon, then select **Report**, then select the **Using Existing Data Model** link.

The Create Report window appears.

14. Select the data model and click **Next**.

15. Choose **Guide Me** and click **Next**.

16. From the Available Columns on the left side, select the columns that you want to appear in your report.

17. Click **Finish**.

18. On the **Insert** tab, use the listed Components to create data tables, bar charts, and so forth.

19. On the **Page Layout** tab, format your report by specifying portrait/landscape, headers/footers, and so forth.

20. Click the **Save** icon.
Any custom reports you create can be run in the same manner as the sample reports. See “Running the Sample Reports” for more information.

**Viewing Example Queries**

You can view the queries from any of the sample reports to use an example to follow when creating custom reports.

To view example queries:
1. Log into BI Publisher.
2. In the upper right corner of the Home page, click the **Catalog** link.
   The Catalog appears.
3. Expand **Shared Folders**.
4. Expand **BIPubReports**, and select the **Data Models** folder.
5. Click the **Edit** link for the applicable data model.
6. Expand **Data Model**, and select **Data Sets**.
7. Select a data set.
   The **Diagram** tab for the selected data set appears.
8. Click the **View Actions** list menu located in right corner of the data set, as shown in Figure 8–18.

**Figure 8–18 View Actions Menu**

9. From the View Actions menu, select **Edit Data Set**.
    The Edit Data Set dialog box appears, as shown in Figure 8–19.
    Here, you can view the query.
Troubleshooting

Refer to BI Publisher forum for troubleshooting information.

This appendix provides information on the UIM\_Home directory structure. **Example A–1** shows the contents of the UIM\_Home directory structure.

**Example A–1   UIM Directory Structure**

```
app/ (Directory for UIM applications)
  7_2_4/
    custom.ear
    uim\_core\_lib.ear
    uim\_custom\_lib.ear
    uim\_external\_lib.ear
  mapviewer.ear
  plan/
    AppFileOverrides/
      platform/
        runtime-poms.properties
    ClusterPlan.xml
    Plan.xml
    inventory.ear
    inventory-adapter.ear
  cartridges/ (Directory for UIM base and sample cartridges)
    base/
      studioProjects/
        ora_uim\_baseextpts\_cartproj.zip
        ora_uim\_basemeasurements\_cartproj.zip
        ora_uim\_basephone\_mgmt\_cartproj.zip
        ora_uim\_baserulesets\_cartproj.zip
        ora_uim\_basespecifications\_cartproj.zip
        ora_uim\_basetechnologies\_cartproj.zip
        ora_uim\_canada\_tn\_cartproj.zip
        ora_uim\_dwdm\_cartproj.zip
        ora_uim\_geocoder\_sample\_cartproj.zip
        ora_uim\_norway\_tn\_cartproj.zip
        ora_uim\_pathanalysis\_sample\_cartproj.zip
        ora_uim\_saudi\_arabia\_tn\_cartproj.zip
        ora_uim\_servicetopology\_sample\_cartproj.zip
        ora_uim\_uk\_tn\_cartproj.zip
        ora_uim\_us\_tn\_cartproj.zip
        ora_uim\_workorder\_cartproj.zip
    baseextpts\_cartproj.jar
```
ora_uim_canada_tn_cartproj.jar
ora_uim_dwdm_cartproj.jar
ora_uim_mds_cartproj.zip
ora_uim_model_cartproj.zip
ora_uim_norway_tn_cartproj.jar
ora_uim_saudi_arabia_tn_cartproj.jar
ora_uim_us_tn_cartproj.jar
ora_uim_workorder_cartproj.jar
sample/
ora_uim_geocoder_sample_cartproj.jar
ora_uim_localization_reference_cartproj.zip
ora_uim_pathanalysis_sample_cartproj.jar
ora_uim_servicetopology_sample_cartproj.jar
tools/
studioProjects/
ora_uim_entity_sdk_cartproj.zip
config/ (Directory for UIM property and configuration files)
    affinity-config.properties
    cache-config.properties
    castor.properties
    config-reload.properties
    consumer.properties
    ehcache.xml
    ehcache.xml.cluster
    importExport.properties
    interaction.xml
    InventoryService.xsl
    loggingconfig.xml
    project-config.properties
    reference.properties
    ruleProcess.properties
    system-config.properties
    timers.properties
    topologyProcess.properties
    extensibility
        META-INF
            aop.xml
    META-INF
        aop.xml
    persistence
        eclipselink-orm.xml
    resources
    logging
        addressrange.properties
        businessInteraction.properties
        capacity.properties
        configaction.properties
        configuration.properties
        connectivity.properties
        consumer.properties
        countries.properties
        custom.properties
        enum.properties
        equipment.properties
        exception.properties
        extensibility.properties
        inventoryGroup.properties
        location.properties
        logicaldevice.properties
media.properties
mediaResource.properties
network.properties
number.properties
party.properties
place.properties
product.properties
project.properties
README-ERROR-RANGE.properties
resource.properties
role.properties
service.properties
signal.properties
specification.properties
status.properties
subscriber.properties
system.properties
topology.properties
doc/ (Directory for UIM deployment files)
ora_uim_delta.war
ora_uim_javadoc.war
images/ (Directory for custom company logos)
lib/ (Directory for UIM .jar and .war files)
aspectjrt.jar
aspectjtools.jar
aspectjweaver.jar
capacity_caps.jar
characteristic_caps.jar
comms-platform-webapp.war
consumable_caps.jar
core_caps.jar
dom4j-1.6.1.jar
groupenabled_caps.jar
ies.jar
ojdbc5.jar
poms.jar
sdoapi.jar
stringtemplate-3.2.1.jar
uim-api-framework.jar
uim-caps.jar
uim-core-interfaces.txt
uim-entities.jar
uim-entity-xmlbean.jar
uim-managers.jar
uim-webservices-framework.jar
uim-webservices-framework-xsd.jar
logs/ (Directory for UIM server logs)
scripts/ (Directory for UIM scripts)
util/ (Directory for Utilities)
ora_uim_dbtools.jar
webservices/ (Directory for UIM web services)
reference_webservice.zip
schema_serviceFulfillment_webservice.zip
schema_webservice.zip