**Oracle® Communications
Unified Inventory Management**

System Administrator's Guide

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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 12c, 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. This document is available on the Oracle Software Delivery Cloud as part of the Oracle Communications Unified Inventory Management Developer Documentation package.

- *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. This document is available on the Oracle Software Delivery Cloud as part of the Oracle Communications Unified Inventory Management Developer Documentation package.

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

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

- Design Studio Help: Provides step-by-step instructions for tasks you perform in Design Studio.

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

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1

Unified Inventory Management System Administration Overview

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.

- Working with UIM sample reports. See "Working with Reports" 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

Placeholder	Default Directory Path	Directory Description
MW_Home	**/opt/Oracle/Middleware**	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.
WL_Home	**/opt/Oracle/Middleware/wlserver**	The base directory for the WebLogic Server core files. It is located in the *MW_Home* directory.
Domain_Home	**/opt/Oracle/Middleware/user_projects/ domains/***domain_name* where *domain_name* is the name assigned to the domain at installation	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.
UIM_Home	**/opt/Oracle/Middleware/user_projects/ domains/***domain_name***/UIM** where *domain_name* is the name assigned to the domain at installation	The directory into which UIM was installed. This directory contains various installation-related files. See Appendix A, "UIM_Home Directory Structure" for more information.

2

Starting and Stopping UIM

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:

   cartridge_management_ws(7.3.0.0.0)

   mapviewer

   oracle.communications.inventory

   oracle.communications.inventory.cartridgeadapter

   oracle.communications.inventory.customlib(7.3, 7.3.4.0.0)

   oracle.communications.inventory.externallib(7.3, 7.3.4.0.0)

   oracle.communications.inventory.javadoc

   oracle.communications.platform.cui.webapp(12.1.3.0.0, 7.3.4.0.0)

   oracle.communications.platform.ies(12.1.3.0.0, 7.3.4.0.0)

   oracle.communications.platform.poms(12.1.3.0.0, 7.3.4.0.0)

   oracle.communications.platform.WsFramework(12.1.3.0.0, 7.3.4.0.0)

   > **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:

   ```
   ./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:

   ```
   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. 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.

3

Understanding UIM Security

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 application roles, which are in turn associated with application 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.

Figure 3–1   Authentication and Authorization Flow
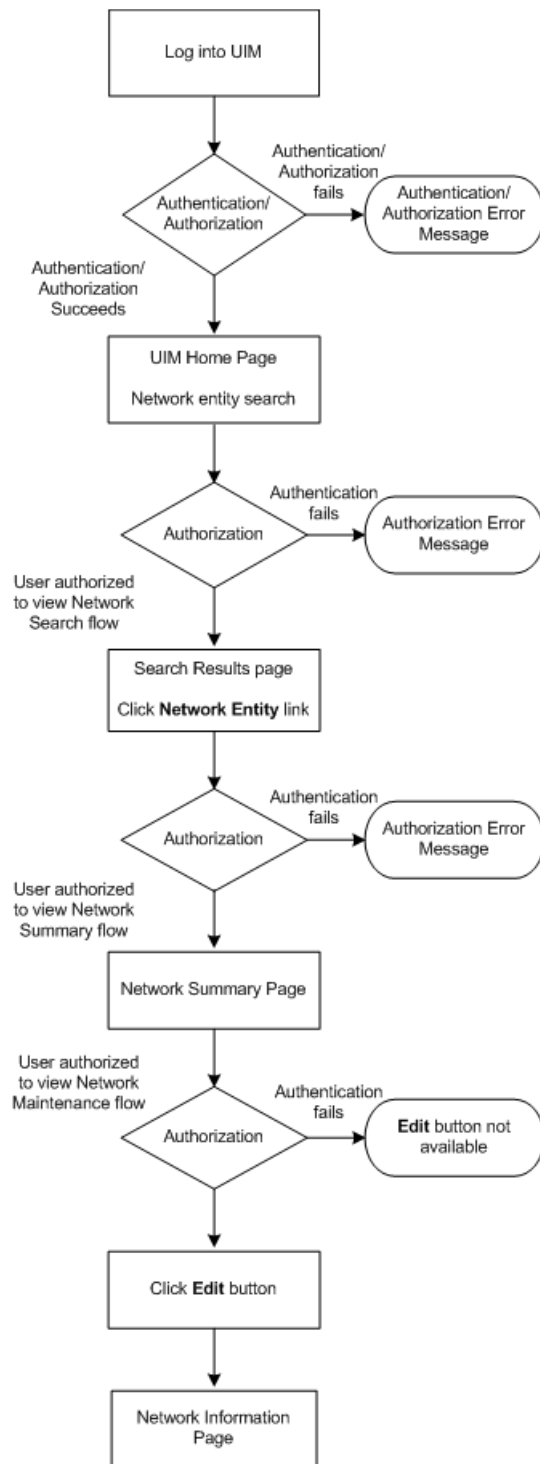
By default, you use two external systems to manage most aspects of UIM security:

■   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 application roles and application policies that define what pages users can access and what actions they can take.

> **Note:** This chapter includes information about tasks you perform with WebLogic Server Administration Console and Oracle Enterprise Manager, but is not intended to replace the documentation or online help for those systems.

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 UIM 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. You can configure a deployment plan to enable single sign-on (SSO) for UIM and other Oracle Communication applications to avoid the additional user sign-on processes.

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 digest authentication (which includes a cyptographic hash of the password) 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 application roles, which are in turn associated with application 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. In the Deployments list, click the **oracle.communications.inventory** link.

   The Settings for oracle.communications.inventory page appears

4. Click the **Configuration** tab.

5. Click the **Application** sub-tab.

6. In **Session Timeout (in seconds)**, change the value to the desired number of seconds.

7. Click **Save**.

8. In the left panel, under Domain Structure, click **Deployments**.

   The Summary of Deployments page appears.

9. Select the check box for **oracle.communications.inventory**.

10. Click **Update**.

    The Update Application Assistant page appears.

11. Choose **Redeploy this application using the following deployment files**.

12. 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:

    ■ *UIM_Home*/**app/inventory.ear**

    ■ *UIM_Home*/**app/plan/Plan.xml**

13. 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 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. Login to the WebLogic Server Administration Console.

2. In the left panel, under Domain Structure, click **Deployments**.

    The Summary of Deployments page appears.

3. In the Deployments list, click the **oracle.communications.inventory** link.

    The Settings for oracle.communications.inventory page appears

4. In the Modules and Components area, click the link for the web service you want to configure.

    For example, to configure the Inventory Web Service, click the **oracle.communications.inventory.ws.InventoryWSPortImpl** link.

5. Click the **Configuration** tab.

    The Settings page for the web service appears.

6. Click the **WS-Policy** tab.

   The table of web service endpoints and operations appears. The table also displays current web service policies.

7. Select a web service endpoint or operation.

   The Configure a web service policy page appears.

8. Select a pre-packaged or a custom web service policy file and then click the right arrow.

9. Click **OK**.

   The Save Deployment Plan Assistant page appears.

10. Click the link next to **Location**.

11. Navigate to the *Domain_Home*/**UIM/app/plan** directory.

12. 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 permissions in UIM:

- Taskflow permissions controls the ability to view UIM pages. For example, the ServiceSummaryFlow taskflow permission enables a principal to open the Service Summary page in the user interface. See "Taskflow Permissions" for a list of all the taskflow permissions you can grant.

  The full name of a taskflow permission includes path information. For example, the full name of the ServiceSummaryFlow permission is /WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceSummaryFlow.xml#ServiceSummaryFlow.

- Resource permissions controls the ability to take specific actions on specific resource types. For example, the Equipment.DEACTIVATE permission enables a principal to deactivate an Equipment entity from the Equipment Summary page. See "Resource Permissions" for a list of all the resource permissions you can grant.

  The full name of a resource permission includes information about the resource type. For example, the full name of the Equipment.DEACTIVATE permission is resourceType=PAGE_ACTION,resourceName=Equipment.DEACTIVATE.

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

- Application 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. See "Using Application Roles" for more information.

- Application policies are groups of permissions that grant access to pages and actions. You associate application roles to application 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. See "Using Application Policies" for more information.

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 Application Roles

You create application 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 application policies. Each policy defines access to a page or action in UIM. See "Using Application Policies".

All users are assigned to a default role called **uim-accessible-user**. 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.

> **Note:** Before you make any changes to application roles, you should back up the **system-jazn-data.xml** file located in the *Domain_Home*/**config/fmwconfig/** directory.

Creating Application Roles

To create an application role:

1. Open Oracle Enterprise Manager Console.

2. In the **Target Navigation** area, expand **Application Deployments**.

3. Expand **oracle.communications.inventory**.

4. Do one of the following:

■ For standalone servers, right-click **oracle.communications.inventory (AdminServer)**, then select **Security** and **Application Roles**.

■ For clustered environments, right-click a managed server, then select **Security** and **Application Roles**.

The Application Role page appears.

5. Click the **Create** button.

6. In the Create Application Role page, enter the role name.

7. (Optional) Enter a display name and description.

8. (Optional) To associate users or groups to the new application role:

   a. In the Members area, click the **Add** button.

   The Add Principal dialog box appears.

   b. Search for and select a user or group, then click **OK**.

   The dialog box closes.

9. Click **OK**.

Updating Application Roles

To update an application role:

1. Log in to Enterprise Manager Console.

2. In the **Target Navigation** area, expand **Application Deployments**.

3. Expand **oracle.communications.inventory**.

4. Do one of the following:

   ■ For standalone servers, right-click **oracle.communications.inventory (AdminServer)**, then select **Security** and **Application Roles**.

   ■ For clustered environments, right-click a managed server, then select **Security** and **Application Roles**.

   The Application Role page appears.

5. Select an application role in the list, then click **Edit**.

   The Edit Application Role page appears.

6. Update the role name, display name, and description, if necessary.

7. To associate users or groups to the new application role:

   a. In the Members area, click the **Add** button.

   The Add Principal dialog box appears.

   b. Search for and select a user or group, then click **OK**.

   The dialog box closes.

8. Click **OK**.

Deleting Application Roles

To delete an application role:

1. Login to Enterprise Manager Console.

2. In the **Target Navigation** area, expand **Application Deployments**.

3. Expand **oracle.communications.inventory**.

4. Do one of the following:

   ■ For standalone servers, right-click **oracle.communications.inventory (AdminServer)**, then select **Security** and **Application Roles**.

   ■ For clustered environments, right-click a managed server, then select **Security** and **Application Roles**.

   The Application Role page appears.

5. Select an application role in the list, then click **Delete**.

6. In the confirmation dialog box, click **Yes**.

   The role is deleted.

Using Application Policies

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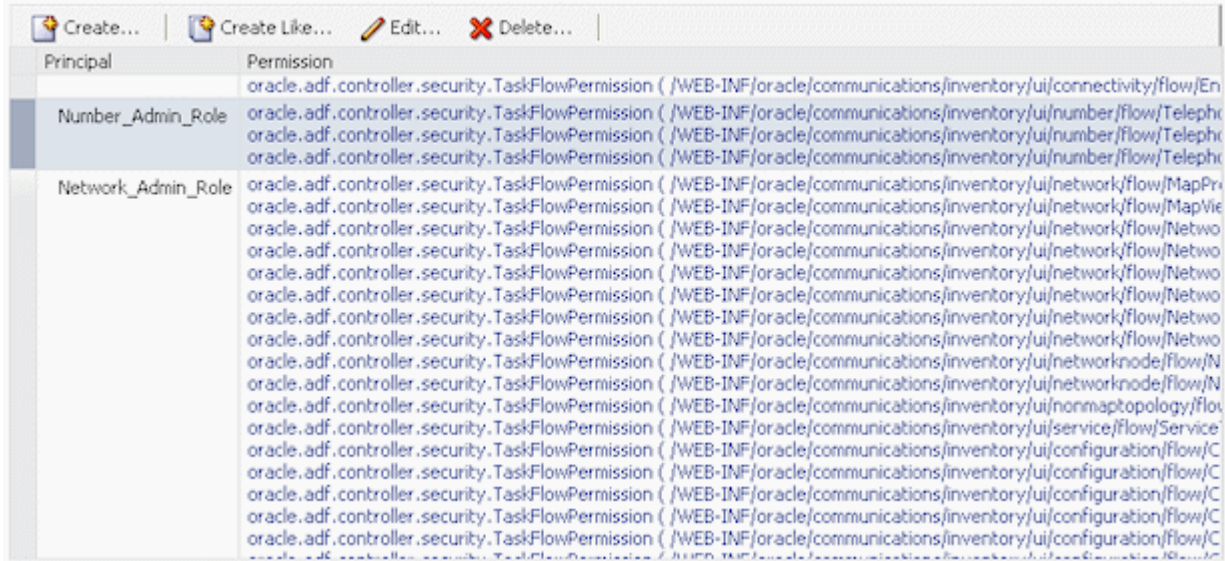
You use Oracle Enterprise Manager to manage policies. To create policies, you gather together the permissions that apply to a role or roles and then associate those permissions to the roles.

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.

Figure 3–2   Application Policies in Oracle Enterprise Manager

The Oracle Enterprise Manager Application Policies page lists all the policies defined for the application, including the policies for the default roles, which are:

- **uim-accessible-user**
- **LocationAdministrator**
- **ProductAdministrator**
- **uimuser**

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

> **Note:** Before you make any changes to application policies, you should back up the **system-jaxn-data.xml** file in the *Domain_Home*/**config/fmwconfig/** directory.

Creating an Application Policy

You create an application policy by granting permissions to a grantee (user, group, or application role).

To create an application policy:

1. Open Oracle Enterprise Manager Console.
2. In the **Target Navigation** area, expand **Application Deployments**.
3. Expand **oracle.communications.inventory**.
4. Do one of the following:

- For standalone servers, right-click **oracle.communications.inventory (AdminServer)**, then select **Security** and **Application Policies**.

- For clustered environments, right-click a managed server, then select **Security** and **Application Policies**.

The Application Policies page appears.

5. Click the **Create** button.

The Create Application Grant page appears.

6. In the **Grantee** section, click the **Add** button.

The Add Principal dialog box appears.

7. Search for and select a user, group, or application role to which you want to grant permissions.

8. Click **OK** to close the dialog box.

9. In the **Permissions** section, click the **Add** button.

The Add Permission dialog box appears.

10. Click the **Permissions** button.

11. Do one of the following in the in the **Permission Class** list:

- To add a resource permission, select **oracle.security.jps.ResourcePermission**.

- To add a taskflow permission, select **oracle.security.jps.TaskFlowPermission**.

12. In the **Resource Name** field, select **Includes**, then enter all or part of a permission name.

13. Click the arrow button.

14. In the Search Results area, select the permission you want to grant.

15. Click **Continue**.

The Add Permission dialog box changes to include customization information.

16. Select the check boxes for the permission actions you want to grant. Select **All** to grant all permission actions.

17. Click **Select**.

The dialog box closes and the **Permissions** list includes the permission you added.

18. Repeat steps 11 through 17 for each permission you want to grant.

19. Click **OK**.

Updating an Application Policy

You can update application policies to include new grantees and new permissions.

To update an application policy:

1. Open Oracle Enterprise Manager Console.

2. In the **Target Navigation** area, expand **Application Deployments**.

3. Expand **oracle.communications.inventory**.

4. Do one of the following:

- For standalone servers, right-click **oracle.communications.inventory (AdminServer)**, then select **Security** and **Application Policies**.

- For clustered environments, right-click a managed server, then select **Security** and **Application Policies**.

The Application Policies page appears.

5. In Search section, select **User**, **Group**, or **Application Role** in the **Principal Type** field.

6. Click the arrow button.

7. In the Search Results section, select the principal that has the policy you want to update.

8. Click the **Edit** button.

The Edit Application Grant page appears.

9. To add a grantee to the policy:

   a. In the **Grantee** section, click the **Add** button.

      The Add Principal dialog box appears.

   b. Search for and select a user, group, or application role to which you want to grant permissions.

   c. Click **OK** to close the dialog box.

   d. Repeat steps a through c for each grantee you want to add.

10. To add permissions to the policy:

   a. In the **Permissions** section, click the **Add** button.

      The Add Permission dialog box appears.

   b. Click the **Permissions** button.

   c. Do one of the following in the in the **Permission Class** list:

      To add a resource permission, select **oracle.security.jps.ResourcePermission**.

      To add a taskflow permission, select **oracle.security.jps.TaskFlowPermission**.

   d. In the **Resource Name** field, select **Includes**, then enter all or part of a permission name.

   e. Click the arrow button.

   f. In the Search Results area, select the permission you want to grant.

   g. Click **Continue**.

      The Add Permission dialog box changes to include customization information.

   h. Select the check boxes for the permission actions you want to grant. Select **All** to grant all permission actions.

   i. Click **Select**.

      The dialog box closes and the **Permissions** list includes the permission you added.

   j. Repeat steps a through i for each permission you want to grant.

11. Click **OK**.

Deleting an Application Policy

To delete an application policy:

1. Open Oracle Enterprise Manager Console.

2. In the **Target Navigation** area, expand **Application Deployments**.

3. Expand **oracle.communications.inventory**.

4. Do one of the following:

   ■ For standalone servers, right-click **oracle.communications.inventory (AdminServer)**, then select **Security** and **Application Policies**.

   ■ For clustered environments, right-click a managed server, then select **Security** and **Application Policies**.

   The Application Policies page appears.

5. In Search section, select **User**, **Group**, or **Application Role** in the **Principal Type** field.

6. Click the arrow button.

7. In the Search Results section, select a principal.

8. Click **Delete**.

9. In the confirmation popup, click **Yes** to delete the application policy associated with the principal.

   The policy is deleted.

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.

The XML file is designed for use in development and testing environments. In production environments, you should configure Oracle Enterprise Manager to use a database policy store. For example, you may have a pre-existing LDAP server that you want to use for this purpose.

> **Note:** Using an XML-based policy store in a production environment poses risks, such as file corruption or inadvertent modification. It can also cause performance degradation in environments with complex security policies.

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.

Associating Policies to Web Services

You can associate web service policies with deployed web services by using the WebLogic Server Administration Console.

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

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

To associate policies to web services:

1. Open the WebLogic Server Administration Console.

2. In the left panel, under Domain Structure, select **Deployments**.

   The Summary of Deployments page appears.

3. Expand **oracle.communications.inventory**.

4. Click a deployed web service, such as
   oracle.communications.inventory.webservice.ws.InventoryWSPortImpl.

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

   The tab displays the **Service Endpoints and Operations** list. The list initially
   shows only the service endpoints. You can expand the service endpoint rows to
   see the operations.

6. To configure a policy for the web service endpoint:

   a. Click on a Service Endpoint link to configure the policy type for a web service
      endpoint.

      The Configure a WS-Policy File for a Web Service Endpoint page appears.

   b. Select policies from the **Available Endpoint Policies** list.

   c. Click the right arrow to move the selected policies to the **Chosen Endpoint
      Policies** list.

   d. Click **OK**.

      The Settings page updates to include information about the policies you
      added.

7. To configure a policy to an operation:

   a. Expand a Service Endpoint link to display its operations.

   b. Click an operation link.

      The Configure the WS-Policy for the SOAP Message of an Operation page
      appears.

   c. Select policies from the **Available Message Policies** list.

   d. Click the right arrow to move the selected policies to the **Chosen Message
      Policies** list.

   e. Click **Next**.

      The Configure the WS-Policy for the Inbound SOAP Message of an Operation
      page appears.

   f. Select policies from the **Available Inbound Message Policies** list.

   g. Click the right arrow to move the selected policies to the **Chosen Inbound
      Message Policies** list.

   h. Click **Next**.

      The Configure the WS-Policy for the Outbound SOAP Message of an
      Operation page appears.

   i. Select policies from the **Available Outbound Message Policies** list.

   j. Click the right arrow to move the selected policies to the **Chosen Outbound
      Message Policies** list.

   k. Click **Finish**.

8. Click **OK**.

The Settings page updates to include information about the policies you added.

Entity-Level Authorization

You can control data access to individual entities in UIM. To configure entity-level authorization, you partition the UIM database by using user groups in a security realm. You must also enable security filtering in the application.

You must also customize UIM to apply the partitioning to entities when they are created or update. You can use extension points and rulesets for this purpose.

Creating Partitions in the UIM Database

To create partitions in the UIM database:

1. Open the WebLogic Server Administration Console.

2. Click **Lock and Edit**.

3. In the **Domain Structure** tree, select **Security Realms**.

The Summary of Security Realms page appears.

4. Click the link for the UIM security realm.

The Settings page for the security realm 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#** prefix, UIM will not recognize the group as a partition and the partitioning will not work.

9. If you have configured a third-party security provider, select it in the **Provider** field.

10. Click **OK**.

The Settings page for the security realm appears.

11. Click the **Users** tab.

12. Click on the user name that you want to add to the new group.

The Settings page for the user appears.

13. Click the **Groups** tab.

14. 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.

15. Click **Save**.

16. 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.

Enabling Security Filtering in UIM

To enable security filtering in UIM:

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
   ```

3. Save and close the file.

Taskflow Permissions

Table 3–1 lists all of the UIM taskflow permissions, sorted by component name.

Table 3–1   Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/ActivityListFlow.xml#ActivityListFlow	List of Activities.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/ActivityItemsListFlow.xml#ActivityItemsListFlow	List of Activity Items and Impact Items.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/GroomActivityFlow.xml#GroomActivityFlow	Groom Activity.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/RehomeActivityFlow.xml#RehomeActivityFlow	Rehome Activity.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/ActivityWorkspaceFlow.xml#ActivityWorkspaceFlow	Activity Workspace.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/GroomConnectivitiesFlow.xml#GroomConnectivitiesFlow	Dual Tree View of Source and Target Connectivity involved in Groom operation.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/InsertNodeActivityFlow.xml#InsertNodeActivityFlow	Insert Node Activity.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/InsertNodeTrainFlow.xml#InsertNodeTrainFlow	Wizard flow for Insert Node Activity.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/RemoveNodeActivityFlow.xml#RemoveNodeActivityFlow	Remove Node Activity.
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/RemoveNodeTrainFlow.xml#RemoveNodeTrainFlow	Wizard flow for Remove Node Activity.

Table 3–1   (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Activity	View	/WEB-INF/oracle/communications/inventory/ui/project/activity/flow/RehomeConnectivitiesFlow.xml#RehomeConnectivitiesFlow	Dual Tree View of Source and Target Devices involved in Rehome operation.
Business Interaction	Edit	/WEB-INF/oracle/communications/inventory/ui/businessinteraction/flow/BusinessInteractionEditFlow.xml#BusinessInteractionEditFlow	Edit a business interaction from search results or the Summary page.
Business Interaction	View	/WEB-INF/oracle/communications/inventory/ui/businessinteraction/flow/BusinessInteractionSearchResultsFlow.xml#BusinessInteractionSearchResultsFlow	Open a Search page for business interactions by clicking the **Business Interactions** link in the **Tasks** panel.
Business Interaction	View	/WEB-INF/oracle/communications/inventory/ui/businessinteraction/flow/BusinessInteractionSummaryFlow.xml#BusinessInteractionSummaryFlow	Open a Business Interaction Summary by clicking on the id (hyperlink) in the **Business Interactions** search results.
Business Interaction	View	/WEB-INF/oracle/communications/inventory/ui/businessinteraction/flow/BusinessInteractionAttachmentSummaryFlow.xml#BusinessInteractionAttachmentSummaryFlow	Open a Business Interaction Attachment Summary page, which displays the XML payload.
Characteristics	View	/WEB-INF/oracle/communications/inventory/ui/characteristic/flow/CharacteristicSpecificationSearchResultsFlow.xml#CharacteristicSearchResultsFlow	View characteristics search results.
Characteristics	View	/WEB-INF/oracle/communications/inventory/ui/characteristic/flow/CharacteristicSpecificationSummaryFlow.xml#CharacteristicSpecificationSummaryFlow	Open a Characteristic Specification Summary page.
Configuration	View	/WEB-INF/oracle/communications/inventory/nso/ui/configuration/flow/ConfigSummaryFlow.xml#ConfigSummaryFlow	View Network Service and VNF configurations.
Custom Network Address	View	/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressSearchResultsFlow.xml#CustomNetworkAddressSearchResultsFlow	Open a Search page for custom network addresses by clicking the **Custom Network Address** link in the **Tasks** panel.
Custom Network Address	View	/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressSummaryFlow.xml#CustomNetworkAddressSummaryFlow	Open a Custom Network Address Summary page.
Custom Network Address	Edit	/WEB-INF/oracle/communications/inventory/ui/customnetworkaddress/flow/CustomNetworkAddressEditFlow.xml#CustomNetworkAddressEditFlow	Edit a custom network address from search results or a Summary page.
Condition	Edit	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ConditionEditFlow.xml#ConditionEditFlow	Edit a condition by opening its page from the **Related Pages** menu in an entity page.

Table 3–1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Condition	View	/WEB-INF/oracle/communications/inventory/ui /consumer/flow/ConditionListFlow.xml#Conditi onListFlow	Open the list of conditions associated by using the **Related Pages** menu in an entity page.
Configuration	View	/WEB-INF/oracle/communications/inventory/ui /configuration/flow/ConfigurationSummaryFlo w.xml#ConfigurationSummaryFlow	Open a Configuration Summary page. (For all configurations except Pipe.)
Configuration	Edit	/WEB-INF/oracle/communications/inventory/ui /configuration/flow/ConfigurationEditFlow.xml# ConfigurationEditFlow	Edit an entity configuration. (For all configurations except Pipe.)
Configuration	Edit	/WEB-INF/oracle/communications/inventory/ui /configuration/flow/ConfigurationItemAddFlow. xml#ConfigurationItemAddFlow	Add a configuration item from a Configuration Summary page. (For all configurations, except Pipe.)
Configuration	Edit	/WEB-INF/oracle/communications/inventory/ui /configuration/flow/ConfigurationItemRenameFl ow.xml#ConfigurationItemRenameFlow	Rename a configuration item in a Configuration Summary page.
Configuration	Edit	/WEB-INF/oracle/communications/inventory/ui /configuration/flow/ConfigurationMaintainChar acteristicsFlow.xml#ConfigurationMaintainCharac teristicsFlow	Edit configuration characteristics.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/TDMConnectivitySearchResu ltsFlow.xml#TDMConnectivitySearchResultsFlow	View Connectivity Search page.
Connectivity	Edit	/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/TDMConnectivityCreateFlow. xml#TDMConnectivityCreateFlow	Create Connectivity.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/TDMConnectivityDetailsFlow .xml#TDMConnectivityDetailsFlow	View Connectivity Details page.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/TDMConnectivityChannelFlo w.xml#TDMConnectivityChannelFlow	View Connectivity Channel page.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/TDMConnectivityDesignFlo w.xml#TDMConnectivityDesignFlow	View Connectivity Design page.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/MultiplexedFacilityCapacityC onfigurationFlow.xml#MultiplexedFacilityCapacit yConfigurationFlow	View Capacity Configuration page.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/ConnectivityGapAnalysisFlo w.xml#ConnectivityGapAnalysisFlow	View Gap Analysis.
Connectivity	View	/WEB-INF/oracle/communications/inventory/ui /connectivity/flow/ConnectivityVisualFlow.xml# ConnectivityVisualFlow	Topology view of Connectivity.

Table 3–1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Consumer	View	/WEB-INF/oracle/communications/inventory/ui /consumer/flow/ConsumerListFlow.xml#Consu merListFlow	View telephone number assignments in a Telephone Number Summary page.
Cross Connect	View	/WEB-INF/oracle/communications/inventory/ui /connectivity/interconnection/visualization/flow /CrossConnectsViewFlow.xml#CrossConnectsVie wFlow	View Cross Connect Visualization page.
Custom Object	View	/WEB-INF/oracle/communications/inventory/ui /customobject/flow/CustomObjectSearchResults Flow.xml#CustomObjectSearchResultsFlow	Open a Search page for custom objects by clicking the **Custom Objects** link in the **Tasks** panel.
Custom Object	View	/WEB-INF/oracle/communications/inventory/ui /customobject/flow/CustomObjectSummaryFlow .xml#CustomObjectSummaryFlow	Open a Custom Object Summary page.
Custom Object	Edit	/WEB-INF/oracle/communications/inventory/ui /customobject/flow/CustomObjectEditFlow.xml# CustomObjectEditFlow	Edit a custom object from search results or a Summary page.
Device Interface	View	/WEB-INF/oracle/communications/inventory/ui /deviceinterface/flow/DeviceInterfaceSearchResu ltsFlow.xml#DeviceInterfaceSearchResultsFlow	Open a Search page for device interfaces by clicking the **Device Interface** link in the **Tasks** panel.
Device Interface	View	/WEB-INF/oracle/communications/inventory/ui /deviceinterface/flow/DeviceInterfaceSummaryF low.xml#DeviceInterfaceSummaryFlow	Open a Device Interface Summary page.
Device Interface	Edit	/WEB-INF/oracle/communications/inventory/ui /deviceinterface/flow/DeviceInterfaceEditPopup Flow.xml#DeviceInterfaceEditFlow	Edit a device interface from a device interface hierarchy.
Device Interface	Edit	/WEB-INF/oracle/communications/inventory/ui /deviceinterface/flow/DeviceInterfaceEditFlow.x ml#DeviceInterfaceEditFlow	Edit a device interface from a Device Interface Summary page.
Endpoint	View	/WEB-INF/oracle/communications/inventory/n so/ui/ep/flow/EndPointCreateFlow.xml#EndPoi ntCreateFlow	Open Endpoint Create, View, and Edit tabs.
Equipment	View	/WEB-INF/oracle/communications/inventory/ui /equipment/flow/EquipmentSearchResultsFlow.x ml#EquipmentSearchResultsFlow	Open a Search page for equipment by clicking the **Equipment** link in the **Tasks** panel.
Equipment	View	/WEB-INF/oracle/communications/inventory/ui /equipment/flow/EquipmentSpecVisualFlow.xml #EquipmentSpecVisualFlow	Open an Equipment Specification Visual page by using the **Related Pages** menu in the Equipment Specification Summary page.
Equipment	View	/WEB-INF/oracle/communications/inventory/ui /equipment/flow/EquipmentSummaryFlow.xml# EquipmentSummaryFlow	Open an Equipment Summary page.
Equipment	View	/WEB-INF/oracle/communications/inventory/ui /equipment/flow/EquipmentViewFlow.xml#Equi pmentViewFlow	Open an Equipment Visual page.

Table 3–1   (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Equipment	Edit	/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentEditFlow.xml#EquipmentEditFlow	Edit an Equipment entity from search results or a Summary page.
Equipment	Edit	/WEB-INF/oracle/communications/inventory/ui/equipment/flow/EquipmentRangeEditFlow.xml#EquipmentRangeEditFlow	Edit a range of Equipment entities.
Equipment Holder	View	/WEB-INF/oracle/communications/inventory/ui/equipmentholder/flow/EquipmentHolderSearchResultsFlow.xml#EquipmentHolderSearchResultsFlow	Open a Search page for device interfaces by clicking the **Device Interface** link in the **Tasks** panel.
Equipment Holder	View	/WEB-INF/oracle/communications/inventory/ui/equipmentholder/flow/EquipmentHolderSummaryFlow.xml#EquipmentHolderSummaryFlow	Open an Equipment Holder Summary page.
Equipment Holder	Edit	/WEB-INF/oracle/communications/inventory/ui/equipmentholder/flow/EquipmentHolderEditFlow.xml#EquipmentHolderEditFlow	Edit an equipment holder.
Favorite Items	View	/WEB-INF/oracle/communications/platform/cui/flows/FavoriteItemsFlow.xml#FavoriteItemsFlow	View the **Favorites** menu in the UIM main page.
Favorite Items	Edit	/WEB-INF/oracle/communications/platform/cui/flows/ManageFavoritesFlow.xml#ManageFavoritesFlow	Edit the contents of the **Favorites** menu in the UIM main page.
Flow Identifier	View	WEB-INF/oracle/communications/inventory/ui/flowidentifier/flow/FlowIdentifierSearchResultsFlow.xml#FlowIdentifierSearchResultsFlow	Open a Search page for flow identifiers by clicking the **Flow Identifier** link in the **Tasks** panel.
Flow Identifier	Edit	WEB-INF/oracle/communications/inventory/ui/flowidentifier/flow/FlowIdentifierEditFlow.xml#FlowIdentifierEditFlow	View a Flow Identifier Edit page.
Flow Identifier	View	WEB-INF/oracle/communications/inventory/ui/flowidentifier/flow/FlowIdentifierSummaryFlow.xml#FlowIdentifierSummaryFlow	View a Flow Identifier Summary page.
Flow Interface	View	/WEB-INF/oracle/communications/inventory/ui/flowinterface/flow/FlowInterfaceCreateFlow.xml#FlowInterfaceCreateFlow	View a Flow Interface Create page.
Import	Edit	/WEB-INF/oracle/communications/inventory/ui/admin/flow/ExecuteRuleFlow.xml#ExecuteRuleFlow	View the Inventory Import page.
Inventory Group	View	/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupSearchResultsFlow.xml#InventoryGroupSearchResultsFlow	Open a Search page for inventory groups by clicking the **Inventory Group** link in the **Tasks** panel.
Inventory Group	View	/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupSummaryFlow.xml#InventoryGroupSummaryFlow	View an Inventory Group Summary page.
Inventory Group	Edit	/WEB-INF/oracle/communications/inventory/ui/inventorygroup/flow/InventoryGroupEditFlow.xml#InventoryGroupEditFlow	Edit an inventory group from search results or a Summary page.

Table 3–1   (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Involvement	Edit	/WEB-INF/oracle/communications/inventory/ui/custominvolvement/flow/CustomInvolvementEditFlow.xml#CustomInvolvementEditFlow	Edit a custom involvement from an entity Summary page. The user can edit the custom involvement by clicking **Edit** in the **Custom Involvement** list in the entity Summary page.
IPV4	View	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/IPv4SearchResultsFlow.xml#IPv4SearchResultsFlow	View the IPV4 search page.
IPV4 Network	View	/WEB-INF/oracle/communications/inventory/ui/network/flow/IPv4NetworkSearchResultsFlow.xml#IPv4NetworkSearchResultsFlow	View IPV4 Network search page.
IPV4 Network	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4NetworkCreateFlow.xml#IPv4NetworkCreateFlow	View IPV4 Network Create page.
IPV4 Network	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4NetworkDetailsFlow.xml#IPv4NetworkDetailsFlow	View IPV4 Network Details page.
IPV4 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4AddressSearchResultsFlow.xml#IPv4AddressSearchResultsFlow	View IPV4 Address Search page.
IPV4 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4AddressCreateFlow.xml#IPv4AddressCreateFlow	View IPV4 Address Create page.
IPV4 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4AddressDetailsFlow.xml#IPv4AddressDetailsFlow	View IPV4 Address details page.
IPV4 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4SubnetSearchResultsFlow.xml#IPv4SubnetSearchResultsFlow	View IPV4 Subnet Search page.
IPV4 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4SubnetDetailsFlow.xml#IPv4SubnetDetailsFlow	View IPV4 Subnet details page.
IPV4 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4SubnetPartitionFlow.xml#IPv4SubnetPartitionFlow	View IPV4 Subnet Partition page as popup.
IPV4 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv4SubnetJoinFlow.xml#IPv4SubnetJoinFlow	View IPV4 Subnet Join page as popup.
IPV6	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6SearchResultsFlow.xml#IPv6SearchResultsFlow	View IPV6 Search page.
IPV6 Network	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6NetworkSearchResultsFlow.xml#IPv6NetworkSearchResultsFlow	View IPV6 Network Search page.
IPV6 Network	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6NetworkCreateFlow.xml#IPv6NetworkCreateFlow	View IPV6 Network Create page.

Table 3–1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
IPV6 Network	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6NetworkDetailsFlow.xml#IPv6NetworkDetailsFlow	View IPV6 Network Details page.
IPV6 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6AddressSearchResultsFlow.xml#IPv6AddressSearchResultsFlow	View IPV6 Address Search page.
IPV6 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6AddressCreateFlow.xml#IPv6AddressCreateFlow	View IPV6 Address Create page.
IPV6 Address	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6AddressDetailsFlow.xml#IPv6AddressDetailsFlow	View IPV6 Address Details page.
IPV6 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6SubnetSearchResultsFlow.xml#IPv6SubnetSearchResultsFlow	View IPV6 Subnet Search page.
IPV6 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6SubnetDetailsFlow.xml#IPv6SubnetDetailsFlow	View IPV6 Subnet Details page.
IPV6 Subnet	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6SubnetPartitionFlow.xml#IPv6SubnetPartitionFlow	View IPV6 Subnet Partition page as popup.
IPV6 Subnet Join	View	/WEB-INF/oracle/communications/inventory/ui/ip/flow/IPv6SubnetJoinFlow.xml#IPv6SubnetJoinFlow	View IPV6 Subnet Join page as popup.
IP Resource	View	/WEB-INF/oracle/communications/inventory/ui/common/flow/IPResourceListFlow.xml#IPResourceListFlow	View **IP Resources** list in Details page.
Logical Device	View	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceSearchResultsFlow.xml#LogicalDeviceSearchResultsFlow	Open a Search page for logical devices by clicking the **Logical Device** link in the **Tasks** panel.
Logical Device	View	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceSummaryFlow.xml#LogicalDeviceSummaryFlow	Open a Logical Device Summary page.
Logical Device	Edit	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceEditFlow.xml#LogicalDeviceEditFlow	Edit a logical device from search results or a Summary page.
Logical Device	Edit	/WEB-INF/oracle/communications/inventory/ui/device/MaintainMappingsFlow.xml#MaintainMappingsFlow	Map a device interface to a physical connector or physical port.
Logical Device	View	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceRangeEditFlow.xml#LogicalDeviceRangeEditFlow	Create Range of Logical Devices.
Logical Device	View	/WEB-INF/oracle/communications/inventory/ui/logicaldevice/flow/LogicalDeviceCopyFlow.xml#LogicalDeviceCopyFlow	Copy Logical Device.
Logical Device Account	View	/WEB-INF/oracle/communications/inventory/ui/logicaldeviceaccount/flow/LogicalDeviceAccountSearchResultsFlow.xml#LogicalDeviceAccountSearchResultsFlow	Open a Search page for logical device accounts by clicking the **Logical Device Account** link in the **Tasks** panel.

Table 3–1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Logical Device Account	View	/WEB-INF/oracle/communications/inventory/ui /logicaldeviceaccount/flow/LogicalDeviceAccou ntSummaryFlow.xml#LogicalDeviceAccountSum maryFlow	Open a Logical Device Account Summary page.
Logical Device Account	Edit	/WEB-INF/oracle/communications/inventory/ui /logicaldeviceaccount/flow/LogicalDeviceAccou ntEditFlow.xml#LogicalDeviceAccountEditFlow	Edit a logical device account from search results or a Summary page.
Logical Device Account	Edit	/WEB-INF/oracle/communications/inventory/ui /logicaldeviceaccount/flow/LogicalDeviceAccou ntRangeEditFlow.xml#LogicalDeviceAccountRang eEditFlow	Edit a range of logical device accounts.
Map Profile	Edit	/WEB-INF/oracle/communications/inventory/ui /network/flow/MapProfileEditFlow.xml#MapPro fileEditFlow	Edit a the map profile from a Network Summary page.
Map Viewer	View	/WEB-INF/oracle/communications/inventory/ui /network/flow/MapViewFlow.xml#MapViewFlo w	Open the Map Viewer application.
Media Resource	View	/WEB-INF/oracle/communications/inventory/ui /mediaresource/flow/MediaResourceLogicalDevi ceListFlow.xml#MediaResourceLogicalDeviceListF low	Open a list of media resources in a Logical Device or Media Stream Summary page.
Media Stream	View	/WEB-INF/oracle/communications/inventory/ui /mediaresource/flow/MediaStreamSearchResults Flow.xml#MediaStreamSearchResultsFlow	Open a Search page for media streams by clicking the **Media Streams** link in the **Tasks** panel.
Media Stream	View	/WEB-INF/oracle/communications/inventory/ui /mediaresource/flow/MediaStreamSummaryFlo w.xml#MediaStreamSummaryFlow	Open a Media Stream Summary page.
Media Stream	Edit	/WEB-INF/oracle/communications/inventory/ui /mediaresource/flow/MediaStreamEditFlow.xml #MediaStreamEditFlow	Edit a Media Stream entity from search results or a Summary page.
Network	View	/WEB-INF/oracle/communications/inventory/ui /networknode/flow/NetworkNodeSearchResults Flow.xml#NetworkNodeSearchResultsFlow	Open a Search page for network nodes. The page is opened from the topology visualization.
Network	View	/WEB-INF/oracle/communications/inventory/ui /network/flow/NetworkSearchResultsFlow.xml# NetworkSearchResults	Open a Search page for Network entities by clicking the **Network** link in the **Tasks** panel.
Network	View	/WEB-INF/oracle/communications/inventory/ui /network/flow/NetworkSummaryFlow.xml#Net workSummaryFlow	View a Network Summary page.
Network	View	/WEB-INF/oracle/communications/inventory/ui /network/flow/NetworkViewFlow.xml#Network ViewFlow	View a Network Visualization page.
Network	View	/WEB-INF/oracle/communications/inventory/ui /nonmaptopology/flow/NonMapTopologyViewF low.xml#NonMapTopologyViewFlow	Open the Topological View page.
Network	Edit	/WEB-INF/oracle/communications/inventory/ui /networkedge/flow/NetworkEdgeEditFlow.xml# NetworkEdgeEditFlow	Edit a network edge from Network canvas.

Table 3–1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Network	Edit	/WEB-INF/oracle/communications/inventory/ui/network/flow/NetworkEditFlow.xml#NetworkEditFlow	Edit a Network entity from search results or a Summary page.
Network	Edit	/WEB-INF/oracle/communications/inventory/ui/networknode/flow/NetworkNodeEditFlow.xml#NetworkNodeEditFlow	Edit a network node from Network canvas.
Network Address Domain	View	/WEB-INF/oracle/communications/inventory/ui/networkaddress/flow/NetworkAddressDomainSearchResultsFlow.xml#NetworkAddressDomainSearchResultsFlow	View a Network Address Domain Search page.
Network Address Domain	View	/WEB-INF/oracle/communications/inventory/ui/networkaddress/flow/NetworkAddressDomainCreateFlow.xml#NetworkAddressDomainCreateFlow	View a Network Address Domain Create page.
Network Address Domain	View	/WEB-INF/oracle/communications/inventory/ui/networkaddress/flow/NetworkAddressDomainDetailsFlow.xml#NetworkAddressDomainDetailsFlow	View a Network Address Domain details page.
Network Service	View	/WEB-INF/oracle/communications/inventory/nso/ui/ns/flow/NetworkServiceSearchResultsFlow.xml#NetworkServiceSearchResultsFlow	View Network Service search results.
Network Service	View	/WEB-INF/oracle/communications/inventory/nso/ui/ns/flow/NetworkServiceCreateFlow.xml#NetworkServiceCreateFlow	Open Network Service Create page.
Network Service	View	/WEB-INF/oracle/communications/inventory/nso/ui/ns/flow/NetworkServiceSummaryFlow.xml#NetworkServiceSummaryFlow	Open Network Service Summary page.
Network Service Descriptor	View	/WEB-INF/oracle/communications/inventory/nso/ui/nsd/flow/NSDSearchResultsFlow.xml#NSDSearchResultsFlow	Open Network Service Descriptor Details page.
Network Service Descriptor	View	/WEB-INF/oracle/communications/inventory/nso/ui/nsd/flow/NSDDetailsFlow.xml#NSDDetailsFlow	Open Network Service Descriptor Details page.
Orchestration Request	View	/WEB-INF/oracle/communications/inventory/nso/ui/orchestrationrequest/flow/OrchestrationRequestSearchResultsFlow.xml#OrchestrationRequestSearchResultsFlow	View Orchestration Request Search Results.
Orchestration Request	View	/WEB-INF/oracle/communications/inventory/nso/ui/orchestrationrequest/flow/OrchestrationRequestDetailsFlow.xml#OrchestrationRequestDetailsFlow	Open Orchestration Request Details page.
Orchestration Request	View	/WEB-INF/oracle/communications/inventory/nso/ui/orchestrationrequest/flow/OrchestrationRequestEditFlow.xml#OrchestrationRequestEditFlow	Open Orchestration Request Edit page.
Party	View	/WEB-INF/oracle/communications/inventory/ui/party/flow/PartySearchResultsFlow.xml#PartySearchResultsFlow	Open a Search page for parties by clicking the **Party** link in the **Tasks** panel.
Party	View	/WEB-INF/oracle/communications/inventory/ui/party/flow/PartySummaryFlow.xml#PartySummaryFlow	Open a Party Summary page.

Table 3–1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Party	Edit	/WEB-INF/oracle/communications/inventory/ui/party/flow/PartyEditFlow.xml#PartyEditFlow	Edit a party from search results or a Summary page.
Path Analysis	Edit	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PathAnalysisFlow.xml#PathAnalysisFlow	Open a Path Analysis page from a Pipe or Pipe Configuration page.
Physical Connector	View	/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorSearchResultsFlow.xml#PhysicalConnectorSearchResultsFlow	Open a Search page for physical connectors from a Physical Device or Equipment Summary page.
Physical Connector	View	/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorSummaryFlow.xml#PhysicalConnectorSummaryFlow	Open a Physical Connector Summary page from a Physical Device or Equipment Summary page.
Physical Connector	Edit	/WEB-INF/oracle/communications/inventory/ui/physicalconnector/flow/PhysicalConnectorEditFlow.xml#PhysicalConnectorEditFlow	Edit a physical connector from a Physical Device or Equipment Summary page.
Physical Device	View	/WEB-INF/oracle/communications/inventory/ui/physicaldevice/flow/PhysicalDeviceSearchResultsFlow.xml#PhysicalDeviceSearchResultsFlow	Open a Search page for physical devices by clicking the **Physical Device** link in the **Tasks** panel.
Physical Device	View	/WEB-INF/oracle/communications/inventory/ui/physicaldevice/flow/PhysicalDeviceSummaryFlow.xml#PhysicalDeviceSummaryFlow	Open a Physical Device Summary page.
Physical Device	Edit	/WEB-INF/oracle/communications/inventory/ui/physicaldevice/flow/PhysicalDeviceEditFlow.xml#PhysicalDeviceEditFlow	Edit a physical device from search results or a Summary page.
Physical Jumper	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/interconnection/visualization/flow/PhysicalJumperViewFlow.xml#PhysicalJumperViewFlow	Topology view of Physical Jumper.
Physical Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/PNFSearchResultsFlow.xml#VNFSearchResultsFlow	View PNF Search results.
Physical Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/PNFCreateFlow.xml#VNFCreateFlow	Open PNF Create tab in Network Service Create and Details page.
Physical Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/PNFSummaryFlow.xml#VNFSummaryFlow	Open PNF Summary page.
Physical Port	View	/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortSearchResultsFlow.xml#PhysicalPortSearchResultsFlow	Open a Search page for physical ports from a Physical Device or Equipment Summary page.

Table 3–1   (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Physical Port	View	/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortSummaryFlow.xml#PhysicalPortSummaryFlow	Open a Physical Port Summary page from a Physical Device or Equipment Summary page.
Physical Port	Edit	/WEB-INF/oracle/communications/inventory/ui/physicalport/flow/PhysicalPortEditFlow.xml#PhysicalPortEditFlow	Edit a physical port from a Physical Device or Equipment Summary page.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/EnabledbyViewFlow.xml#EnabledbyViewFlow	Open an Enabled by Visualization page from a Pipe Summary page.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/configuration/flow/PipeConfigurationTrailListFlow.xml#PipeConfigurationTrailListFlow	Open an Enabled By Visualization page in a Pipe Configuration Summary page.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeSearchResultsFlow.xml#PipeSearchResultsFlow	Open a Search page for pipes by clicking the **Pipe** link in the **Tasks** panel.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeSummaryFlow.xml#PipeSummaryFlow	Open a Pipe Summary page.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTerminationPointSearchResultsFlow.xml#PipeTerminationPointSearchResultsFlow	Open a Search page for pipe termination points.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTerminationPointSummaryFlow.xml#PipeTerminationPointSummaryFlow	Open a Pipe Termination Point Summary page from a Pipe Summary page.
Pipe	View	/WEB-INF/oracle/communications/inventory/ui/configuration/flow/PipeConfigurationSummaryFlow.xml#PipeConfigurationSummaryFlow	Open a Pipe Configuration Summary page.
Pipe	Edit	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeEditFlow.xml#PipeEditFlow	Edit a pipe from search results or a Summary page.
Pipe	Edit	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTPDirectionEditPopupFlow.xml#PipeTPDirectionEditPopupFlow	Edit pipe directionality from a Pipe Summary page.
Pipe	Edit	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/PipeTerminationPointEditFlow.xml#PipeTerminationPointEditFlow	Edit a pipe termination point from a Pipe Summary page.
Place	View	/WEB-INF/oracle/communications/inventory/ui/place/flow/PlaceSearchResultsFlow.xml#PlaceSearchResultsFlow	Open a Search page for places by clicking the **Place** link in the **Tasks** panel.
Place	View	/WEB-INF/oracle/communications/inventory/ui/place/flow/PlaceSummaryFlow.xml#PlaceSummaryFlow	Open a Place Summary page.
Place	Edit	/WEB-INF/oracle/communications/inventory/ui/place/flow/PlaceEditFlow.xml#PlaceEditFlow	Edit a place from search results or a Summary page.

Table 3–1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Product	View	/WEB-INF/oracle/communications/inventory/ui/product/flow/ProductSearchResultsFlow.xml#ProductSearchResultsFlow	Open a Search page for products by clicking the **Product** link in the **Tasks** panel.
Product	View	/WEB-INF/oracle/communications/inventory/ui/product/flow/ProductSummaryFlow.xml#ProductSummaryFlow	Open a Product Summary page.
Product	Edit	/WEB-INF/oracle/communications/inventory/ui/product/flow/ProductEditFlow.xml#ProductEditFlow	Edit a product from search results or a Summary page.
Project	View	/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectSearchResultsFlow.xml#ProjectSearchResultsFlow	Project Search Results.
Project	View	/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectCreateFlow.xml#ProjectCreateFlow	Create Project.
Project	View	/WEB-INF/oracle/communications/inventory/ui/project/flow/ProjectDetailsFlow.xml#ProjectDetailsFlow	View Project Details.
PropertyLocation	View	/WEB-INF/oracle/communications/inventory/ui/location/flow/LocationSearchResultsFlow.xml#LocationSearchResultsFlow	View Property Location Search page.
PropertyLocation	Edit	/WEB-INF/oracle/communications/inventory/ui/location/flow/LocationDetailsFlow.xml#LocationDetailsFlow	View Property Location Create/Edit page.
Reservation	View	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ReservationListFlow.xml#ReservationListFlow	View the reservation list for an entity by selecting from the **Related Pages** menu in an entity Summary page.
Reservation	View	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ReservationSearchResultsFlow.xml#ReservationSearchResultsFlow	Open a Search page for reservations by clicking the **Reservation** link in the **Tasks** panel.
Reservation	Edit	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/RedeemReservationFlow.xml#RedeemReservationFlow	Open the Redeem Reservation page.
Reservation	Edit	/WEB-INF/oracle/communications/inventory/ui/consumer/flow/ReservationEditFlow.xml#ReservationEditFlow	Edit a reservation.
Role	Edit	/WEB-INF/oracle/communications/inventory/ui/role/flow/InventoryRoleEditFlow.xml#InventoryRoleEditFlow	Edit a role from an entity Summary page.
RuleSet	View	/WEB-INF/oracle/communications/inventory/ui/rule/flow/RuleSearchResultsFlow.xml#RuleSearchResultsFlow	Open a Search page for rulesets by clicking the **Rule Set** link in the **Tasks** panel.
RuleSet	View	/WEB-INF/oracle/communications/inventory/ui/rule/flow/RuleSummaryFlow.xml#RuleSummaryFlow	Open a RuleSet Summary page.

Table 3–1 (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Service	View	/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceSearchResultsFlow.xml#ServiceSearchResultsFlow	Open a Search page for services by clicking the **Service** link in the **Tasks** panel.
Service	View	/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceSummaryFlow.xml#ServiceSummaryFlow	Open a Service Summary page.
Service	View	/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceTopologyViewFlow.xml#ServiceTopologyViewFlow	Open the topology view for a service.
Service	Edit	/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceEditFlow.xml#ServiceEditFlow	Edit a service from search results or a Summary page.
Service	View	/WEB-INF/oracle/communications/inventory/ui/service/flow/ServiceListFlow.xml#ServiceListFlow	View List of Services.
Signal Structure	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/SignalStructureSummaryFlow.xml#SignalStructureSummaryFlow	Open the Signal Structure page from the **Related Pages** menu of a Pipe Summary page.
Signal Structure	View	/WEB-INF/oracle/communications/inventory/ui/connectivity/flow/SignalTPSpecificationSearchResultsFlow.xml#SignalTPSpecificationSearchResultsFlow	Open a Search page for Signal Termination Point specifications by selecting **Map Signal Structure** from the **Related Pages** menu of a Pipe Summary page.
Specification	View	/WEB-INF/oracle/communications/inventory/ui/sequencespecification/flow/SequenceSpecificationSearchResultsFlow.xml#SequenceSpecificationSearchResultsFlow	Open a Search page for sequence specifications by clicking the **Sequence Specification** link in the **Tasks** panel.
Specification	View	/WEB-INF/oracle/communications/inventory/ui/sequencespecification/flow/SequenceSpecificationSummaryFlow.xml#SequenceSpecificationSummaryFlow	Open a Sequence Specification Summary page.
Specification	View	/WEB-INF/oracle/communications/inventory/ui/specification/flow/SpecificationSearchResultsFlow.xml#SpecificationSearchResultsFlow	Open a Search page to search for specifications by clicking the **Specification** link in the **Tasks** panel.
Specification	View	/WEB-INF/oracle/communications/inventory/ui/specification/flow/SpecificationSummaryFlow.xml#SpecificationSummaryFlow	Open a Specification Summary page.
Specification	Edit	/WEB-INF/oracle/communications/inventory/ui/specification/flow/SpecificationRelationshipMaintFlow.xml#SpecificationRelationshipMaintFlow	Edit specification relationships.
Tag	View	/WEB-INF/oracle/communications/inventory/ui/tag/flow/TagSearchResultsFlow.xml#TagSearchResultsFlow	Tag Search Results.

Table 3–1   (Cont.) Taskflow Permissions

Component	Access Type	Permission String	Controls the Ability to:
Tag	View	/WEB-INF/oracle/communications/inventory/ui/tag/flow/TagSummaryFlow.xml#TagSummaryFlow	View Tag Summary.
Telephone Number	View	/WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberSearchResultsFlow.xml#TelephoneNumberSearchResultsFlow	Open a Search page for telephone numbers by clicking the **Telephone Number** link in the **Tasks** panel.
Telephone Number	View	/WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberSummaryFlow.xml#TelephoneNumberSummaryFlow	Open the Telephone Number Summary page.
Telephone Number	Edit	/WEB-INF/oracle/communications/inventory/ui/number/flow/TelephoneNumberEditFlow.xml#TelephoneNumberEditFlow	Edit a telephone number.
Topology	View	/WEB-INF/oracle/communications/inventory/ui/admin/flow/RebuildTopologyFlow.xml#RebuildTopologyFlow	Open the Rebuild Topology page.
Virtual Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/VNFSearchResultsFlow.xml#VNFSearchResultsFlow	View VNF Search results.
Virtual Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/VNFCreateFlow.xml#VNFCreateFlow	Open VNF Create tab in Network Service Create and Details page.
Virtual Network Function	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnf/flow/VNFSummaryFlow.xml#VNFSummaryFlow	Open VNF Summary page.
Virtual Network Function Descriptor	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnfd/flow/VNFDSearchResultsFlow.xml#VNFDSearchResultsFlow	View Virtual Network Function Descriptor search results.
Virtual Network Function Descriptor	View	/WEB-INF/oracle/communications/inventory/nso/ui/vnfd/flow/VNFDDetailsFlow.xml#VNFDDetailsFlow	View Virtual Network Function Descriptor Details page.

Resource Permissions

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

Table 3–2   Resource Permissions

Component	Type	Permission Name	Purpose
Activity	Menu Action	Activity.VALIDATE	Validate the Activity.
Activity	Menu Action	Activity.SUBMIT	Submit the Activity.
Activity	Menu Action	Activity.CANCEL	Cancel the Activity.
Business Interaction	Button Action	BusinessInteraction.DELETE	Delete a business interaction from the search results.

Table 3–2   (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Business Interaction	Button Action	BusinessInteractionItem.DELETE	Delete a business interaction item from the Business Interaction Summary page.
Business Interaction	Button Action	BusinessInteractionItem.TRANSFER	Transfer a business interaction item from the Business Interaction Summary page.
Business Interaction	Menu	BusinessInteraction.ASSOCIATE	Associate a business interaction item from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.ACTIVATE	Activate a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.APPROVE_ CONFIGURATIONS	Approve a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.CANCEL	Cancel a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.CANCEL_HIERARCHY	Cancel a business interaction hierarchy from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.COMPLETE	Complete a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.COMPLETE_ HIERARCHY	Complete a business interaction hierarchy from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.DEACTIVATE	Deactivate a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.ISSUE_ CONFIGURATIONS	Issue a service configuration from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.SEND_REQUEST	Send a request from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.VALIDATE	Validate a business interaction from the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.ASSOCIATE_CHILD_BI	Add a child business interaction to the hierarchy in the Business Interaction Summary page.
Business Interaction	Menu Action	BusinessInteraction.DISASSOCIATE_CHILD_ BI	Remove a child business interaction from the hierarchy in the Business Interaction Summary page.
Characteristics	Button Action	CharacteristicSpecification.DELETE	Delete a Characteristic specification from the **Characteristic Specification** list.

Table 3–2   (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Common Configuration	Menu Action	Configuration.MAINTAIN_CONFIG_ITEMS	Maintain configuration items from the hierarchy in the Configuration Summary page.
Condition	Button Action	Condition.DELETE	Delete a condition from the Condition List page.
Connectivity	Menu Action	TDMFacility.ACTIVATE	Activate the Connectivity.
Connectivity	Menu Action	TDMFacility.DEACTIVATE	Deactivate the Connectivity.
Connectivity	Menu Action	TDMFacility.COMPLETE	Complete the Design version of Connectivity.
Connectivity	Menu Action	TDMFacility.CANCEL	Cancel the Design version of Connectivity.
Connectivity	Button Action	TDMFacility.DELETE	Delete the connectivity.
Connectivity	Button Action	TDMConnectivityDetails.SAVE	Save the TDM Connectivity details.
Connectivity	Button Action	TDMConnectivityDetails.SAVE_AND_CLOSE	Save the TDM Connectivity details and navigate back to the view mode.
Connectivity	Button Action	TDMConnectivityDetails.EDIT	Edit the TDM Connectivity details.
Connectivity	Button Action	TDMConnectivityCreate.SAVE	Create the TDM Connectivity.
Connectivity	Button Action	TDMConnectivityCreate.SAVE_AND_CLOSE	Create the TDM Connectivity and navigate back to the Search page.
Connectivity	Button Action	TDMConnectivityCreate.EDIT	Open the TDM Connectivity details in the Edit mode in the Create page.
Connectivity	Button Action	TDMConnectivityCreate.DELETE	Delete the TDM Connectivity from the New Channelized Connectivity table.
Connectivity	Menu Action	TDMFacility.DISCONNECT	Disconnect Connectivity.
Cross Connect	Button Action	CrossConnectsView.DELETE	Delete the cross connect from the Cross Connect Visual page.
Cross Connect	Button Action	CrossConnectsView.CREATE_CROSS_CONNECTS	Create a cross connect in the Cross Connect Visual page.
Custom Network Address	Button Action	CustomNetworkAddress.DELETE	Delete a custom network address from search results.
Custom Network Address	Menu Action	CustomNetworkAddress.ACTIVATE	Activate a custom network address from the Custom Network Address Summary page.

Table 3–2   (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Custom Network Address	Menu Action	CustomNetworkAddress.DEACTIVATE	Deactivate a custom network address from the Custom Network Address Summary page.
Custom Network Address	Menu Action	CustomNetworkAddress.VALIDATE	Validate a custom network address from the Custom Network Address Summary page.
Custom Network Address	Menu Action	CustomNetworkAddress.ASSOCIATE_CNA	Add a child custom network address to the hierarchy in the Custom Network Address Summary page.
Custom Network Address	Menu Action	CustomNetworkAddress.DISASSOCIATE_ CNA	Remove a child custom network address from the hierarchy in the Custom Network Address Summary page.
Custom Object	Button Action	CustomObject.DELETE	Delete a custom object from search results.
Custom Object	Menu Action	CustomObject.ACTIVATE	Activate a custom object from the Custom Object Summary page.
Custom Object	Menu Action	CustomObject.DEACTIVATE	Deactivate a custom object from the Custom Object Summary page.
Custom Object	Menu Action	CustomObject.VALIDATE	Validate a custom object from the Custom Object Summary page.
Custom Object	Menu Action	CustomObject.ASSOCIATE_CO	Add a child custom object to the hierarchy in the Custom Object Summary page.
Custom Object	Menu Action	CustomObject.DISASSOCIATE_CO	Remove a child custom object from the hierarchy in the Custom Object Summary page.
Equipment	Button Action	EquipmentHolder.DELETE	Delete an equipment holder from search results.
Equipment	Button Action	Equipment.DELETE	Delete an Equipment entity from search results.
Equipment	Button Action	Equipment.DUPLICATE	Duplicate an Equipment entity from search results.
Equipment	Menu Action	Equipment.ACTIVATE	Activate an Equipment entity from the Equipment Summary page.
Equipment	Menu Action	Equipment.DEACTIVATE	Deactivate an Equipment entity from the Equipment Summary page.
Equipment	Menu Action	Equipment.VALIDATE	Validate an Equipment entity from the Equipment Summary page.

Table 3–2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Equipment	Button Action	Equipment.ASSOCIATE	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.
Equipment	Menu Action	Equipment.DISASSOCIATE	Disassociate Equipment from the hierarchy in the Physical Device Summary page.
Equipment	Button Action	Equipment.DISASSOCIATE	Disassociate the Equipment.
Ethernet ENNI Connectivity	Menu Action	EthernetENNIConnectivity.ACTIVATE	Activate the Ethernet ENNI connectivity.
Ethernet ENNI Connectivity	Menu Action	EthernetENNIConnectivity.DEACTIVATE	Deactivate the Ethernet ENNI connectivity.
Ethernet ENNI Connectivity	Menu Action	EthernetENNIConnectivity.COMPLETE	Complete the Ethernet ENNI connectivity.
Ethernet ENNI Connectivity	Menu Action	EthernetENNIConnectivity.CANCEL	Cancel the Ethernet ENNI connectivity.
Ethernet ENNI Connectivity	Menu Action	EthernetENNIConnectivity.DISCONNECT	Disconnect the Ethernet ENNI connectivity.
Ethernet UNI Connectivity	Menu Action	EthernetUNIConnectivity.DEACTIVATE	Deactivate the Ethernet UNI connectivity.
Ethernet UNI Connectivity	Menu Action	EthernetUNIConnectivity.COMPLETE	Complete the Ethernet UNI connectivity.
Ethernet UNI Connectivity	Menu Action	EthernetUNIConnectivity.CANCEL	Cancel the Ethernet UNI connectivity.
Ethernet UNI Connectivity	Menu Action	EthernetUNIConnectivity.DISCONNECT	Disconnect Ethernet UNI connectivity.
Ethernet UNI Connectivity	Menu Action	EthernetUNIConnectivity.ACTIVATE	Activate Ethernet UNI connectivity.
Flow Identifier	Button Action	FlowIdentifier.DELETE	Delete a Flow Identifier entity from the search results.
Flow Identifier	Button Action	FlowIdentifier.SAVE	Save the Flow Identifier details.
Flow Identifier	Button Action	FlowIdentifier.SAVE_AND_CLOSE	Create the Flow Identifier and navigate back to the Search page.
Flow Identifier	Button Action	FlowIdentifier.EDIT	Open the Flow Identifier details in **Edit** mode in the Create page.
Flow Identifier	Menu Action	FlowIdentifier.DEACTIVATE	Deactivate the flow identifier from the Flow Identifier Summary page.
Flow Identifier	Menu Action	FlowIdentifier.ACTIVATE	Activate the flow identifier from the Flow Identifier Summary page.

Table 3–2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Flow Interface	Menu Action	FlowInterface.ACTIVATE	Activate the flow interface from the Flow Interface Summary page.
Flow Interface	Menu Action	FlowInterface.DEACTIVATE	Deactivate the flow interface from the Flow Interface Summary page.
Inventory Group	Button Action	InventoryGroup.DELETE	Delete an inventory group from search results.
Inventory Group	Button Action	InventoryGroupItem.DELETE	Delete an inventory group from search results.
Inventory Group	Menu Action	InventoryGroup.ACTIVATE	Activate an inventory group from the Inventory Group Summary page.
Inventory Group	Menu Action	InventoryGroup.DEACTIVATE	Deactivate an inventory group from the Inventory Group Summary page.
Inventory Group	Menu Action	InventoryGroup.VALIDATE	Validate an inventory group from the Inventory Group Summary page.
Inventory Group	Button Action	InventoryGroup.ASSOCIATE	Associate an entity with an inventory group from the Inventory Group portlet on the Entity Summary page.
Inventory Group	Menu Action	InventoryGroup.ASSOCIATE_IG	Add a child inventory group to the hierarchy in the Inventory Group Summary page and/or add a parent inventorygroup to the Parent Inventory Group section in the Inventory Group Summary page.
Inventory Group	Menu Action	InventoryGroup.DISASSOCIATE_IG	Remove a child inventory group from the hierarchy in the Inventory Group Summary page and/or remove a parent inventorygroup from the Parent Inventory Group section in the Inventory Group Summary page.
Inventory Group	Button Action	InventoryGroupItem.ASSOCIATE	Associate inventory group items from the Inventory Group Summary page.
Involvement	Button Action	Involvement.DELETE	Delete an involvement from an entity Summary page.
IPV4 Network	Button Action	IPv4Network.DELETE	Delete IPv4 Network from the search results.
IPV4 Network	Button Action	IPv4NetworkCreate.SAVE	Save the IPv4 Network.
IPV4 Network	Button Action	Pv4NetworkCreate.SAVE_AND_CLOSE	Save the IPv4 Network and navigate back to the Search page.

Table 3–2   (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
IPV4 Network	Button Action	IPv4NetworkDetails.SAVE_AND_CLOSE	Save the changes to the IPv4 Network and navigate back to the Search page.
IPV4 Network	Button Action	IPv4NetworkDetails.SAVE	Save the changes to IPv4 Network.
IPV4 Network	Button Action	IPv4NetworkDetails.EDIT	Edit the IPv4 Network details.
IPv4 Address	Button Action	IPv4Address.DELETE	Delete IPv4 Address from the search results.
IPv4 Address	Button Action	IPv4AddressCreate.SAVE	Save the IPv4 Address.
IPv4 Address	Button Action	IPv4AddressCreate.SAVE_AND_CLOSE	Save the IPv4 Address and navigate back to the Search page.
IPv4 Address	Button Action	IPv4AddressDetails.EDIT	Edit the IPv4 Address details.
IPv4 Address	Button Action	IPv4AddressDetails.SAVE	Save the changes to the IPv4 Address.
IPv4 Address	Button Action	IPv4AddressDetails.SAVE_AND_CLOSE	Save the changes to the IPv4 Address and navigate back to the Search page.
IPv4 Address	Menu Action	IPv4Address.ACTIVATE	Activate IPv4 Address from IPv4 Address Details page.
IPv4 Address	Menu Action	IPv4Address.DEACTIVATE	Deactivate IPv4 Address from the IPv4 Address Details page.
IPV4 Subnet	Button Action	IPv4Subnet.ACTIVATE	Activate IPv4 Subnet from the IPv4 Subnet Details page.
IPV4 Subnet	Button Action	IPv4Subnet.DEACTIVATE	Deactivate IPv4 Subnet from the IPv4 Subnet Details page.
IPV4 Subnet	Button Action	IPv4SubnetDetails.SAVE	Save the changes to IPv4 Subnet.
IPV4 Subnet	Button Action	IPv4SubnetDetails.SAVE_AND_CLOSE	Save the changes to the IPv4 Subnet and navigate back to the Search page.
IPV4 Subnet	Button Action	IPv4SubnetDetails.EDIT	Edit the IPv4 Subnet details.
IPV4 Subnet	Menu Action	IPv4SubnetDetails.PARTITION	Open the Partition popup from the Details page.
IPV4 Subnet	Menu Action	IPv4SubnetDetails.JOIN	Open the Join popup from the Details page.
IPV4 Subnet	Button Action	IPv4SubnetPartition.PARTITION	Partition the subnet.
IPV4 Subnet	Button Action	IPv4SubnetJoin.JOIN	Join the subnet.
IPV6 Network	Button Action	IPv6Network.DELETE	Delete IPv6 Network from the search results.
IPV6 Network	Button Action	IPv6NetworkCreate.SAVE	Save the IPv6 Network.

Table 3–2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
IPV6 Network	Button Action	IPv6NetworkCreate.SAVE_AND_CLOSE	Save the IPv6 Network and navigate back to the Search page.
IPV6 Network	Button Action	IPv6NetworkDetails.SAVE	Save the changes to IPv6 Network.
IPV6 Network	Button Action	IPv6NetworkDetails.SAVE_AND_CLOSE	Save the changes to the IPv6 Network and navigate back to the Search page.
IPV6 Network	Button Action	IPv6NetworkDetails.EDIT	Edit the IPv6 Network details.
IPV6 Address	Button Action	IPv6Address.DELETE	Delete IPv6 Address from the search results.
IPV6 Address	Menu Action	IPv6AddressCreate.SAVE	Save the IPv6 Address.
IPV6 Address	Menu Action	IPv6AddressCreate.SAVE_AND_CLOSE	Save the IPv6 Address and navigate back to the Search page.
IPV6 Address	Button Action	IPv6AddressDetails.SAVE	Save the changes to IPv6 Address.
IPV6 Address	Button Action	IPv6AddressDetails.SAVE_AND_CLOSE	Save the changes to the IPv6 Address and navigate back to the Search page.
IPV6 Address	Button Action	IPv6AddressDetails.EDIT	Edit the IPv6 Address details.
IPV6 Address	Button Action	IPv6Address.ACTIVATE	Activate IPv6 Address from the IPv6 Address Details page.
IPV6 Address	Button Action	IPv6Address.DEACTIVATE	Deactivate IPv6 Address from the IPv6 Address Details page.
IPV6 Subnet	Menu Action	IPv6Subnet.ACTIVATE	Activate IPv6 Subnet from the IPv6 Subnet Details page.
IPV6 Subnet	Menu Action	IPv6Subnet.DEACTIVATE	Deactivate IPv6 Subnet from the IPv6 Subnet Details page.
IPV6 Subnet	Button Action	IPv6SubnetDetails.SAVE	Save the changes to IPv6 Subnet.
IPV6 Subnet	Button Action	IPv6SubnetDetails.SAVE_AND_CLOSE	Save the changes to the IPv6 Subnet and navigate back to the Search page.
IPV6 Subnet	Button Action	IPv6SubnetDetails.EDIT	Edit the IPv6 Subnet details.
IPV6 Subnet	Button Action	IPv6SubnetDetails.PARTITION	Open the Partition popup from the Details page.
IPV6 Subnet	Button Action	IPv6SubnetDetails.JOIN	Open the Join popup from the Details page.
IPV6 Subnet	Button Action	IPv6SubnetPartition.PARTITION	Partition the subnet.
IPV6 Subnet	Button Action	IPv6SubnetJoin.JOIN	Join the subnet.

Table 3–2   (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Logical Device	Button Action	LogicalDevice.DELETE	Delete a logical device from search results.
Logical Device	Button Action	DeviceMapping.DELETE	Map a physical port or connector to a device interface from the Device Interface Summary page.
Logical Device	Menu Action	LogicalDevice.ACTIVATE	Activate a logical device from the Logical Device Summary page.
Logical Device	Menu Action	LogicalDevice.DEACTIVATE	Deactivate a logical device from the Logical Device Summary page.
Logical Device	Menu Action	LogicalDevice.VALIDATE	Validate a logical device from the Logical Device Summary page.
Logical Device	Button Action	LogicalDevice.DUPLICATE	Duplicate a logical device from the search results page.
Logical Device	Menu Action	LogicalDevice.ASSOCIATE_LD	Add a logical device to the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Physical Device Summary page.
Logical Device	Menu Action	LogicalDevice.DISASSOCIATE_LD	Remove a logical device from the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Physical Device Summary page.
Logical Device	Menu Action	DeviceInterface.ASSOCIATE_DI	Add a device interface to the hierarchy in the Logical Device Summary page and/or to the hierarchy in the Device Interface Summary page.
Logical Device	Menu Action	LogicalDevice.MAINTAIN_MAPPINGS	Maintain mappings from the hierarchy in the Logical Device Summary page.
Logical Device	Menu Action	DeviceInterface.DISASSOCIATE_DI	Remove a device interface from the hierarchy in the Logical Device Summary page and/or from the hierarchy in the Device Interface Summary page.
Logical Device	Button Action	LogicalDevice.ASSOCIATE	Associate the Logical Device.
Logical Device Account	Button Action	LogicalDeviceAccount.DELETE	Delete a logical device account from search results.
Logical Device Account	Menu Action	LogicalDeviceAccount.ACTIVATE	Activate a logical device account from the Logical Device Account Summary page.
Logical Device Account	Menu Action	LogicalDeviceAccount.DEACTIVATE	Deactivate a logical device account from the Logical Device Account Summary page.

Table 3–2   (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Logical Device Account	Menu Action	LogicalDeviceAccount.VALIDATE	Validate the logical device account from the Logical Device Account Summary page.
Logical Device Account	Button Action	LogicalDeviceAccount.ASSOCIATE	Associate an entity with a logical device account from the Logical Device Account portlet on the Entity Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.APPROVE	Approve a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.AUTO_CONFIGURE	Auto Configure a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.CANCEL	Cancel a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.COMPLETE	Complete a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.CREATE_NEW_VERSION	Create a new configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.ISSUE	Issue a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.RESUME	Resume a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.SUSPEND	Suspend a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Account Configuration	Menu Action	LDAccountConfigurationVersion.VALIDATE	Validate a Configuration from LogicalDeviceAccount Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.APPROVE	Approve a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.AUTO_CONFIGURE	Auto-configure a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.CANCEL	Cancel a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.COMPLETE	Complete a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.CREATE_NEW_VERSION	Create a new configuration from the Logical Device Configuration Summary page.

Table 3–2   (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.ISSUE	Issue a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.RESUME	Resume a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.SUSPEND	Suspend a configuration from the Logical Device Configuration Summary page.
Logical Device Configuration	Menu Action	LogicalDeviceConfigurationVersion.VALIDATE	Validate a configuration from the Logical Device Configuration Summary page.
Media	Button Action	Media.DELETE	Delete a media file from search results.
Media Stream	Button Action	MediaStream.DELETE	Delete a media stream from search results.
Media Stream	Button Action	MediaStream.DUPLICATE	Duplicate a media stream from search results.
Media Stream	Menu Action	MediaStream.ACTIVATE	Activate a media stream from the Media Stream Summary page.
Media Stream	Menu Action	MediaStream.DEACTIVATE	Deactivate a media stream from the Media Stream Summary page.
Media Stream	Menu Action	MediaStream.VALIDATE	Validate a media stream from the Media Stream Summary page.
Media Resource	Button Action	MediaResource.ASSOCIATE	Add a media resource to the Media Resource portlet on the Entity Summary page.
Media Resource	Button Action	MediaResource.DELETE	Delete a media resource from the Media Resource portlet on the Entity Summary page.
Media Resource	Button Action	MediaResource.DUPLICATE	Duplicate a media resource from the Media Resource portlet on the Entity Summary page.
Media Resource	Button Action	MediaResource.EDIT	Edit a media resource from the Media Resource portlet on the Entity Summary page.
Network	Button Action	Network.DELETE	Delete a network from search results.
Network	Menu Action	Network.ACTIVATE	Activate a network from the Network Summary page.
Network	Menu Action	Network.DEACTIVATE	Deactivate a network from the Network Summary page.
Network	Menu Action	Network.VALIDATE	Validate a network from the Network Summary page.

Table 3–2   (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Network	Menu Action	NetworkNodeEdge.DISASSOCIATE	Disassociate a network node/node edge from the Network Map View and Network View.
Network	Menu Action	NetworkNodeEdge.UPDATE_ASSOCIATION	Update a network node/node edge association from the Network Map View & Network View.
Network Address Domain	Button Action	NetworkAddressDomain.DELETE	Delete Network Address Domain from the search results.
Network Address Domain	Button Action	NetworkAddressDomainDetails.SAVE	Save the changes to Network Address Domain.
Network Address Domain	Button Action	NetworkAddressDomainDetails.SAVE_AND_ CLOSE	Save the changes to the Network Address Domain and navigate back to the Search page.
Network Address Domain	Button Action	NetworkAddressDomainDetails.EDIT	Edit the Network Address Domain details.
Network Configuration	Menu Action	NetworkConfigurationVersion.APPROVE	Approve a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.AUTO_ CONFIGURE	Auto-configure a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.CANCEL	Cancel a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.COMPLETE	Complete a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.CREATE_ NEW_VERSION	Create a new configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.ISSUE	Issue a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.RESUME	Resume a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.SUSPEND	Suspend a configuration from the Network Configuration Summary page.
Network Configuration	Menu Action	NetworkConfigurationVersion.VALIDATE	Validate a configuration from the Network Configuration Summary page.
Network Service	Button Action	NetworkService.DELETE	Delete a Network Service from search results

Table 3–2   (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Packet Network Connectivity	Menu Action	PacketNetworkConnectivity.ACTIVATE	Activate the packet network connectivity.
Packet Network Connectivity	Menu Action	PacketNetworkConnectivity.DEACTIVATE	Deactivate the packet network connectivity.
Packet Network Connectivity	Menu Action	PacketNetworkConnectivity.COMPLETE	Complete the packet network connectivity.
Packet Network Connectivity	Menu Action	PacketNetworkConnectivity.DISCONNECT	Disconnect the packet network connectivity.
Packet Network Connectivity	Menu Action	PacketNetworkConnectivity.CANCEL	Cancel the packet network connectivity.
Packet Virtual Network	Menu Action	PacketVirtualNetwork.ACTIVATE	Activate the packet virtual network.
Packet Virtual Network	Menu Action	PacketVirtualNetwork.DEACTIVATE	Deactivate the packet virtual network
Party	Button Action	Party.DELETE	Delete a party from search results.
Party	Button Action	Party.EDIT	Edit a party from Party search results or the Service Summary page.
Party	Menu Action	Party.ACTIVATE	Activate a party from the Party Summary page.
Party	Menu Action	Party.DEACTIVATE	Deactivate a party from the Party Summary page.
Party	Menu Action	Party.VALIDATE	Validate a party from the Party Summary page.
Party	Button Action	Party.ASSOCIATE	Associate an entity with a party from the Party portlet on the Entity Summary page.
Physical Device	Button Action	PhysicalDevice.DELETE	Delete a physical device from search results.
Physical Device	Button Action	PhysicalDevice.DUPLICATE	Duplicate a physical device from search results.
Physical Device	Menu Action	PhysicalDevice.ACTIVATE	Activate physical device from the Physical Device Summary page.
Physical Device	Menu Action	PhysicalDevice.DEACTIVATE	Deactivate a physical device from the Physical Device Summary page.
Physical Device	Menu Action	PhysicalDevice.VALIDATE	Validate a physical device from the Physical Device Summary page.

Table 3–2   (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Physical Device	Menu Action	PhysicalDevice.ASSOCIATE	Add a physical device to the Equipment Summary page and/or to the hierarchy in the Logical Device Summary page and/or to the Physical Device portlet.
Physical Device	Button Action	PhysicalDevice.ASSOCIATE_PD	Add a physical device to the hierarchy in the Physical Device Summary page.
Physical Device	Menu Action	PhysicalDevice.DISASSOCIATE	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.
Physical Device	Button Action	PhysicalDevice.DISASSOCIATE_PD	Remove a physical device from the hierarchy in the Physical Device Summary page.
Physical Device	Menu Action	PhysicalDevice.MAINTAIN_MAPPINGS	Maintain mappings from the hierarchy in the Physical Device Summary page.
Physical Device	Button Action	PhysicalDevice.ASSOCIATE	Associate the Physical Device in Equipment Summary page.
Physical Jumper	Button Action	PhysicalJumperView.DELETE	Delete a Physical Jumper.
Physical Jumper	Button Action	PhysicalJumperView.CREATE_ PHYSICALJUMPER	Create a Physical Jumper.
Pipe	Button Action	Pipe.DELETE	Delete a pipe from search results.
Pipe	Button Action	Pipe.DUPLICATE	Duplicate a pipe from search results.
Pipe	Menu Action	Pipe.ACTIVATE	Activate a pipe from the Pipe Summary page.
Pipe	Menu Action	Pipe.DEACTIVATE	Deactivate a pipe from the Pipe Summary page.
Pipe	Menu Action	Pipe.MAP_SIGNAL_STRUCTURE	Associate a signal structure to a pipe from the Pipe Summary page.
Pipe	Menu Action	Pipe.REMOVE_SIGNAL_STRUCTURE	Disassociate a signal structure from a pipe from the Pipe Summary page.
Pipe	Menu Action	Pipe.VALIDATE	Validate a pipe from the Pipe Summary page.
Pipe	Button Action	Pipe.MAINTAIN_CAPACITY	Update Capacity from Pipe Summary page.
Pipe	Button Action	Pipe.MAINTAIN_DIRECTIONALITY	Create Directionality from Pipe Summary page.
Pipe	Button Action	Pipe.MAINTAIN_TERMINATION_ RESOURCES	Delete TPs from Pipe TP Summary page.

Table 3–2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Pipe	Button Action	PipeProvides.DELETE	Delete on Pipe Provides page.
Pipe	Button Action	PipeTrail.ASSOCIATE	Associate a pipe trail from the Manual Configure page.
Pipe	Button Action	PipeTrail.DELETE	Delete a pipe trail from the Manual Configure page.
Pipe	Button Action	PipeTrail.UPDATE	Update a pipe trail from the Manual Configure page.
Pipe	Menu Action	Pipe.DISCONNECT	Disconnect Pipe.
Pipe Configuration	Menu Action	PipeConfigurationVersion.APPROVE	Approve a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.AUTO_ CONFIGURE	Auto-configure a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.CANCEL	Cancel a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.COMPLETE	Complete a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.CREATE_NEW_ VERSION	Create a new configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.ISSUE	Issue a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.RESUME	Resume a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.SUSPEND	Suspend a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu Action	PipeConfigurationVersion.VALIDATE	Validate a configuration from the Pipe Configuration Summary page.
Pipe Configuration	Menu	PipeConfigurationVersion.ACTIONS	Actions on the Pipe Config Trail List from the Pipe Configuration Summary page.
Pipe Configuration	Button Action	PipeConfigurationVersion.ASSOCIATE	Associate a Pipe Config Trail List from the Pipe Configuration Summary page.
Place	Button Action	Place.DELETE	Delete a place from search results.
Place	Button Action	Place.EDIT	Edit a place from search results or an entity Summary page.
Place	Menu Action	Place.ASSOCIATE	Associate a place from the hierarchy in the Place Summary page and/or Place portlet.

Table 3–2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Place	Menu Action	Place.ASSOCIATE_PLACE	Add a child place to the hierarchy in the Place Summary page.
Place	Menu Action	Place.DISASSOCIATE_PLACE	Remove a child place from the hierarchy in the Place Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.APPROVE	Approve a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.AUTO_ CONFIGURE	Auto-configure a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.CANCEL	Cancel a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.COMPLETE	Complete a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.CREATE_NEW_ VERSION	Create a new configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.ISSUE	Issue a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.RESUME	Resume a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.SUSPEND	Suspend a configuration from the Place Configuration Summary page.
Place Configuration	Menu Action	PlaceConfigurationVersion.VALIDATE	Validate a configuration from the Place Configuration Summary page.
Product	Button Action	Product.DELETE	Delete a product from search results.
Product	Menu Action	Product.ACTIVATE	Activate a product from the Product Summary page.
Product	Menu Action	Product.DEACTIVATE	Deactivate a product from the Product Summary page.
Product	Menu Action	Product.VALIDATE_PRODUCT	Validate a product from the Product Summary page.
Product	Menu Action	Product.ASSOCIATE_PRODUCT	Associate a product to the hierarchy in the Product Summary page.
Product	Menu Action	Product.DISASSOCIATE_PRODUCT	Disassociate a product from the hierarchy in the Product Summary page.
Property Location	Button Action	LocationSearch.CREATE	Create the Property Location.

Table 3–2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Property Location	Button Action	LocationSearch.DELETE	Delete the Property Location.
Property Location	Button Action	LocationDetails.EDIT	Edit the Location Details.
Property Location	Button Action	LocationDetails.VALIDATE_ADDRESS	Validate the Address provided in Location Details page.
Property Location	Button Action	LocationDetails.CREATE_NEC	Create Network Entity Code.
Property Location	Button Action	LocationDetails.DELETE_NEC	Delete Network Entity Code.
Reservation	Button Action	Reservation.DELETE	Delete a reservation from the **Reservations** list.
Role	Button Action	Role.DELETE	Delete a role from the **Roles** list in an entity Summary page.
Role	Button Action	Role.EDIT	Edit a role from the **Roles** list in an entity Summary page.
Ruleset	Button Action	Rule.DELETE	Delete a ruleset.
Service	Button Action	Service.DELETE	Delete a service from search results.
Service	Menu Action	Service.ACTIVATE	Activate a service from the Service Summary page.
Service	Menu Action	Service.CANCEL	Cancel a service from the Service Summary page.
Service	Menu Action	Service.COMPLETE	Complete a service from the Service Summary page.
Service	Menu Action	Service.DEACTIVATE	Deactivate a service from the Service Summary page.
Service	Menu Action	Service.DISCONNECT	Disconnect a service from the Service Summary page.
Service	Menu Action	Service.RESUME	Resume a service from the Service Summary page.
Service	Menu Action	Service.SUSPEND	Suspend a service from the Service Summary page.
Service	Menu Action	Service.VALIDATE	Validate a service from the Service Summary page.
Service	Menu Action	Service.ASSOCIATE	Add a service to the hierarchy in the Service Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.APPROVE	Approve a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.AUTO_CONFIGURE	Auto-configure a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.CANCEL	Cancel a configuration from the Service Configuration Summary page.

Table 3–2 (Cont.) Resource Permissions

Component	Type	Permission Name	Purpose
Service Configuration	Menu Action	ServiceConfigurationVersion.COMPLETE	Complete a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.CREATE_NEW_VERSION	Create a new configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.ISSUE	Issue a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.RESUME	Resume a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.SUSPEND	Suspend a configuration from the Service Configuration Summary page.
Service Configuration	Menu Action	ServiceConfigurationVersion.VALIDATE	Validate a configuration from the Service Configuration Summary page.
Specification	Button Action	Specification.DELETE	Delete a specification from the **Specifications** list.
Specification	Button Action	SequenceSpecification.DELETE	Delete a Sequence specification.
Tag	Menu Action	Tag.DELETE	Delete Tag.
Telephone Number	Button Action	TelephoneNumber.DELETE	Delete a telephone number from search results.
Telephone Number	Menu Action	TelephoneNumber.ACTIVATE	Activate a telephone number from the Telephone Number Summary page.
Telephone Number	Menu Action	TelephoneNumber.DEACTIVATE	Deactivate a telephone number from the Telephone Number Summary page.
Telephone Number	Menu Action	TelephoneNumber.SNAPBACK	Configure the Snapback action on a telephone number from the Telephone Number Summary page.
Telephone Number	Menu Action	TelephoneNumber.VALIDATE	Validate a telephone number from the Telephone Number Summary page.

4

Monitoring and Managing Unified Inventory Management

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 Row Prefetch 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
- Deploying the Inventory Enterprise Application
- Configuring the SSL Policy/Certificate
- Resetting/Changing the WebLogic Server's Database Connections
- Setting the Default Telephone Number Edit Mask
- Setting the Default Place Type
- Load Balancing a Clustered Server
- Configuring Topology Updates
- Configuring a Geocode Service
- Performing a UIM Service Purge
- Configuring Email Addresses and User Data

Sharing JAR Files

After you install UIM, you need to share specific JAR files with Oracle Communications Design Studio for use with cartridges. Each individual UIM system administrator must determine the best method for sharing these JAR files, based on your company's standard practices.

> **Note:** These JAR files will change with each new patchset or maintenance release. The JAR files will need to be re-distributed each time UIM is upgraded with a patchset or maintenance release and the Design Studio system administrator will need to be notified.

For more information on sharing JAR files with Design Studio, see the chapter on "Using Design Studio to Extend UIM" in *UIM Developer's Guide*.

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 Row Prefetch 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** 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_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_OPTIONS="${JAVA_OPTIONS} -Duser.timezone=Asia/Shanghai"
```

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

```
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.

> **Note:** The application server time zone is defaulted to the underlying operating system time zone. To configure a different time zone for the application server, add the following value to the startup script at *Domain_Home*/**bin/setUIMenv.sh**. The valid time zone values are defined in **java.util.TimeZone.**
>
> ```
> JAVA_OPTIONS="${JAVA_OPTIONS} -Duser.timezone=timezone"
> ```
>
> where *timezone* is a valid string value defining the time zone ID such as GMT or EST.

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
- Cleaning up expired entity row locks
- Recalling disconnected IP resources
- 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 4–1   Properties Files for Localizing UIM Error Messages and Items.

Property File Name	Error ID Range	Error Message or Item It Localizes
addressrange.properties	N/A	Property names for the address range cartridge
businessInteraction.properties	270000-279999	Error messages generated by the business interaction module
capacity.properties	320000-329999	Error messages generated by the capacity module
configaction.properties	240000-249999	Error messages generated by the configuration actions
configuration.properties	240000-249999	Tree node label names
connectivity.properties	260000-269999	Error messages generated by the connectivity module
consumer.properties	220000-229999	Error messages generated by the consumer module
countries.properties	N/A	Error messages generated by the countries module
custom.properties	280000-289999	Error messages generated by the custom module
enum.properties	N/A	Error messages generated by enumeration
equipment.properties	210000-219999	Error messages generated by the equipment module
exception.properties	N/A	Error messages generated by the framework module
extensibility.properties	180000-189999	Error messages generated by the extensibility module
flowidentifiers.properties	620000-629999	Error messages generated by the packet connectivity module
importExport.properties	160000-169999	Error messages generated by the import/export module
inventoryGroup.properties	190000-199999	Error messages generated by the inventory group module
ip.properties	610000-619999	Error messages generated by the IP address module
location.properties	420000-420999	Error messages generated by the location module
logicaldevice.properties	290000-299999	Error messages generated by the logical device module
media.properties	350000-359999	Error messages generated by the media module
mediaResource.properties	360000-369999	Error messages generated by the mediaResource module
network.properties	300000-309999	Error messages generated by the network module
networkaddress.properties	620000-629999	Error messages generated by the network address module

Table 4–1   (Cont.) Properties Files for Localizing UIM Error Messages and Items.

Property File Name	Error ID Range	Error Message or Item It Localizes
number.properties	120000-129999	Error messages generated by the number module
party.properties	230000-239999	Error messages generated by the party role module
place.properties	250000-259999	Error messages generated by the place module
product.properties	390000-399999	Error messages generated by the product module
project.properties	140000-149999	Error messages generated by the project module
resource.properties	330000-339999	Resource entity names and resource-related error messages
role.properties	90000-99999	Error messages generated by the role module
service.properties	110000-119999	Error messages generated by the service module
signal.properties	310000-319999	Error messages generated by the connectivity signal module
specification.properties	130000-139999	Error messages generated by the specification module
status.properties	N/A	Error messages generated by the status module
subscriber.properties	150000-159999	Error messages generated by the subscriber module
system.properties	100000-109999	Error messages generated by the framework module
topology.properties	340000-349999	Error messages generated by the topology module
workflow.properties	N/A	Error messages generated by the workflow module
wsservice.properties	400000-409999	Error messages generated by the wsservice module

For more information on how to localize UIM, see *UIM Developer's Guide*.

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://wplsnroyall:7101
```

Deploying the Inventory Enterprise Application

UIM's core functionality runs as an Enterprise Application on the application server under the deployment name oracle.communications.inventory. The application file associated with the inventory enterprise application is the **inventory.ear** file. The following describes the steps for deployment:

> **Note:** You must ensure the application is un-deployed before doing a deploy. Optionally, ensure the temporary files for the WebLogic Server are cleaned up when the server is shut down, so that they cannot be used as cached information.

1. Start the Weblogic administration server.

2. Start the WebLogic Server Administration Console using the following URL:

   ```
   http://serverName:port/console
   ```

   where

   - *serverName* is the host name for UIM
   - *port* is the port number of the machine on which UIM is installed

3. Enter the administration user name and password and click **Login**.

4. In the Change Center of the administration console, click **Lock & Edit**.

5. In the left Domain Structure pane of the console, select **Deployments**.

6. In the right pane under Deployments, click **Install**.

7. In the Install Application Assistant, navigate to or enter the directory path location of the **inventory.ear** file.

8. Click the radio button next to the **inventory.ear** file, and click **Next**.

   The Choose targeting style window appears.

9. Select **Install this deployment as an application** and click **Next**.

10. Ensure the deployed name of the application is set to the following:

    ```
    oracle.communications.inventory
    ```

    and click **Next**.

11. Review the configuration settings you have chosen and click **Finish**.

    If you chose to change the deployment configuration later, the console returns to the Deployments table.

12. To activate the changes, under the Change Center area of the console, click **Activate Changes**.

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:
    >
    > **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**, **CMDSInventoryPersistentDS**, **InventoryMapDataSource**, **InvJMSPersistentDS**, **mds-commsRepository**, **opss-audit-DBDS**, **opss-audit-viewDS**, **opss-data-source**, **LocalSvcTblDataSource**, and **UIMAdapterDS**.

To reset/change the database connections:

1. Log in to the WebLogic server administration console at:

   `http://`*ServerName*`:`*PortNumber*`/console`

2. Click **Lock & Edit**.

3. In the **Domain Structure** tree, expand **Services** and then click **Data Sources**.

   The Summary of JDBC Data Sources page appears.

4. Click **InventoryDataSource**.

   The Settings for InventoryDataSource page appears.

5. Click the **Control** tab.

6. Select the check box next to the data source instance that you want to reset.

7. Click **Reset**.

8. Click **Yes**.

   > **Note:** If you want to change the database connection, perform steps 9 and 10.

9. Click the **Connection Pool** tab.

10. Modify the following fields to match your environment:

    - **URL**

    - **Properties**

    - **Password**

    - **Confirm Password**

11. Repeat steps 4 through 10 for all the remaining data sources.

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 does not specify a ruleset extension point to customize the edit mask. See *UIM Developer's Guide* for more information on customizing the telephone number edit mask.

The initial default value of ########## (ten digits) is specified in the **numbers.properties** file, which you can modify.

When a custom ruleset or modified properties file doe not specify a default edit mask, UIM uses the initial default edit mask from the **number.properties** file.

To modify the default telephone number edit mask:

1. Open *UIM_Home***/config/resources/logging/number.properties.**

2. Find the following entry:

   ```
   number.defaultEditMask=##########
   ```

3. Change **##########** to the desired length.

   For example, enter **############** to set the telephone number length to 12 digits. Each pound sign symbol (#) represents one digit.

Setting the Default Place Type

Place entities can be of several different types:

- Location
- Address
- Address Range
- Site

You can specify the default type by setting the value of the place.defaultPlaceType property in the **place.properties** file. This default value determines which type appears first in the **Place Type** list when you create a Place entity. By default, the value is set to **Address**.

To modify the default place type:

1. Open *UIM_Home***/config/resources/logging/place.properties.**

2. Find the following entry:

   ```
   place.defaultPlaceType
   ```

3. Change the value to the desired place type.

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

For information about deploying the BIG-IP system with Oracle WebLogic Server, refer to the deployment guide at the F5 Networks Web site.

Configuring the Proxy Server

There are several options available for the proxy server, refer to *Oracle WebLogic Server* documentation for information on configuring the various proxy server options.

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 a 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*:

http://download.oracle.com/otndocs/products/spatial/pdf/elocation_
quickstart.pdf

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*:

http://download.oracle.com/otndocs/products/spatial/pdf/elocation_
quickstart.pdf

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 "Setting System Properties" 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 - host name 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 4–2   Purge_Error_Log

Name	Description
ID	Refers to purge helper's ID
Error Code	SQL error code
Error Message	SQL error message
Reported Date	Time when error is recorded

Purge_Audit

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

Table 4–3   Purge_Audit

Attribute Name	Description
JOBID	For every execute or resume purge operation, a new record will be created in this table.
PURGETYPE	Defaulted to SERVICE.
START_DATE	The date when the purge process is initiated. **Note:** In the case of a scheduled execution, the value will be set to the scheduled time and once the process starts the process will update this value with the time when the process is initiated.
END_DATE	The date when the purge process is completed or cancelled.
USERNAME	The database schema user name through which the user will perform the operation.

Table 4–3   (Cont.) Purge_Audit

Attribute Name	Description
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('07/30/2014:23:59:59','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('07/30/2014:23:59:59','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 **JOBID**. This will enable us to maintain a history of the operations that were performed.
REPORTNAME	Report name generated when service purge execution is performed.

Operations

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.

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 -ed 02/21/2000
```

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 **icsc** 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

- 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 02/21/2000
  ```

- **-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.

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.

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.

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 06/26/2014:19:30:00
  ```

- **-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.

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.

Scenarios

The Service Purge functionality purges services that meet the following criteria:

- Cancelled services without In Service child services

- Disconnected services without In Service child services

- Cancelled services with cancelled child services

- Disconnected services with disconnected child services

- Cancelled services with disconnected child services

- Disconnected services with cancelled child services

- In Service services with Cancelled configuration versions

- Disconnected or Cancelled services without configuration items in the Transitional or Disconnected state for the following configuration item entities:

    – Telephone Number

    – IPv4Subnet

    – IPv6Subnet

    – IPv4Address

    – IPv6Address

Configuring Email Addresses and User Data

To support the message notification functionality, you maintain users and user groups along with their contact information. You manage this information through the embedded Lightweight Directory Access Protocol (LDAP) server within Oracle Weblogic Server or optionally through another LDAP-compliant product. For information about managing the embedded LDAP server within Oracle Weblogic Server, see the following web site:

http://docs.oracle.com/middleware/1213/wls/SECMG/ldap.htm#SECMG327

Alternatively, there are additional products such as *Oracle Identity Management - Oracle Internet Directory* that may be chosen depending on the required scale of the installation. For more information about message notification functionality, see *UIM Developer's Guide.*

5

Improving Unified Inventory Management Performance

This chapter describes ways to improve Oracle Communications Unified Inventory Management (UIM) performance.

Improving Performance of Searches That Include Characteristics

You can add characteristics to search criteria in UIM. For example, if your inventory includes Logical Device entities based on specifications that have a characteristic called Service Provider Name, you can add that characteristic to a logical device search. See *UIM Concepts* and UIM online Help for more information about adding characteristics to searches.

If you regularly include four or more characteristics in an entity search such as Telephone Number, Logical Device, or Place, you can change properties in the **system-config.properties** file to improve performance. You must also run scripts to support the database changes for this feature.

Caution: Once you run these database scripts for the performance improvement, you cannot revert the system changes back to its original state. Also, if you enable this feature for individual entities, the SQL script content must be altered to address only those entities.

Making Changes to the system-config.properties File

You can change the setting for all entity types or for a selection of entity types.

To improve characteristic search performance and enable this feature:

1. Navigate to *UIM_Home*/**config**.

2. Open the **system-config.properties** file.

3. Set the inv.extendedCharSearchEnabled property to **true**.

4. Do one of the following:

   - To enable the extended search feature for all entity types, set the inv.extendedCharSearchEnabledForAll property to **true**.

   - To enable the extended search feature for a selection of entity types, set the inv.extendedCharSearchEnabledForAll property to **false** and add sequentially numbered properties for the entities you want. For example:

     ```
     inv.extendedCharSearchEnabledEntities.1=TelephoneNumber
     ```

```
inv.extendedCharSearchEnabledEntities.2=LogicalDevice
inv.extendedCharSearchEnabledEntities.3=GeographicPlace
```

> **Note:** If you chose the option to specify one or more specific entities, some scripts need to be altered to apply changes only to the desired entities.

5. Save and close the **system-config.properties** file.

Making Changes to the Database Schema

To improve characteristic search performance, you must perform the following database changes:

1. Back up the UIM database. See "Database Backup and Restore" for more information.

2. Ensure that you have database modification level privileges.

3. Create two temporary directories, *temp_dir* and *temp_dir_schema*.

4. Download the UIM software for your operating system from the Oracle software delivery website and save it to *temp_dir*.

5. From the downloaded ZIP file, extract the **ora_uim_dbtools.jar** file into *temp_dir_schema*.

6. In the *temp_dir_schema* directory, open the **ora_uim_dbtools.jar** file and extract all the contents into *temp_dir_schema*. You can ignore the additional files in this jar. They are used in the upgrade process of the database.

7. The scripts for this feature default to enabling this feature for all entities. If you provided specific entities in the **system-config.properties** file, such as Logical Devices, you need to evaluate the contents of the following scripts and alter them to only apply to the entities you specified:

   – *temp_dir_schema***/sqlscripts/B23314430.sql**

   – *temp_dir_schema***/sqlscripts/B23318206.sql**

   – *temp_dir_schema***/sqlscripts/B23541213.sql**

8. Open a command line window and login to SQL*Plus for the desired database. Run the following SQL scripts providing the full path of the files. For example, use the @*scriptFileName* command where *scriptFileName* is the full path and name of the file.

   – *temp_dir_schema***/procs/CREATE_CHAR_EXT_TABLE.sql**

   – *temp_dir_schema***/sqlscripts/B23314430.sql**

   – *temp_dir_schema***/sqlscripts/B23318206.sql**

   – *temp_dir_schema***/sqlscripts/B23541213.sql**

9. (Optional) To verify that these scripts ran successfully, you can verify that the UIM schema includes the following elements:

   – A table named CHARACTERTICS_TABLE_MAPPING

   – A procedure named CREATE_CHAR_EXT_TABLE

   – A trigger named ADD_CHAR_COLUMN_TRIGGER

Verifying Areas When this Feature is Enabled

There are a few area that you need to verify if this feature is enabled. Ensure you review the following areas if you reference characteristic tables directly:

- Determine if there is any impact to custom database queries in custom code such as cartridges and web services.

- Determine if there is any impact to areas where there is direct database access.

Configuring a Shared Index Directory

For muiltiserver 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

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**

  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:

http://logging.apache.org/log4j/1.2/apidocs/org/apache/log4j/PatternLayout.html

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">
    <param name="userName" value=""/>
</filter>
```

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:

```
<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:

```
<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:

```
<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:

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

> **Note:** Appender Additivity
>
> The output of a log statement of logger C will go to all the appenders in C and its ancestors. This is the meaning of the term **appender additivity**.
>
> However, if an ancestor of logger C, say P, has the additivity flag set to **false**, then C's output will be directed to all the appenders in C and its ancestors up to and including P but not the appenders in any of the ancestors of P.
>
> Loggers have their additivity flag set to **true** by default.
>
> Source: http://logging.apache.org/log4j/1.2/manual.html

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:

```
<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 -Djava.compiler=NONE"

You can adjust the port by changing **address=1234**.

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()
    ```

    > **Note:** ′**custom()**′ can take a while to execute, approximately 5 minutes or more.

6. Go to TopLink using the following command:

    ```
    cd('TopLink')
    ```

7. List the sessions at this level using the following command:

    ```
    ls()
    ```

    > **Note:** The following is an example of a TopLink session:
    >
    > 'TopLink:Name=Session(file/share/uimcluster/domains/clusterUim 720b1357/servers/uim_ms1/tmp/_WL_user/ oracle.communications.inventory/b0t675/APP-INF/lib/uim-entities.j ar_default'

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.

Table 5–1   EclipseLink Logging Levels

Level	Description
OFF	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.
SEVERE	This level enables reporting of failure cases only. Usually, if the failure occurs, the application stops.
WARNING	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.
INFO	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.
CONFIG	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.
FINE	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.

Table 5–1 (Cont.) EclipseLink Logging Levels

Level	Description
FINER	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.
FINEST	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.
ALL	This level currently logs at the same level as FINEST.

10. To enable SQL logging use the following command:

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

Updating the System Configuration Files

You use files to control many aspects of UIM performance and configuration. These system configuration files are located in *UIM_Home***/config**. Each file includes properties for which you can set values.

This section includes reference information and examples for the following configuration files:

- **config-reload.properties**. See "Controlling Automatic Inventory Reloading".
- **consumer.properties**. See "Controlling Entity Consumption".
- **reference.properties**. See "Controlling Reference Properties".
- **ruleProcess.properties**. See "Controlling the Work Manager".
- **system-config.properties**. See "Setting System Properties".
- **timers.properties**. See "Controlling System Timer Events".
- **topologyProcess.properties**. See "Controlling Topology".

Controlling Automatic Inventory Reloading

You use the **config-reload.properties** file to control automatic inventory reloading.

Table 5–2 lists and describes the properties in the file.

Table 5–2 Properties in the config-reload.properties file

Property	Description
inventory.auto.reload.enabled	This property enables and disable the automatic reloading of system configuration properties. The default value is **true**. For example: `inventory.auto.reload.enabled=true`
inventory.auto.reload.interval	This property sets the reload interval in milliseconds. The default value is 3000 milliseconds. For example: `inventory.auto.reload.interval=3000`

Controlling Entity Consumption

You use the **consumer.properties** file to control entity consumption. The **tn.*** properties pertain to the telephone number aging process and the telephone number lifecycle process.

Table 5–3 lists and describes the properties in the **consumer.properties** file.

Table 5–3   Properties in the consumer.properties file

Property	Description
deleteReservation.batchsize	This property controls 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 controls the expiration period for transitioning telephone number assignment states from Disconnected to Transitional state.
	The default value is 30 days. For example:
	`tn.defaultDisconnectedStateExpiry=30`
tn.enableTNDeletion	This property controls whether telephone numbers that are not consumed but were previously assigned to services can be deleted. When the property is absent (the default) or set to **false**, these telephone numbers cannot be deleted. When set to **true**, they can be deleted.
	For example:
	`tn.enableTNDeletion= false`
tn.defaultTransitionalStateExpiry	This property controls the expiration period for transitioning telephone number assignment states from Transitional to Unassigned.
	The default value is 30 days. For example:
	`tn.defaultTransitionalStateExpiry=30`
tn.portabilityCharacteristicName	This property specifies the telephone number characteristic that is used in portability logic.
	The default value is **tnType**. For example:
	`tn.portabilityCharacteristicName=tnType`
tn.recallTNSearchResultsLimit	This property controls the number of telephone number assignment records selected for the TN Aging and Recall Timer process.
	The default value is **500**. For example:
	`tn.recallTNSearchResultsLimit=500`
tn.winbackCharacteristicName	This property specifies the telephone number characteristic used in winback (stealback) logic.
	The default value is **winback**. For example:
	`tn.winbackCharacteristicName=winback`

Controlling Reference Properties

You use the **reference.properties** file to control referenced properties.

Table 5–4 lists and describes the properties in the file. The properties are listed in order by entity type.

Table 5–4   Properties in the reference. properties file

Property	Description
AllowCancelReferencedBusinessInteraction	This property controls the cancellation of referenced business interactions. The default value is **true**. For example: `AllowCancelReferencedBusinessInteraction=true`
AllowDeactivateReferencedCustomNetworkAdrress	This property controls the deactivation of referenced custom network addresses. The default value is **false**. For example: `AllowDeactivateReferencedCustomNetworkAddress=false`
AllowDeactivateReferencedCustomObject	This property controls the deactivation of referenced custom object property. The default value is **false**. For example: `AllowDeactivateReferencedCustomObject=false`
AllowDeactivateReferencedEquipment	This property controls the deactivation of referenced equipment. The default value is **false**. For example: `AllowDeactivateReferencedEquipment=false`
AllowedDeactivateReferencedLogialDevice	This property controls the deactivation of referenced logical devices. The default value is **false**. For example: `AllowDeactivateReferencedLogicalDevice=false`
AllowDeactivateReferencedLogialDeviceAccount	This property controls the deactivation of referenced logical device accounts. The default value is **false**. For example: `AllowDeactivateReferencedLogicalDeviceAccount=false`
AllowDeactivateReferencedNetwork	This property controls the deactivation of referenced networks. The default value is **false**. For example: `AllowDeactivateReferencedNetwork=false`
AllowDeactivateReferencedPhysicalDevice	This property controls the deactivation of referenced physical devices. The default value is **false**. For example: `AllowDeactivateReferencedPhysicalDevice=false`
AllowDeactivateReferencedPipe	This property controls the deactivation of referenced pipes. The default value is **false**. For example: `AllowDeactivateReferencedPipe=false`
AllowSuspendReferencedService	This property controls the suspension of referenced services. The default value is **true**. For example: `AllowSuspendReferencedService=true`
AllowDisconnectReferencedService	This property controls the disconnect of referenced services. The default value is **true**. For example: `AllowDisconnectReferencedService=true`
AllowCancelReferencedService	This property controls the cancellation of referenced services. The default value is **true**. For example: `AllowCancelReferencedService=true`
AllowDeactivateReferencedTelephoneNumber	This property controls the deactivation of referenced telephone numbers. The default value is **false**. For example: `AllowDeactivateReferencedTelephoneNumber=false`

Controlling the Work Manager

You use the **ruleProcess.properties** file to control Work Manager. Work Manager is used to compile rulesets during cartridge compilation.

Table 5–5 lists and describes the properties in the file.

Table 5–5 Properties in the ruleProcess.properties File

Property	Description
WORK_MANAGER_JNDI	This property applies only to WebLogic. For example: `WORK_MANAGER_JNDI=java:comp/env/wm/ruleWorkManager`
timeOutSec	This property sets the timeout in WorkManager during cartridge install. The default value is 10000 milliseconds. For example: `timeOutSec=10000`

Setting System Properties

You use the **system-config.properties** file to control system configuration properties.

Table 5–6 lists the system configuration properties in alphabetical order. Some related properties are grouped together out of order.

Table 5–6 Properties in the system-config.properties File

Property	Description
billofmaterial.currency	This property determines the currency that is used in bills of material (BOMs) generated from engineering work orders, business interactions, and projects. The default values is **USD** (US dollar). Change the value to another ISO-standard currency abbreviation to specify that currency. For example, to use the Euro in BOMs: `billofmaterial.currency=EUR` See *UIM Concepts* for more information about BOMs.
businessInteraction.allowCancelWithCompletedChild	This property controls whether a business interaction can be canceled if it has completed children. For example: `businessInteraction.allowCancelWithCompletedChild=false`
businessInteraction.allowCancelWithCompletedConfiguration	This property controls whether a business interaction can be canceled if it is associated to a completed configuration version. For example: `businessInteraction.allowCancelWithCompletedConfiguration=false`
cmws.asynch.mode	This property sets the cartridge deployment mode to either synchronous or asynchronous. The default value is **true** (asynchronous). For example: `cmws.asynch.mode=true`
createIPAddress.flushSize	This property controls the number of IP Address entities to create before flushing transactions. Do not set the value of the property to a value greater than **500**. For example: `createIPAddress.flushSize=500`
createIPSubnets.flushSize	This property controls the number of IP Subnet entities to create before flushing transactions. Do not set the value of the property to a value greater than 500. For example: `createIPSubnets.flushSize=500`
createIPAddress.maxLimit	This property controls the number of IP Address entities to create in one transaction. For example: `createIPAddress.maxLimit=20000`
createIPSubnets.maxLimit	This property controls the number of IP Subnet entities to create in one transaction. For example: `createIPSubnets.maxLimit=20000`

Table 5–6   (Cont.) Properties in the system-config.properties File

Property	Description
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 a value greater than **500**. The default value is **500**. For example: `createTN.flushSize=500`
db.sequence.cacheSize	This property sets the cache size for Oracle Sequence used for Auto ID generation. The default value is **75000**. For example: `db.sequence.cacheSize=75000`

default.connectivity.color
 default.gap.color
 default.crossconnect.color
 default.jumper.color
 default.pipe.color
 selected.connectivity.patchcolor
	These properties control the colors used in the connectivity schematic view. Colors are expressed in standard RGB values. For example:
	`default.connectivity.color=0,0,153`
	`default.gap.color=165,165,165`
	`default.crossconnect.color=0,204,255`
	`default.jumper.color=84,141,212`
	`default.pipe.color=165,165,165`
	`selected.connectivity.patchcolor=0,175,0`

eLocation.defaultCountry	This property is used to select the default country in the **Country** drop-down list while creating a property location. You set the value to one of the two-character ISO country abbreviations listed in the **country.properties** file. For example, the following entry defines the default country as the US: `eLocation.defaultCountry=US` For detailed information about eLocation configuration, see *UIM Developer's Guide*.
eLocation.URL	This property defines the eLocation URL The default value is: `eLocation.URL=http://eLocation.oracle.com/eLocation/lbs`
eLocation.matchMode	This property determines the eLocation match mode. The default value is: `eLocation.matchMode=Default` See the eLocation documentation for more information about match mode.
eLocation.http.proxyExists eLocation.http.proxyHost eLocation.http.proxyPort eLocation.http.proxyUser eLocation.http.proxyPassword	UIM allows for a proxy server to be used to connect to the Oracle eLocation Service used for displaying base maps in UIM. If you connect to the eLocation through a proxy server, set **eLocation.http.proxyExists** to **true**, then set the other values based on the proxy server you are using. For example: eLocation.http.proxyExists=true eLocation.http.proxyHost=www-proxy.xyz.sample.com eLocation.http.proxyPort=80 eLocation.http.proxyUser=user eLocation.http.proxyPassword=password
inv.extendedCharSearchEnabled inv.extendedCharSearchEnabledForAll inv.extendedCharSearchEnabledEntities	These properties control the extended characteristic search feature. This feature improves performance for searches for entities that include characteristics. See "Improving Performance of Searches That Include Characteristics" for more information.
ip.defaultTransitionalStateExpiry	This property controls the number of days IP resources should be in the transition state. The default value is **30**. For example: `ip.defaultTransitionalStateExpiry=30`

Table 5–6   (Cont.) Properties in the system-config.properties File

Property	Description
lockPolicy.defaultRowLockExpirationDuration	This property sets 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 sets 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`

logfactory.logexactclass
feedmessage.logexactlocation
	These properties control whether the exact location and class name are included in the log when an exception occurs. For example:
	`logfactory.logexactclass=false`
	`feedmessage.logexactlocation=false`

securityViolationLoggingEnabled	This property enables and disables security access violation logging. For example: `securityViolationLoggingEnabled=true`

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

system.auth.debug	This property is used to enable and disable system authentication when debugging. For example: `system.auth.debug=false`
ui.custominvolvement.setDefaultSpec.name	This property sets a default specification used when creating Custom Involvement entities. The property is commented out by default. To set a default Custom Involvement specification, uncomment the property and add a specification name. For example: `ui.custominvolvement.setDefaultSpec.name = DefCustInv`
ui.ldsummary.portlets.disableCount	This property disables the count that appears in the Total Results field in Logical Device Summary page portlets (sections). This property is commented out by default. To disable the count, uncomment the property set to **true**. For example: `ui.ldsummary.portlets.disableCount=true`
ui.logicaldevicesummary.logicaldeviceaccountportlet.deactivate **ui.logicaldevicesummary.rolesportlet.deactivate** **ui.logicaldevicesummary.mediaportlet.deactivate** **ui.logicaldevicesummary.biportlet.deactivate** **ui.logicaldevicesummary.networknodesportlet.deactivate** **ui.logicaldevicesummary.serviceportlet.deactivate**	These properties control whether particular portlets (sections) are displayed in Logical Device Summary pages. These properties are commented out by default. To deactivate a portlet, uncomment the relevant property. For example: `ui.logicaldevicesummary.serviceportlet.deactivate=true`
ui.search.pageSize	This property sets the number of rows shown in UIM search results pages. Search results are displayed one page at a time. When you scroll beyond the results in a page the next page is automatically retrieved from the database. The default value is **200**. For example: `ui.search.pageSize=200`

Table 5–6 (Cont.) Properties in the system-config.properties File

Property	Description
ui.search.queryBehavior	This property determines 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 sets a limit to UIM query results. 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.
	For example:
	`ui.search.queryLimit=-1`
uim.attachment.ws.log.information.enabled	This property controls logging for web service request attachments. 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`
uim.cache.config.customization.enabled	Automatically set to **true** if Eclipse Link cache configuration customization has been enabled.
	Caution: Do not change this setting manually.
uim.characteristic.readonly.enabled	This property is used for read-only characteristics. The default value is **true**, which will validate for read only characteristics. Set the value to **false** to bypass the *CharacteristicManagerImpl.validateReadOnly* method.
	The default value is **true**. For example:
	`uim.characteristic.readonly.enabled=true`
uim.characteristic.entitylink.rowlimit	This property sets a limit for the number of rows returned by an entity link query. The default value is **500**.
	`uim.characteristic.entitylink.rowlimit=500`
uim.characteristic.entitylink.executeQueryWithout Values	This property controls whether a child drop-down is populated if the parent is not present in entity-link search criteria. For example, the **City** characteristic is characteristics on the **State** characteristic.
	If this property is set to **false** and you add the **City** characteristic to the search criteria, the drop-down is empty because **State** is not included in the criteria. If the property is set to **true**, the drop-down includes all values for **City**, unconstrained by **State** values.
	`uim.characteristic.entitylink.executeQueryWithoutValues=false`
uim.characteristic.entitylink.maxSuggestedItems	This property sets the maximum number of suggested results when entity-link drop-down lists are also auto-suggest fields. For example:
	`uim.characteristic.entitylink.maxSuggestedItems=25`
uim.characteristic.dropdown.entitylink.width	This property sets the width of the field in the UIM user interface for entity-link characteristic fields. For example:
	`uim.characteristic.dropdown.entitylink.width=28`
uim.characteristic.addCharacteristicsToResultsTable	This property determines whether entity-link characteristics are included as columns in the search results. For example:
	`uim.characteristic.addCharacteristicsToResultsTable=true`

Table 5–6   (Cont.) Properties in the system-config.properties File

Property	Description
uim.characteristic.entitylink.dropdown.includeID	This property determines whether ID values are displayed in entity-link drop-down lists. For example: `uim.characteristic.entitylink.dropdown.includeID=true`
uim.connectivityresultstable.pendingBiInfo.enable	This property determines whether connectivities in pending business interactions are displayed in connectivity search results. The default value is **true**. `uim.connectivityresultstable.pendingBiInfo.enable = true`
uim.default.paging.query.hint	This property defines a a default query hint that 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: `uim.default.paging.query.hint=FIRST_ROWS(25)`
uim.entity.autoCreateDefaultVersion	This property controls the creation of default configuration versions for Service entities. If this property is enabled, and if there is only a single specification option for the service, a version is created during service creation. The default value is **false**. For example: `uim.entity.autoCreateDefaultVersion=false`
uim.entity.autoCreateDefaultVersion	This property controls whether a service configuration version is created automatically when you create a Service entity. This behavior applies only when the Service specification is associated to one and only one service configuration specification. The default value is **false**. For example, to enable the creation of a default service configuration version when you create a service: `uim.entity.autoCreateDefaultVersion=true` For more information, see *UIM Concepts*.
uim.disable.entity.event.listeners	This property enables and 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`
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 defines the number of entities created in memory for bulk entity 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`
uim.flowidentifier.id.delimiter	This property defines the delimiter to be used while concatenating the domain name to the identifier value while building the ID of a flow identifier. The default value is **#**. For example: `uim.flowidentifier.id.delimiter=`

uim.host.*	These properties are added to provide server host and port information to support UIM notification functionality. For example, to set the host name and port for the URL in notifications:
	
	`uim.host.name=uimserver`
	`uim.host.port=7001`
	
	See *UIM Developer's Guide* for more information about properties for UIM notifications.

Table 5–6   (Cont.) Properties in the system-config.properties File

Property	Description
uim.query.cache.hint.entitylist	This property adds the RESULTS_CACHE hint to queries involving entities. For example: `uim.query.cache.hint.entitylist=CharacteristicSpecUsageDAO`
uim.query.MaxSearchResults	This property sets a limit on the number of entities retrieved for a search. The default value is **-1**, which sets 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.security.filter.enabled	This property sets security access to allow for the configuring of partitions. For example: `uim.security.filter.enabled=false`
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.telephonenumber.search.invGroup.enable	This property determines whether inventory groups are included in telephone number search results. The default value is **true**. For example: `uim.telephonenumber.search.invGroup.enable=true`

uim.default.autosuggest.rowlimit
uim.default.autosuggest.disable
	These properties control the behavior of auto-suggest in UIM. You can disable auto-suggest and set a limit for the number of rows it displays. For example:
	
	`uim.default.autosuggest.rowlimit=20`
	`uim.default.autosuggest.disable=false`

uim.networkentitycode.maxlength
uim.networklocation.code.minlength
uim.networklocation.code.maxlength
uim.networkentitylocation.code.delimiter.enabled
uim.propertylocation.name.maxlength
uim.propertylocation.name.delimiter
poms.cache.coordination.enabled
	The following properties are used for setting Property Location settings:
	
	`uim.networkentitycode.maxlength=10`
	`uim.propertylocation.name.maxlength=255`
	`uim.networklocation.code.minlength=3`
	`uim.networklocation.code.maxlength=20`
	`uim.networkentitylocation.code.delimiter.enabled=true`
	`uim.propertylocation.name.delimiter=`
	`poms.cache.coordination.enabled=false`

connectivity.capactityVariant	Defines the percentage by which pipe capacity can vary from a rate code and still be validated successfully. The default value is **4**. For example: `connectivity.capacityVariant=4`
groom.items.per.transaction	This property defines the number of riders having COMPLETED pipe configuration versions that are to be processed per transaction. The default value is **5**. For example: `groom.items.per.transaction=5`
system.exception.writableStackTrace	This property is used to reduce CPU usage. For example: `system.exception.writableStackTrace=false`
ws.includeEntityFromAssignment	This property determines whether to include the entity in web service requests from an assignment or reference. The default value is **false**. `ws.includeEntityFromAssignment=false`

Controlling System Timer Events

You use the **timers.properties** file to control system timer events.

Each timer can be defined by five properties:

- **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. The default value is **true**.

  You normally use the default value for all timers except **clusterTimeMonitor**, which should be run individually on every server in a cluster.

The properties for the **timers.properties** file are:

Table 5–7   Properties in the timers.properties file

Property	Description

cleanReservation	This property controls the timer for cleaning up 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`

clusterTimerMonitor	This property controls the timer that monitors whether the current server that 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 controls a 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`

Table 5–7   (Cont.) Properties in the timers.properties file

Property	Description

ipAddressAging	This property controls a timer for recalling disconnected IP resources. For example:
	
	`ipAddressAging.firstTime=600`
	`ipAddressAging.period=600`
	`ipAddressAging.listener=oracle.communications.inventory.api.ip.IPResourceTimerListener`

rowLockExpiration	This controls the timer for cleaning up expired entity row locks. For example:
	
	`rowLockExpiration.firstTime=120`
	`rowLockExpiration.period=600`
	`rowLockExpiration.listener=oracle.communications.inventory.api.common.impl.RowLockExpiryTimerListener`

telephoneNumberAging	This property controls a timer for recalling disconnected telephone numbers. For example:
	
	`telephoneNumberAging.firstTime=600`
	`telephoneNumberAging.period=600`
	`telephoneNumberAging.listener=oracle.communications.inventory.api.number.TelephoneNumberHelper`
	
	For more information on telephone number aging and telephone number life cycles, see *UIM Concepts.*

Controlling Topology

You use the **topologyProcess.properties** to control how topology is managed in UIM. The properties are:

Table 5–8   Properties in the topologyProcess.properties file

Property	Description
disableTopology	This property turns topology refresh on or off. The default value is **false**. For example: `disableTopology=false`
processSynchronous	This property refreshes the 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`
WORK_MANAGER_JNDI	The following property is a setting only for WebLogic. For example: `WORK_MANAGER_JNDI=java:comp/env/wm/TopologyWorkManager`

defaultBaseMap
defaultApplicationDatasource
defaultMapTileServerUrl
defaultMapCopyright
	These properties define set map profile settings. These are the default settings:
	
	`defaultBaseMap=elocation_mercator.world_map`
	`defaultApplicationDatasource=UIMDATA`
	`defaultMapTileServerUrl=http://elocation.oracle.com/mapviewer/mcserver`
	`defaultMapCopyright=Copyright © 2007, 2012 Oracle Corp © 2010 NAVTEQ`
	
	If you use a third-party geocoding service, change these values. See "Configuring a Geocode Service" for more information.

MapViewerUrl	This property specifies the map viewer URL if it is running in a separate domain. To specify the URL, uncomment the following line and replace the URL with the correct value. `mapviewerUrl=http://`*hostname*`:`*port*`/mapviewer`

Table 5–8   (Cont.) Properties in the topologyProcess.properties file

Property	Description

simpleLinearMode
simpleLinearModeMaxCycles
continueProcessingIndicator
	These properties control various aspects of path analysis processing. See *UIM Developer's Guide* for information about the purpose of these properties.
	These are the default values:
	`simpleLinearMode=false`
	`simpleLinearModeMaxCycles=5`
	`continueProcessingIndicator=true`

topology.threadedEntityList=LogicalDevice,PhysicalDevice,Equipment,GeographicPlace topology.nonThreadedEntityList=Network,NetworkNode,Pipe,NetworkEdge topology.placeRelList=LogicalDevice,PhysicalDevice,Equipment,NetworkNode,Network,GeographicPlace topology.netNodeRelList=LogicalDevice,PhysicalDevice,Equipment,Network	These properties are used by the topology rebuild process. You should not modify them. **Caution**: If you modify these properties, UIM topology may not work as expected.
rebuildChunkSize	This property defines the number of topology objects in the topology rebuild chunk size. A larger number of chunks per transaction means that fewer transactions are required to rebuild the topology. For example: `topology.rebuildChunkSize=100`

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
   ```

2. Click **Lock & Edit**.

3. In the **Domain Structure** tree, expand **Services**, and then click **JTA**.

   The Settings for *Domain_Name* pane appears.

4. Update the value in the **Timeout Seconds** field and then click **Save**.

5. Click **Activate Changes**.

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 5–9 describes the options available for the Query Behavior and Row Limit parameters.

Table 5–9   Query Behavior and Row Limit Parameters

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

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 5–10 for a description of the pros and cons of the parameter options.

5. Save and close the **system-config.properties** file.

Table 5–10   Parameter Options Pros and Cons

Behavior	Advantages	Disadvantages
FULL_COUNT_FULL_ QUERY(1)	You know the exact count of rows satisfying the criteria. You can scroll through the entire result set.	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.
NO_COUNT_FULL_ QUERY(2)	The query for finding the total count is not performed. So it will help the performance of the pages.	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.
LIMIT_COUNT_FULL_ QUERY(3)	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).	User cannot scroll to the rows past the row limit.
LIMIT_COUNT_LIMIT_ QUERY(4)	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.	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.

6

Unified Inventory Management Backup and Restore

This chapter describes how to backup and restore Oracle Communications Unified Inventory Management (UIM) data.

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.

http://www.oracle.com/technetwork/database/features/availability/maa-wp-wls-br-scenarios-128715.pdf

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:

*Domain_Home***/servers/AdminServer/data/ldap**

In the preceding directory, *Domain_Home* is the domain root directory and **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 *Managing Server Startup and Shutdown for Oracle WebLogic Server* located at the following link:

  http://docs.oracle.com/cd/E21764_01/web.1111/e13708/failures.htm#START172

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 **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:

   *Domain_Home***/servers/AdminServer/data**

2. Rename the embedded LDAP server file, as in the following example:

   ```
   mv ldap ldap.old
   ```

   where **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/E24329_01/web.1211/e24422/ldap.htm#SECMG331

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:

https://docs.oracle.com/database/121/RACAD/rman.htm#RACAD320

> **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.

7

Working with Reports

Oracle Communications Unified Inventory Management (UIM) supports Oracle Business Intelligence Publisher (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 assumes you are familiar with BI Publisher and its documentation, which is available on the Oracle documentation web site:

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. See the discussion about system requirements in *UIM Installation Guide* for information about which versions of BI Publisher work with this release of UIM.

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*, located here:

http://www.oracle.com/technetwork/middleware/bi/documentation/bipqs-191194
8.pdf

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:

   http://www.oracle.com/technetwork/middleware/bi/documentation/bipqs-191
   1948.pdf

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:

   http://www.oracle.com/technetwork/middleware/bi/documentation/bipqs-191
   1948.pdf

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

The UIM sample reports are delivered in a separate ZIP file (**BIPubReports.zip**), which you can download from the UIM software on the Oracle Software Delivery Cloud:

https://edelivery.oracle.com

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" for more information.

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 7–1.

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 7–1   Sample Reports in the BI Publisher Catalog
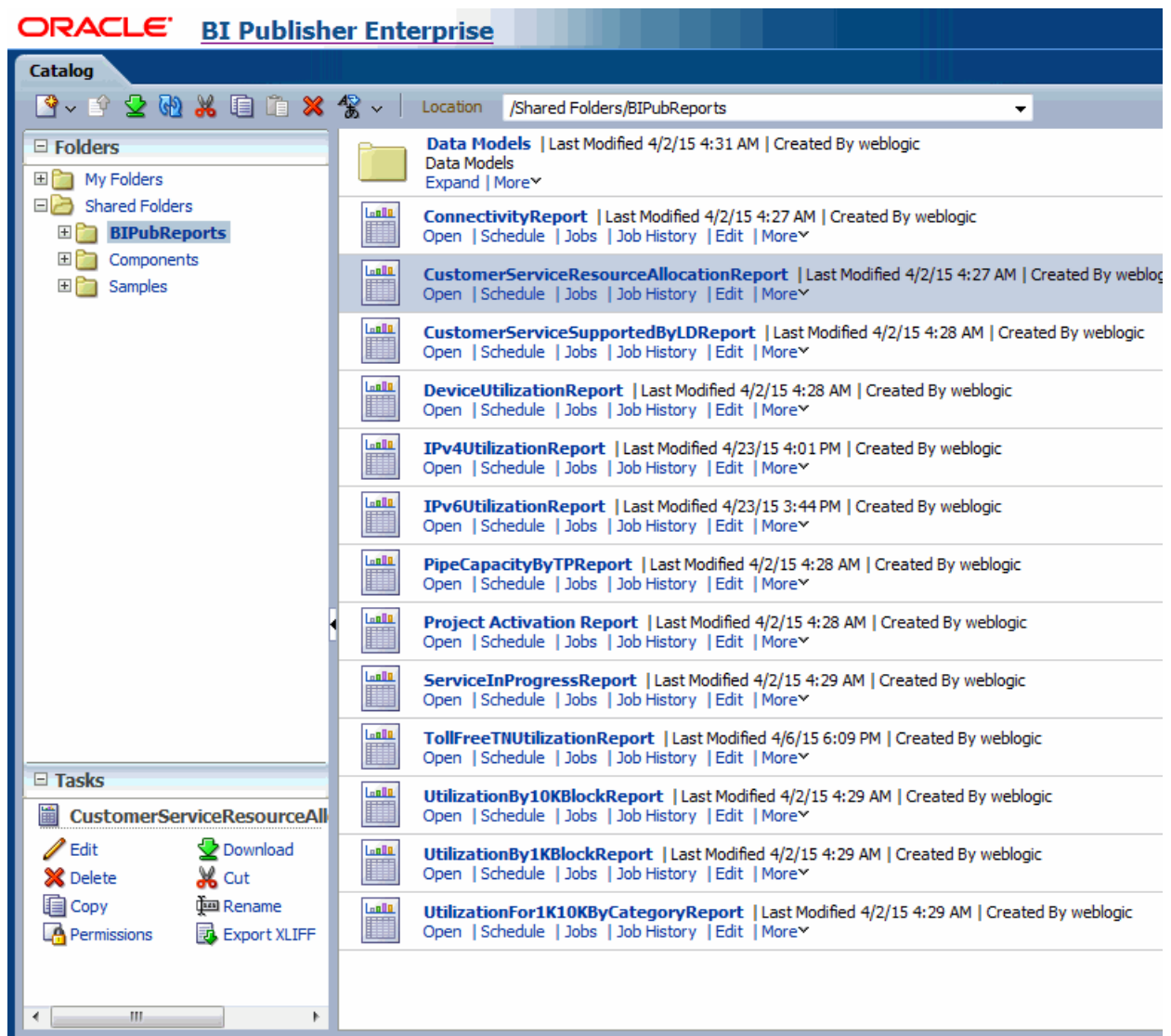
> **Note:** Regarding the BI Publisher Catalog, files in **Shared Folders** are accessible to other users, while files in **My Folder** are user-specific and are not accessible to other users.

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.

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.

17. Navigate to *tempDir*/**BIPubReports/Data Models**.

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 7–1, "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

- Customer Service Resource Allocation Report

- Customer Services Supported by Logical Device Report

- Device Utilization Report

- IPv4 Utilization Report

- IPv6 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.
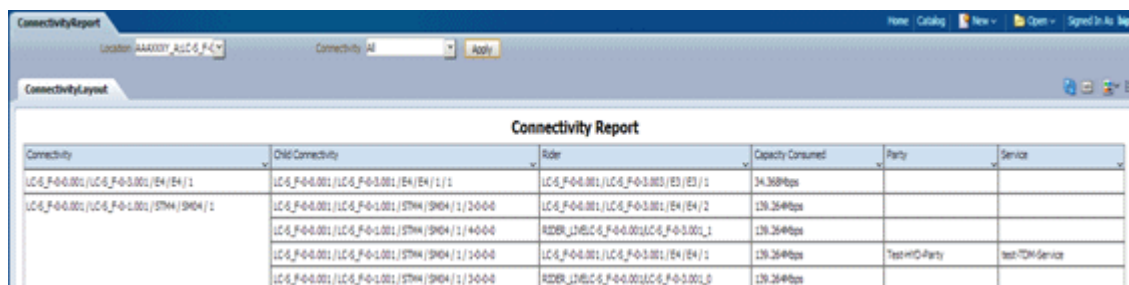
Connectivity Report

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 7–2 shows an example of the Connectivity Report:

Figure 7–2 Connectivity Report

Connectivity Activation Report for Project Activity

> **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 connects 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 7–3 shows an example of the Connectivity Activation Report for Project Activity:

Figure 7–3   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 7–4 shows an example of the Customer Service Resource Allocation Report:

Figure 7–4   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 7–5 shows an example of the Customer Services Supported by Logical Device Report:

Figure 7–5   Customer Services Supported by Logical Device Report
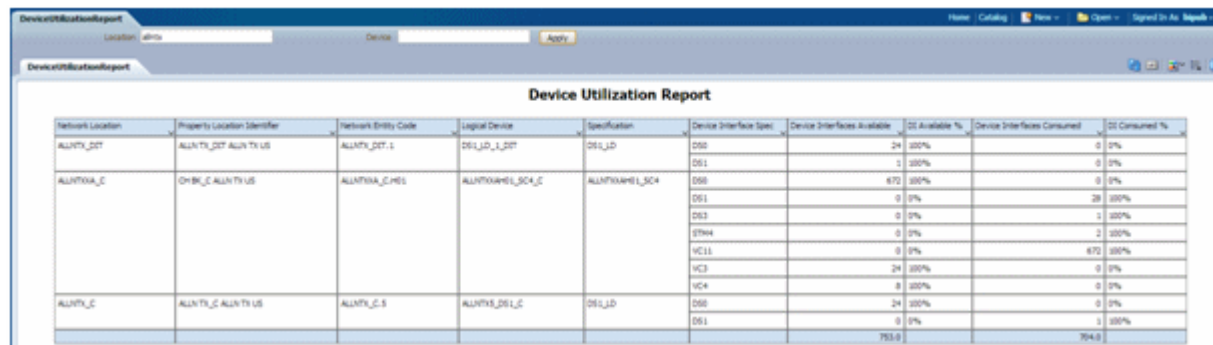
Device Utilization Report

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 7–6 shows an example of the Device Utilization Report:

Figure 7–6   Device Utilization Report

IPv4 Utilization Report

This report shows all IPv4 networks, subnets, and hosts, and the respective utilization, for a particular IP address domain.

When running the report, you select an IP address domain name.

Figure 7–7 shows an example of the IPv4 Utilization Report:

Figure 7–7   IPv4 Utilization Report

IPv6 Utilization Report

This report shows all IPv6 networks, subnets, and hosts, and the respective utilization, for a particular IP address domain.

When running the report, you select an IP address domain name.

Figure 7–8 shows an example of the IPv6 Utilization Report:

Figure 7–8   IPv6 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 7–9 shows an example of the Pipe Capacity by Terminating Place Report:

*Figure 7–9   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 7–10 shows an example of the Services in Progress Report:

Figure 7–10   Services in Progress Report
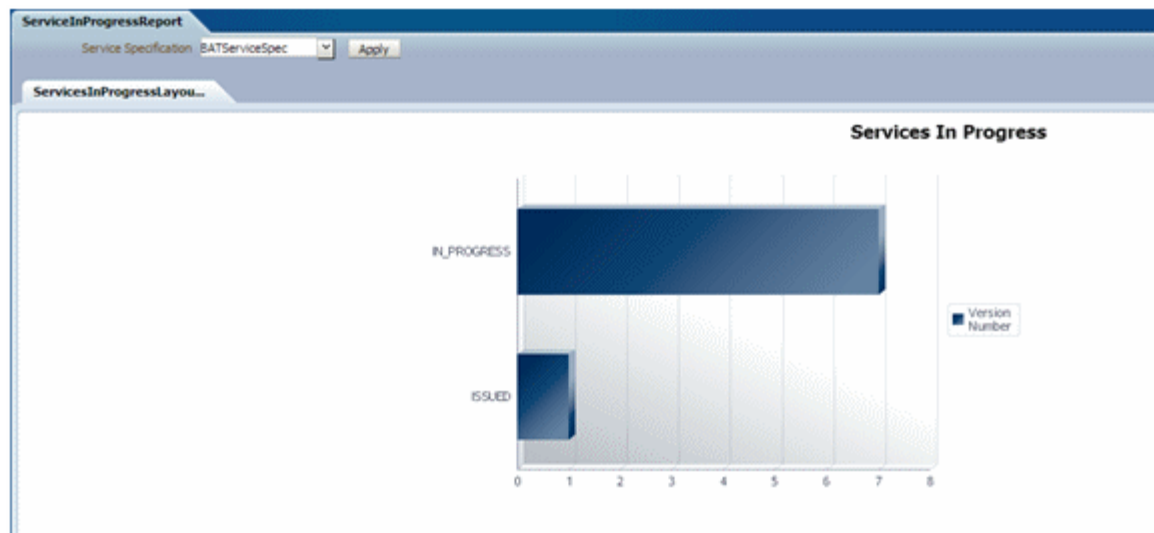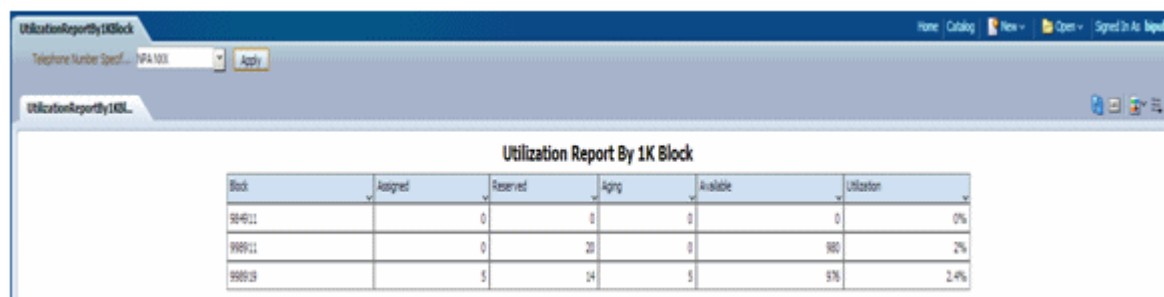

Telephone Number Reports

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 7–11 shows an example of the Utilization Report by 1K Block:
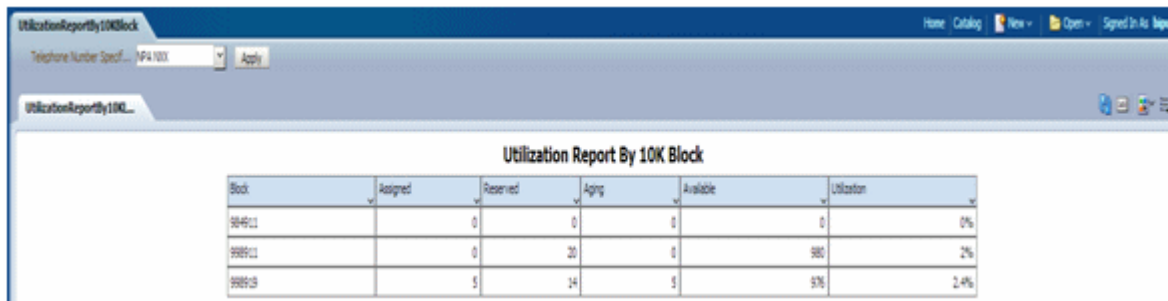
Figure 7–11   Utilization Report by 1K Block

■ **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 7–12 shows an example of the Utilization Report by 10K Block:

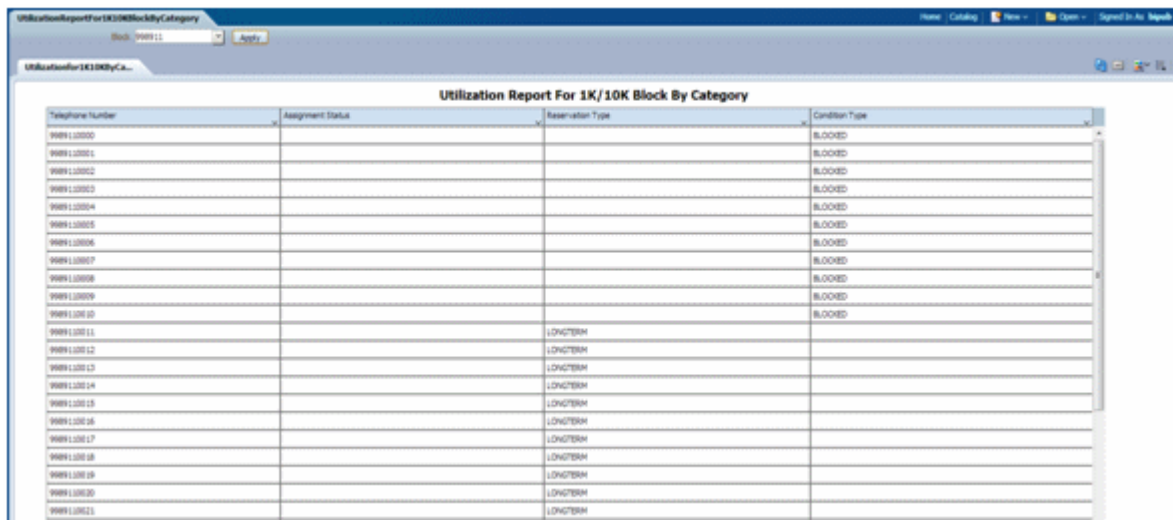**Figure 7–12   Utilization Report by 10K Block**

- **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 7–13 shows an example of the Utilization Report for 1K/10K Block by Category:

Figure 7–13   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 7–14 shows an example of the Utilization Report by Category for Toll Free Numbers:

Figure 7–14 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 7–15.

Figure 7–15   Data Model Properties Page
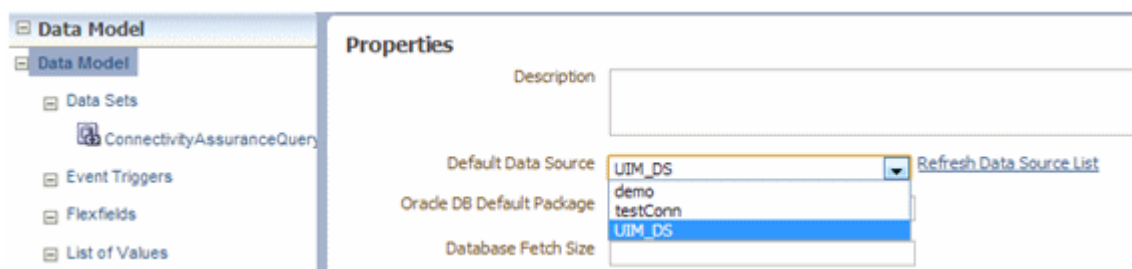
8. Expand **Data Model**, and select **Data Sets**.

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 7–16.

Figure 7–16   View Actions Menu
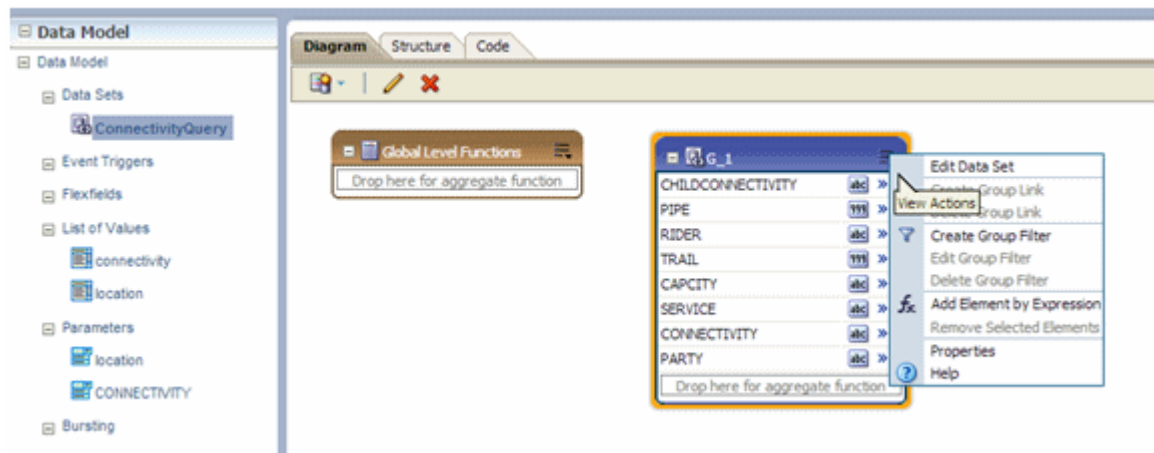
11. From the View Actions menu, select **Edit Data Set**.

The Edit Data Set dialog box appears, as shown in Figure 7–17.

Figure 7–17   Edit Data Set Dialog Box
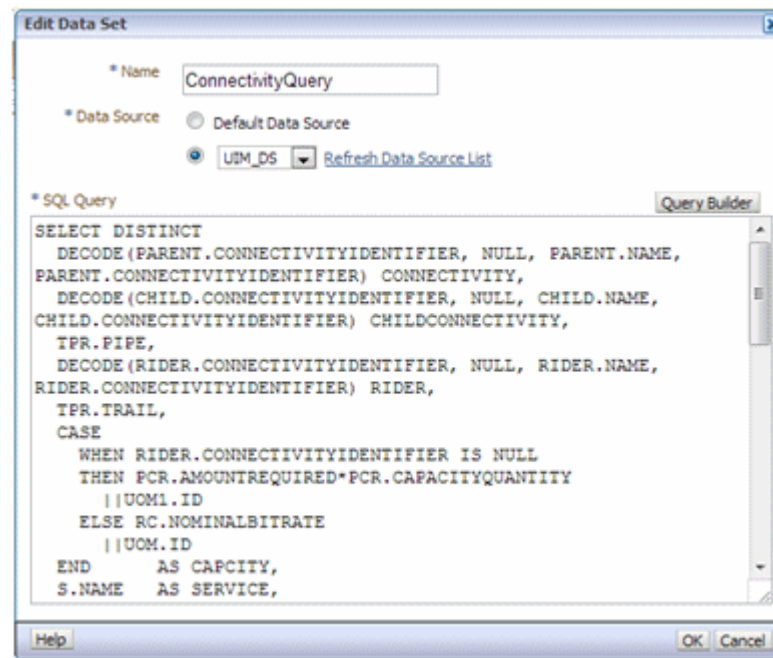
12. Change **Data Source**.

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 7–18.

Figure 7–18   Data Model Parameters Page
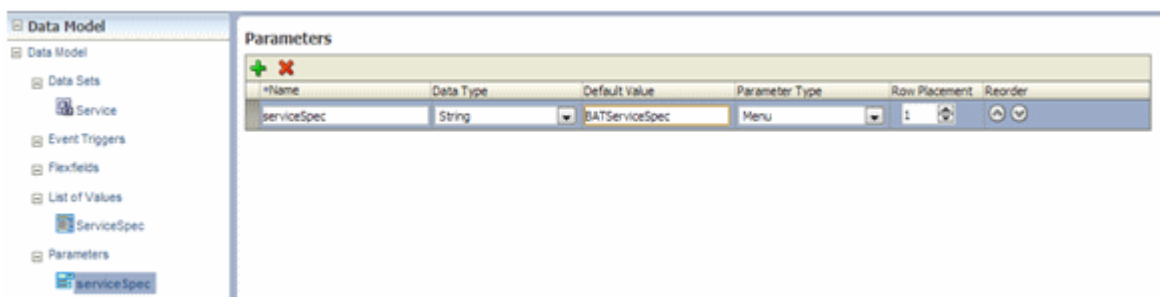
8. Set or change the value in the **Default Value** field.

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 7–19.

Figure 7–19   Data Model
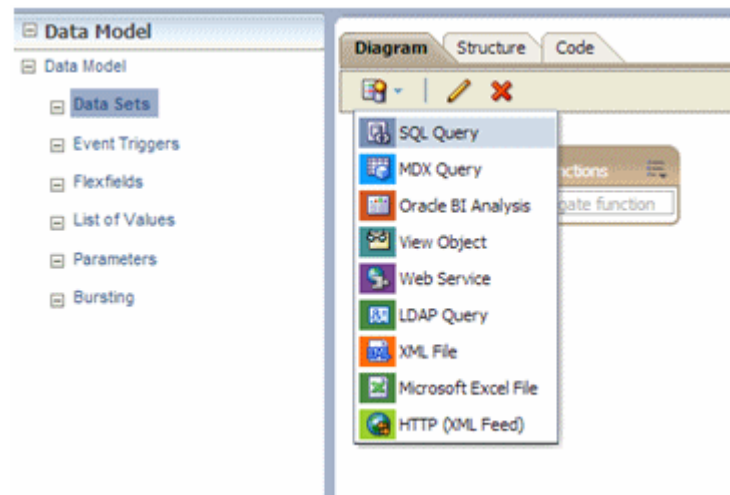
The Create Data Set - SQL dialog box opens.

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 7–20.

Figure 7–20 View Actions Menu
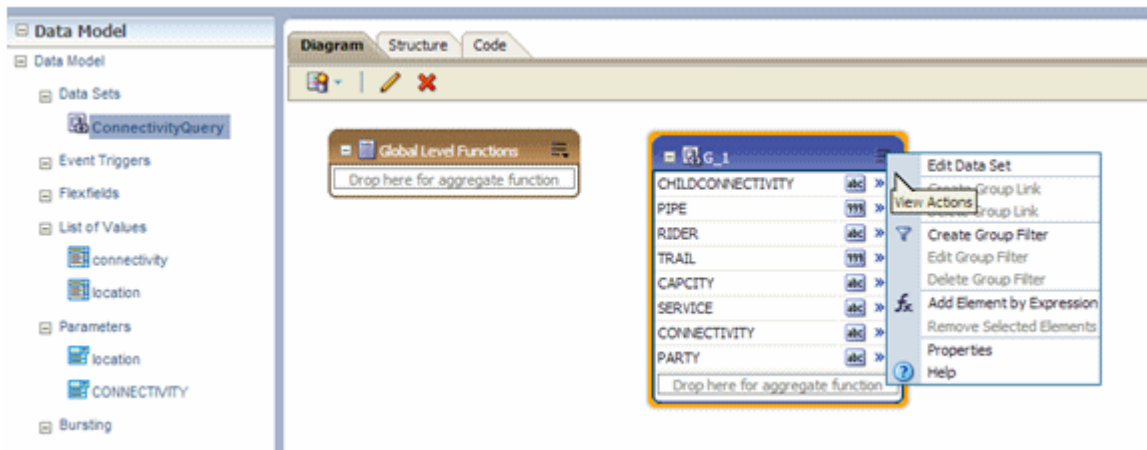
9. From the View Actions menu, select **Edit Data Set**.

   The Edit Data Set dialog box appears, as shown in Figure 7–21.

   Here, you can view the query.

Figure 7–21   Edit Data Set Dialog Box
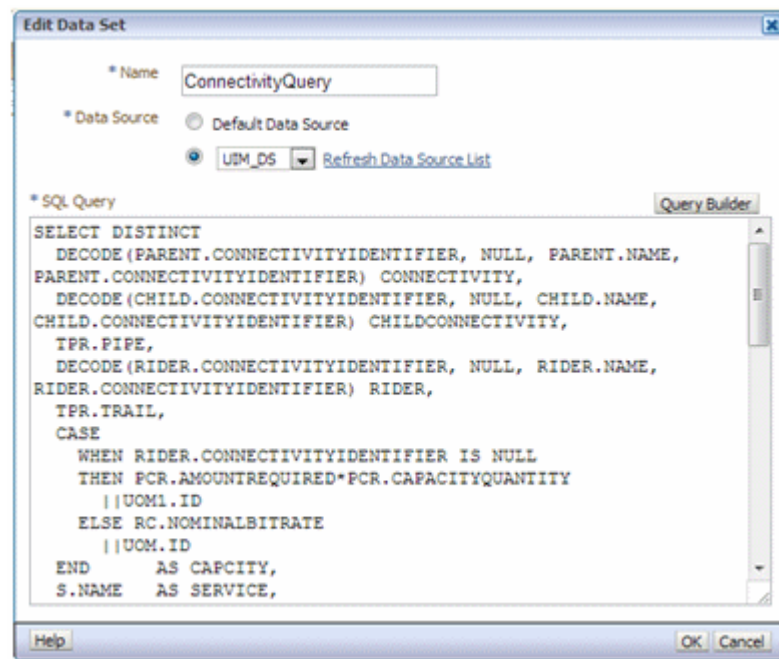
Troubleshooting

Refer to BI Publisher forum for troubleshooting information.

https://community.oracle.com/community/developer/english/business_
intelligence/business_intelligence_foundation/bi_publisher

A

UIM_Home Directory Structure

This appendix provides information on the *UIM_Home* directory structure.
shows the contents of the *UIM_Home* directory structure.

Example A–1   UIM Directory Structure

```
app/ (Directory for UIM applications)
    7_3_1/
        custom.ear
        uim_core_lib.ear
        uim_custom_lib.ear
        uim_external_lib.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_basetags_cartproj.zip
            ora_uim_basetechnologies_cartproj.zip
            ora_uim_canada_tn_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
        ora_uim_baseextpts_cartproj.jar
        ora_uim_basemeasurements_cartproj.jar
        ora_uim_basephone_mgmt_cartproj.jar
        ora_uim_baserulesets_cartproj.jar
        ora_uim_basespecifications_cartproj.jar
        ora_uim_basetechnologies_cartproj.jar
        ora_uim_basetags_cartproj.jar
```

```
                     ora_uim_canada_tn_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_uk_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
            characteristics.properties
            config-reload.properties
            consumer.properties
            ehcache.xml
            ehcache.xml.cluster
            importExport.properties
            interaction.xsl
            InventoryService.xsl
            lockpolicy-config.properties
            loggingconfig.xml
            nsrm-ws.properties
            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
                      carrierEthernet.properties
                      configaction.properties
                      configuration.properties
                      connectivity.properties
                      consumer.properties
                      countries.properties
                      custom.properties
                      enum.properties
                      equipment.properties
                      exception.properties
                      extensibility.properties
                      flowidentifiers.properties
```

```
                    importExport.properties
                    inventoryGroup.properties
                    ip.properties
                    location.properties
                    logicaldevice.properties
                    media.properties
                    mediaResource.properties
                    network.properties
                    networkaddress.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
                    workflow.properties
                    wsservice.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_inventory_webservice.zip
schema_serviceFulfillment_webservice.zip
schema_webservice.zip
```