

Oracle® Fusion Middleware
User's Guide for Oracle Mobile Data
Offloading Process Accelerator 11gRelease
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ORACLE®

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Oracle Mobile Data Offloading Process Accelerator

Oracle Fusion Middleware User's Guide for Oracle Mobile Data Offloading Process Accelerator describes how to administer and use this process accelerator.

Audience

This document is intended for:

- Operators who use Oracle Mobile Data Offloading to define areas of interest and Wi-Fi towers to manage their customers mobile data.

Related Documents

For more information, see the following Oracle resources:

Oracle Mobile Data Offloading

- *Oracle Fusion Middleware Installation Guide for Oracle Process Accelerators*

Oracle Complex Event Processing

- *Oracle SOA Suite Components*
- *Oracle Event Processing Developer's Guide*
- *Oracle Event Processing Administrator's Guide*
- *Oracle Event Processing Visualiser User's Guide*
- *Oracle Event Processing CQL Language Reference*

Oracle Fusion Middleware

- *Oracle Fusion Middleware Administrator's Guide*

Conventions

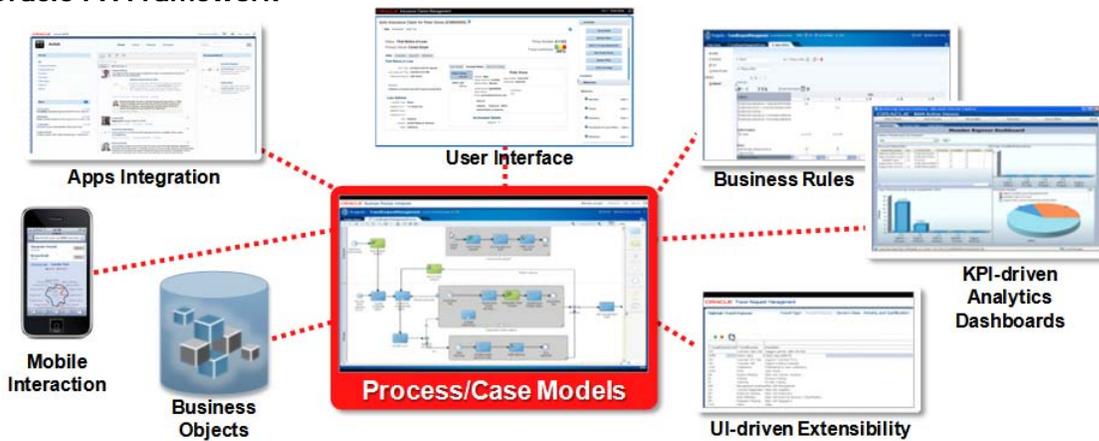
The following text conventions are used in this document:

- **boldface** - Boldface type indicates graphical user interface elements or terms defined in text.
- *italic* - Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

Overview of Oracle Process Accelerators

Oracle Process Accelerators (PA) are prebuilt business process solutions developed with Oracle Business Process Management (BPM) Suite or other Oracle SOA Suite components. Oracle Process Accelerators are developed to support and automate critical industry and horizontal business processes. Oracle PAs utilize best practices to accelerate time-to-value and increase quality. When needed, PAs include ready-to-use integration scenarios that extend Oracle applications. Oracle PAs can be deployed as-is or extended to meet your requirements. The Oracle PA framework diagram illustrates the basic components of a process accelerator.

Oracle PA Framework



Getting Started with Oracle Mobile Data Offloading

This section is for new Oracle Mobile Data Offloading (MDO) users who want a brief introduction.

Upon completion of this section, you will be able to:

- Describe Oracle Mobile Data Offloading.
- Start Oracle Mobile Data Offloading.

Overview of Oracle Mobile Data Offloading

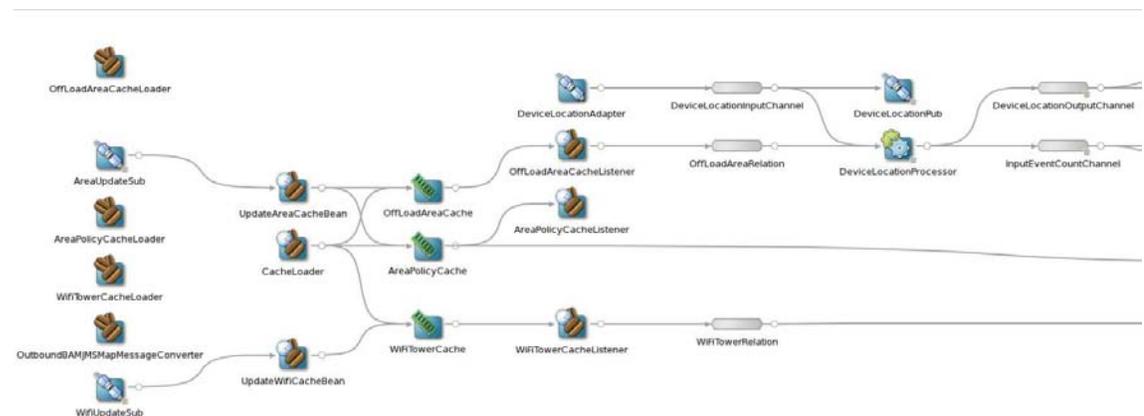
Utilizing Oracle Event Processing (OEP), Mobile Data Offloading (MDO) provides telecommunication service providers with a server-based solution to help make informed decisions according to pre-defined automated policies for offloading mobile data from wireless cellular networks to alternate networks such as Wi-Fi. Oracle MDO identifies mobile users entering an area of interest covered by an alternate network. It determines if these devices are stationary within the pre-defined zone. The premise is that a stationary device may continue to remain within the zone, and that it is beneficial to offload data traffic to an alternate network. In some cases, the policy for a specified zone may be to attempt to offload mobile traffic from the mobile user immediately. This may be the case in zones such as sporting arenas or concert venues. For these facilities, the quality of service on the primary cellular network may begin to degrade as more users enter the zone. Switching mobile users to alternate networks as soon as possible could improve the quality of service and overall customer experience. Oracle MDO provides dashboards to provide an Operator with reporting statistics.

Oracle MDO is a role based solution; your role determines the tasks you can perform. Oracle MDO delivers the following role:

- An Operator enters the Wi-Fi tower location details, defines the areas of interest, and the offloading policies for each area of interest.

Oracle MDO uses an Event Processing Network (EPN) to illustrate the basic event flow of data through the mobile data offloading process. The MDO Event Processing Network diagram is depicted as follows, with an explanation of the process.

MDO Event Processing Network



MDO Event Processing Network [Part 1]

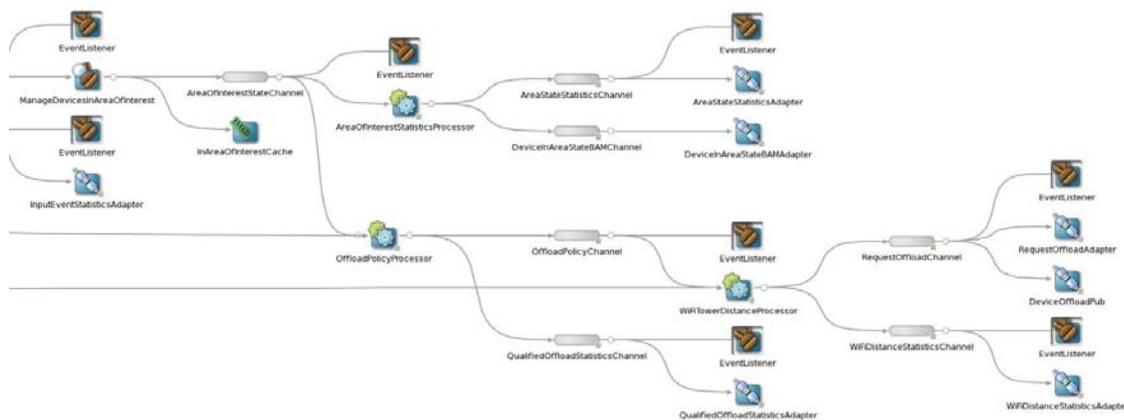
The MDO EPN has adapters that receive data from applications and cache loaders that pre-load into memory data from the databases for faster access.

First, the DeviceLocationAdapter receives the device location in the form of latitude and longitude using the International Mobile Equipment Identity (IMEI) number as the identifying attribute. This latitude and longitude data is sent to the DeviceLocationProcessor via a DeviceLocationInputChannel.

The CacheLoader event-bean loads the OffloadAreaCache, the AreaPolicyCache, and the WiFiTowerCache. The former is loaded with information about already defined areas of interest, or locations where a Wi-Fi network is available. When mobile users enter these areas, their data traffic could potentially be offloaded to an alternate wireless network. The OffLoadAreaCacheListener receives data from this cache and creates from it an Oracle Spatial Geometry object, used by Oracle Spatial functions embedded directly in the event processing engine. The OffLoadAreaRelation channel holds these areas of interest that the DeviceLocationProcessor can use as needed by the processor's logic. The latter cache, AreaPolicyCache, stores policies and rules concerning the offloading, such as the waiting period before initiating the offloading process.

The DeviceLocationProcessor has access to the stream of incoming device location events and the relation of areas of interest. It uses the Spatial Cartridge capability (an extension of the Continuous Query Language) to create a spatial geometry object from the latitude and longitude information, and then calls a function within Continuous Query Language (CQL) to determine if the device is currently located within one of the areas of interest. The processor then sets an attribute to indicate whether this device location is present within the defined areas of interest.

The DeviceLocationOutputChannel outputs an event that contains information as to whether the device is within an area of interest as determined by the DeviceLocationProcessor.



MDO Event Processing Network [Part 2]

The InputEventStatisticsAdapter collates data related to incoming events and sends the statistics to Oracle Business Activity Monitoring (BAM).

The ManageDevicesInAreaOfInterest event-bean has access to a Coherence cache that holds the state of previously processed devices including whether they are known to be within an area of interest. It uses the Coherence Entry Processor concept to make the correct state updates to the cache. In addition, it compares the current device context with the previous ones and updates the devices state to either 0, 1, 2, and 3 which stand for Entered, Still in Area, Exited Area, and Changed Areas respectively.

The AreaOfInterestStateChannel receives the state change events according to the preceding logic.

The AreaOfInterestStatisticsProcessor sends statistics related to the state change of events relative to the areas of interest to BAM. It also sends detailed state messages to BAM via the DeviceInAreaStateBAMAdapter with detailed statistics for the BAM dashboard. A production application may decide to disable these statistics to improve performance. This adapter uses

OutboundBAMJMSMapMessageConverter to convert the event to a MapMessage, since the date formats that need to be converted using Java functions. A JMS MapMessage is used because BAM can easily be configured to pick up these messages from a JMS queue and populate the relevant data object without any additional coding. It only requires some simple configuration.

The OffloadPolicyProcessor joins directly to the AreaPolicyCache using CQL to retrieve the policy applicable to the area, to determine if the device's mobile data should be offloaded to the Wi-Fi network.

The QualifiedOffloadStatisticsAdapter reports the resulting policy compliance data to BAM.

The WiFiTowerCache contains locations of Wi-Fi towers used for offloading.

The WiFiTowerCacheListener is an Oracle Event Processing event bean configured as a Coherence MapListener class to receive any updates to the WiFiTowerCache. It populates the WiFiTowerRelation with Spatial Geometry objects that represent the locations of the Wi-Fi towers. Like the OffloadAreaCacheListener, the Wi-Fi tower locations are converted to OEP's spatial geometry objects, so OEP can perform the indexing.

The WiFiTowerDistanceProcessor receives events corresponding to devices that have newly entered an area of interest or have changed from one area of interest to another, and meet the policy requirements for remaining stationary, if applicable. It also has access to the spatial geometry objects of the Wi-Fi Tower locations. It uses an Oracle Spatial Nearest Neighbor (NN) distance function to determine the nearest Wi-Fi tower. Once that is done, the range of the distance is validated. If necessary, it initiates the offload process to the RequestOffloadAdapter via the RequestOffloadChannel. The RequestOffloadAdapter sends detailed statistics about the offload events to BAM, and in a production system would send the request to downstream systems.

The WiFiDistanceStatisticsAdapter sends statistics about whether the events that have reached this stage have met the acceptable distance range requirements, to BAM. The cache is updated when a new Wi-Fi tower location is added to the database via the user interface.

Starting Oracle Mobile Data Offloading

You need to have a valid URL, user ID, and password to access Oracle Mobile Data Offloading (MDO). Contact your system administrator for the URL and your login credentials.

In this topic, you will log into Oracle MDO.

Procedure: Starting Oracle Mobile Data Offloading

1. To begin, enter **http://server**
name:port/MobileDataOffloadingAdminUI/faces/MobileDataOffloadingAdmin.jspx in your web browser.

Replace server name and port with the server name and port number you received from your administrator. The supported web browsers are: Microsoft Internet Explorer 8.x, Chrome 11.x, or Mozilla Firefox 4.x.

The Oracle Mobile Data Offloading Administration **Sign In** page opens.

2. Enter your username and password in the respective fields, then click **Login**.
3. You are now logged into Oracle Mobile Data Offloading.
4. From here, you can access the administration links and add, remove, and modify areas of interest and Wi-Fi towers.
5. You have completed the **Starting Oracle Mobile Data Offloading** topic.

Administering Oracle Mobile Data Offloading

This section is for operators who define Wi-Fi tower location details and areas of interest. Oracle Mobile Data Offloading provides mobile network service providers with a solution for offloading data traffic to alternate networks, such as Wi-Fi. This section covers how an operator works with Oracle MDO.

Upon completion of this section, you will be able to:

- Maintain areas of interest.
- Maintain Wi-Fi towers.
- Maintain lookup type codes.
- Monitor the dashboard.
- Simulate device positions.

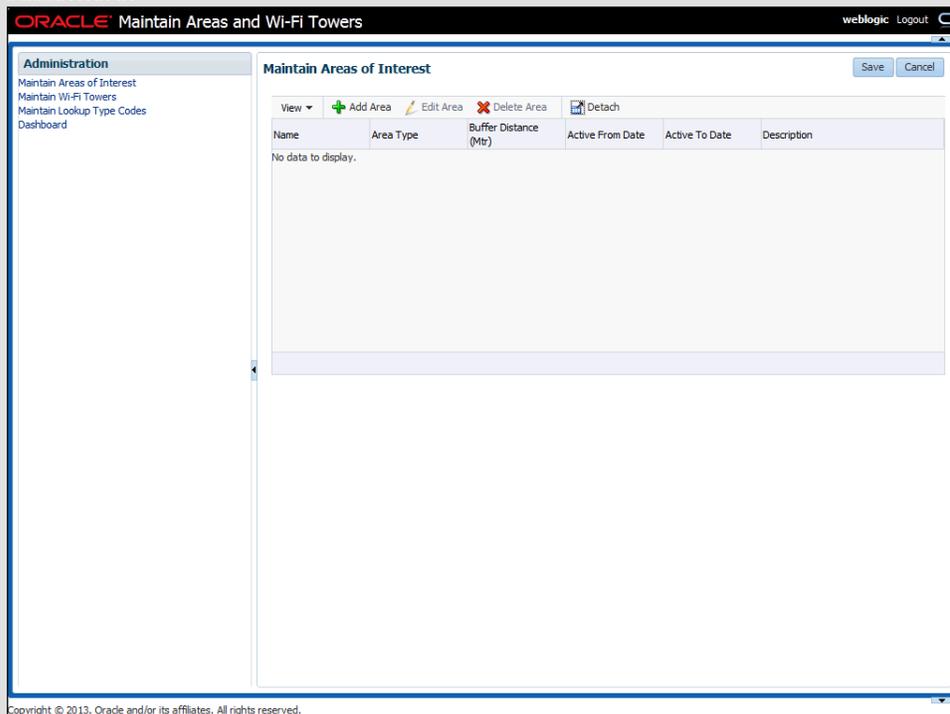
Maintaining Areas of Interest

Imagine you are an administrator for Oracle MDO and receive information about a new area you need to define for data offloading. You can use Oracle Mobile Data Offloading to add the area of interest. You can also specify the waiting period before data traffic is offloaded to a Wi-Fi network after cellular customers enter an area.

In this topic, you will modify an area of interest.

Procedure: Maintaining Areas of Interest

1. Access the **Maintain Areas and Wi-Fi Towers** page after logging in.
2. Use the **Maintain Areas of Interest** page to modify areas of interest for cellular customers.



3. Click the **View** menu.
4. Use the **Columns** option to manage columns. Use the **Detach** option to view the table separately. Use the **Reorder Columns...** option to rearrange columns.
5. First, begin by adding an area of interest.

Click the **Add Area** button.

6. Use the **Add or Edit Area of Interest** page to add or modify areas of interest.

The screenshot shows the 'Add or Edit Area of Interest' form in the Oracle web application. The form includes the following fields and controls:

- * Name**: Text input field.
- Area Type**: Dropdown menu.
- Buffer Distance (Mtr)**: Text input field.
- Active From Date**: Date picker.
- Active To Date**: Date picker.
- * Policy Type**: Dropdown menu.
- Wait Time (mins)**: Text input field.
- Description**: Text area.

Below the form, there is a map of San Francisco with a red dot on the map. A toolbar on the left of the map includes navigation and drawing tools. The application header shows 'ORACLE Maintain Areas and Wi-Fi Towers' and a 'weblogic Logout' button.

7. **Note:** All fields marked with an **Asterisk (*)** are required.
Click in the **Name** field.
8. Enter the desired information into the **Name** field. Enter "**State Park**".
9. Click the **Area Type** list.
10. Click the **Park** list item.
11. Click the **Policy Type** list.
12. Click the **Wait** list item.
13. Use the **Redline Tool** to mark a polygon specifying the area of interest on the map.
Click the **Redline Tool** button.
14. Click on a point at the desired location.
Click an area on the map.
15. The point appears as a red dot on the map. This is the starting reference point of the polygon.

16. Click another spot on the map to form the first side of the polygon.
Click an area on the map.
17. Another dot appears and connects to the first. This is one side of the polygon.
18. Use the **Redline Tool** to fix other points and construct the area of interest. In this example, the area of interest has been completed for you.

Click the **Redline Tool** button.
19. Click the **OK** button.
20. Use the **Description** field to add an optional description.

Click in the **Description** field.
21. Enter the desired information into the **Description** field. Enter "**The area of State Park near Mission Street.**".
22. Click the **Save** button.
23. An area of interest is added.
24. Next, edit the **State Park** area of interest.

Click an entry in the row.
25. Click the **Edit Area** button.
26. Let's edit the wait time of the **State Park** area to two minutes.

Click in the **Wait Time (mins)** field.
27. Enter the desired information into the **Wait Time (mins)** field. Enter "**2**".
28. Click the **Save** button.
29. The information for the **State Park** area of interest is now modified.
30. Next, perform a delete on the **State Park** area of interest.

Click an entry in the row.
31. Click the **Delete Area** button.
32. Confirm that you want to delete the **State Park** area of interest.

Click the **Yes** button.
33. Click the **Save** button.
34. The **State Park** area of interest is now deleted.
35. You have completed the **Maintaining Areas of Interest** topic.

Maintaining Wi-Fi Towers

You receive information about a Wi-Fi tower location that your customers can access while they are within a specified range. You can use Oracle Mobile Data Offloading to add this new

tower using latitude and longitude information. In addition, you can modify or remove Wi-Fi towers.

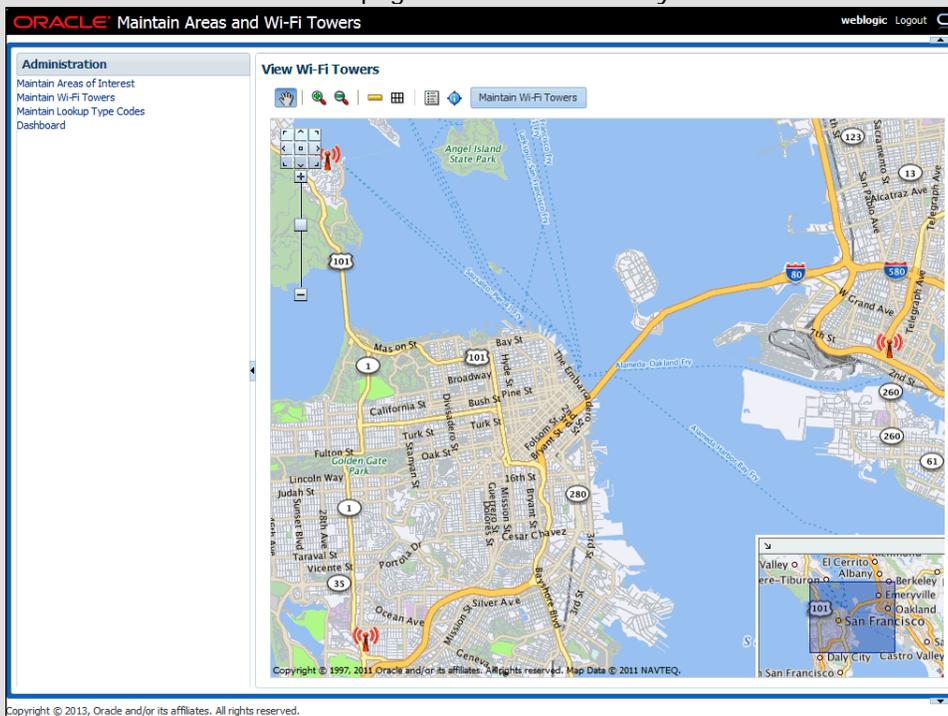
In this topic, you will modify Wi-Fi towers.

Procedure: Maintaining Wi-Fi Towers

1. Begin by navigating to the **Maintain Wi-Fi Towers** page.

Click the **Maintain Wi-Fi Towers** link.

2. Use the **View Wi-Fi Towers** page see the location of your Wi-Fi towers.



3. Use the **Pan** tool to navigate from left to right and top to bottom of the map.
4. Use the **Zoom in** and **Zoom out** tool, to get the desired view area.
5. Pointing to a Wi-Fi tower opens a dialog box with the tower name and latitude and longitude information.
6. The **Distance** button provides the distance between two or more towers.

Click the **Distance** button.
7. Select the tower you want as the start point to measure the distance.

Click the **Wi-Fi Tower** object.
8. Select another tower.

Click the **Wi-Fi Tower** object.
9. The distance between the two towers populates in the bottom left corner of the map.
10. The **Area** button gives you the area between towers.

Click the **Area** button.

11. Select the tower you want as the start point to measure the area.

Click the **Wi-Fi Tower** object.

12. Select another tower.

Click the **Wi-Fi Tower** object.

13. Select another tower.

Click the **Wi-Fi Tower** object.

14. The area between the towers populates at the bottom left corner of the map.

15. The **Information** button provides the latitude and longitude information of the selected area.

Click the **Information** button.

16. The latitude and longitude information is shown at the bottom left corner of the map.

17. Next, proceed to the **Maintain Wi-Fi Towers** page to add and remove Wi-Fi towers.

Click the **Maintain Wi-Fi Towers** button.

18. Click the **View** menu.

19. Use the **Columns** option to manage columns. Use the **Detach** option to view the table separately. Use the **Reorder Columns...** option to rearrange columns.

20. First, add a Wi-Fi tower.

Click the **Add Wi-Fi** button.

21. A new row with an automatically populated **Tower ID** appears.

22. Enter the latitude of the Wi-Fi tower location.

Click in the **Latitude** field.

23. Enter the desired information into the **Latitude** field. Enter "**37.748**".

24. Enter the longitude of the Wi-Fi tower location.

Click in the **Longitude** field.

25. Enter the desired information into the **Longitude** field. Enter "**-122.478**".

26. Use the **Range (meters)** field to specify a range within which devices can be considered for offloading.

Click in the **Range (meters)** field.

27. Enter the desired information into the **Range (meters)** field. Enter "**500**".

28. Use the **Description** field to add an optional description.

Click in the **Description** field.

29. Enter the desired information into the **Description** field. Enter "**Daly City**".

30. Save the Wi-Fi tower.

Click the **Save** button.

31. The Wi-Fi tower is now pinned to the corresponding location on the map.

32. Next, edit a Wi-Fi tower.

Click the **Maintain Wi-Fi Towers** button.

33. Edit the range for the Wi-Fi tower **MDO_WIFI000018**.

Click in the **Range (meters)** field.

34. Enter the desired information into the **Range (meters)** field. Enter "**300**".

35. Click the **Save** button.

36. The tower range is now modified.

37. Next, remove a Wi-Fi tower.

Select the Wi-Fi tower you want to delete.

Click an entry in the row.

38. Click the **Remove Wi-Fi** button.

39. Confirm that you want to delete the Wi-Fi tower.

Click the **Yes** button.

40. Click the **Save** button.

41. The Wi-Fi tower **MDO_WIFI000018** is now removed.

42. You have completed the **Maintaining Wi-Fi Towers** topic.

Maintaining Lookup Type Codes

Lookup type codes specify values used to determine the policy and area types associated to an area of interest. Oracle Mobile Data Offloading ships with seeded values for lookup type codes. The seeded values are:

Policy Type

- Wait
- Immediate

Area Type

- Business Park

- Industry
- Mall
- Open Area
- Park
- School
- Street

You can add additional lookup type codes to meet your organization's needs.

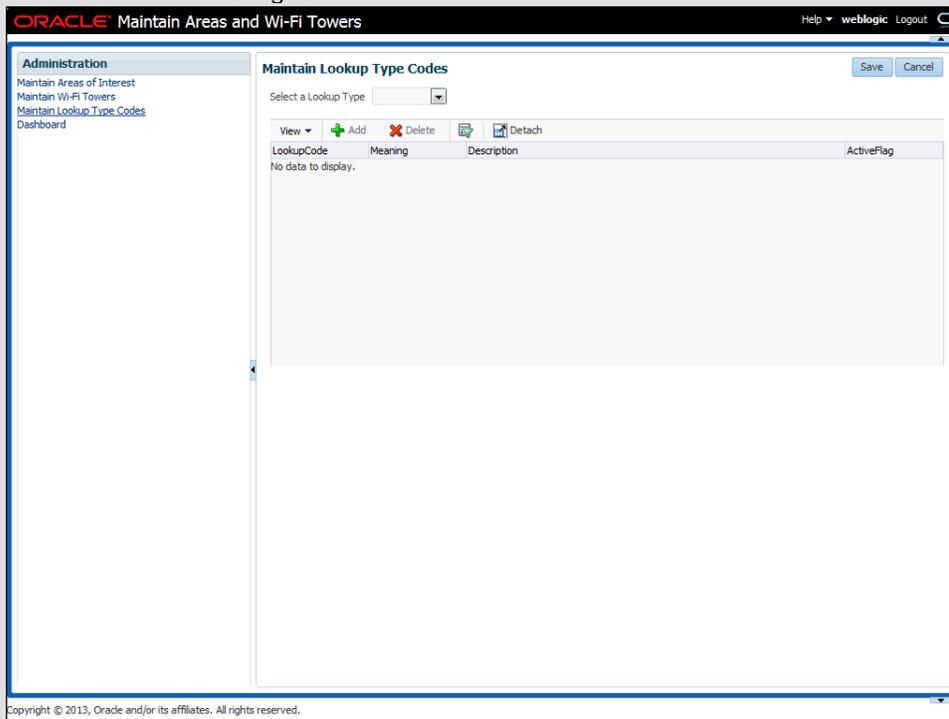
In this topic, you will modify lookup type code options.

Procedure: Maintaining Lookup Type Codes

1. Begin by navigating to the **Maintain Lookup Type Codes** page.

Click the [Maintain Lookup Type Codes](#) link.

2. Use the **Maintain Lookup Type Codes** page to modify the lookup type codes made available while creating areas of interest.



3. Click the [Select a Lookup Type](#) list.
4. These are the lookup types shipped with Oracle MDO. You modify all lookup types using the same steps. In this topic, you will modify the **Area Type**.

Click the [Area Type](#) list item.

5. First, add a lookup code.

Click the [Add](#) button.

6. **Lookup Codes** are unique keys in the data tables and built into the logic of Oracle MDO.
Click in the **LookupCode** field.
7. A **Lookup Code** can be upper or lower case.
Enter the desired information into the **LookupCode** field. Enter "**MALL**".
8. Next, specify a short meaning value. Meaning values appear when an area of interest is created.
Click in the **Meaning** field.
9. Enter the desired information into the **Meaning** field. Enter "**Mall**".
10. Use the **Description** field to add an optional description.
Click in the **Description** field.
11. Enter the desired information into the **Description** field. Enter "**Mall Area**".
12. Saving the lookup type code makes it available when you create areas of interest.
Click the **Save** button.
13. The lookup type code **MALL** is now added.
14. Next, modify the **Mall** lookup type code by editing the description.
Click in the **Description** field.
15. Enter the desired information into the **Description** field. Enter "**The lookup code entry for area type Mall.**".
16. Click the **Save** button.
17. The **Mall** lookup type code is now modified.
18. There are two types of delete, a hard delete and soft delete.

A hard delete removes the lookup type code from the database table, provided it is not used in an area of interest.

First, perform a hard delete on the code **Mall**.

Click an entry in the row.
19. Click the **Delete** button.
20. Confirm that you want to delete the **Mall** lookup code.

Click the **Yes** button.
21. Click the **Save** button.
22. The lookup type code **Mall** is now deleted.
23. Next, perform a soft delete on the **STRT** code.

Click an entry in the row.

24. A soft delete inactivates a lookup type code already used in an area of interest. Inactivated codes are not displayed as options when creating areas of interest. Click the **ActiveFlag** option.
25. Click the **Save** button.
26. The lookup type code **STRT** is now inactive.
27. You have completed the **Maintaining Lookup Type Codes** topic.

Monitoring the Dashboard

Oracle Mobile Data Offloading integrates with Oracle MapViewer to provide you with a dashboard map showing your areas of interest, Wi-Fi tower locations, and customer device positions. You use the dashboard to monitor your customer's mobile device positions as they move in and out of an area of interest and see whether their data network traffic is being offloaded to a Wi-Fi network. As customers move into an area of interest, when they qualify for mobile data offloading according to the policy defined for that area, an envelope icon appears along with a red line pointing to the Wi-Fi tower being used for the data transmission.

Simulating Device Positions

You can simulate device positioning before integrating Oracle MDO with your actual mobile device positioning system.

To simulate device positioning:

1. From PAHome/pa/src/tc/mdo/utils open startDatafeed.sh, and replace OEP_HOME and JAVA_HOME with your respective environment details.

Example script:

```
#!/bin/sh
OEP_HOME=/scratch/jdoe/oephome
JAVA_HOME=/usr
cd "loadgen"
OEP_HOME/ocep_11.1/utils/load-generator/runloadgen.sh device_positions.prop
```

2. From PAHome/pc/src/tc/mdo/utils/loadgen open device_positions.csv, and add latitude and longitude values.

The latitude and longitude values test the behavior of devices across different areas.

3. Run `./startDatafeed.sh`

Understanding the Oracle Mobile Data Offloading Reports

This section is for operators reviewing reports. Use Oracle BAM Active Viewer to view the reports delivered with Oracle Mobile Data Offloading (MDO).

You must have a solid working knowledge of Oracle Business Activity Monitoring (BAM) before creating or editing reports. For information on creating and editing Oracle BAM reports, see "Creating and Managing Reports," in *Oracle Fusion Middleware User's Guide for Oracle Business Activity Monitoring*.

Oracle Mobile Data Offloading includes two reports, the Oracle MDO Dashboard Report, and the Event Monitoring Report. These reports use information from the Oracle MDO event processing network.

MDO Dashboard Report

The MDO Dashboard has six views, pertinent to the number of devices offloaded, within each area. The following provides an explanation and a sample image of the reports and views.

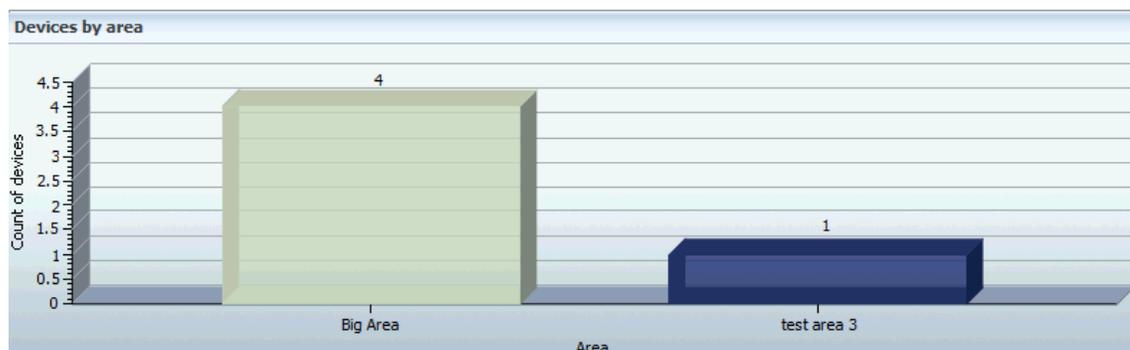
Device Data Stream

The Device Data Stream view is a table, with information on whether data traffic has been offloaded to towers or not. The table is a stream of information about each area defined using MDO. From left to right, there are thirteen columns, each populated by different metrics. They are: IMEI, State, In Zone, Area ID, Area Name, Previous Area ID, Entered Area On, Last Seen On, Time since entered area, Left area on, Nearest wi-fi tower, and Distance from nearest tower. The IMEI is a unique set of numbers which is a key to each mobile device. The metric State is the position of the device. It contains the values 0, 1, 2, and 3, which stand for Entered, Still in Area, Exited Area, and Changed Areas respectively. The Area ID is the ID that the area is assigned to. The previous area ID metric is available when the user has left an area. The entered area on and left area of metrics are dates corresponding to whenever the devices enter and exit an area.

IMEI	State	In Zone	Area ID	Area name	Previous area ID	Entered area on	Last seen on	Time since entered area	Left area on	Nearest wi-fi tower	Distance from nearest tower
1	2	false	MDO_AREA_000003	golden gate	MDO_AREA_000003	5/31/2013 3:09:29 AM	5/31/2013 3:09:55 AM	26	5/31/2013 3:09:55 AM		
1	2	false	MDO_AREA_000003	golden gate	MDO_AREA_000003	5/31/2013 3:11:40 AM	5/31/2013 3:11:49 AM	9	5/31/2013 3:11:49 AM		
1	2	false	MDO_AREA_000003	golden gate	MDO_AREA_000003	5/31/2013 3:11:50 AM	5/31/2013 3:12:29 AM	39	5/31/2013 3:12:29 AM		
1	2	false	MDO_AREA_000003	golden gate	MDO_AREA_000003	5/31/2013 3:12:46 AM	5/31/2013 3:12:59 AM	13	5/31/2013 3:12:59 AM		
1	2	false	MDO_AREA_000003	golden gate	MDO_AREA_000003	5/31/2013 3:15:40 AM	5/31/2013 3:15:47 AM	6	5/31/2013 3:15:47 AM		
1	2	false	MDO_AREA_000003	golden gate	MDO_AREA_000003	5/31/2013 3:13:32 AM	5/31/2013 3:13:44 AM	12	5/31/2013 3:13:44 AM		
1	2	false	MDO_AREA_000003	golden gate	MDO_AREA_000003	5/31/2013 3:12:30 AM	5/31/2013 3:13:31 AM	60	5/31/2013 3:13:31 AM		
1	2	false	MDO_AREA_000003	golden gate	MDO_AREA_000003	5/31/2013 3:15:48 AM	5/31/2013 3:18:55 AM	187	5/31/2013 3:18:55 AM		
1	0	true	MDO_AREA_000003	golden gate		5/31/2013 3:03:04 AM	5/31/2013 3:03:04 AM	0	5/31/2013 3:03:53 AM	MDO_WPT000009	2085.5301228721873
1	0	true	MDO_AREA_000003	golden gate		5/31/2013 3:03:02 AM	5/31/2013 3:03:02 AM	0	5/31/2013 3:11:48 AM	MDO_WPT000009	2085.5301228721873

Devices by Area

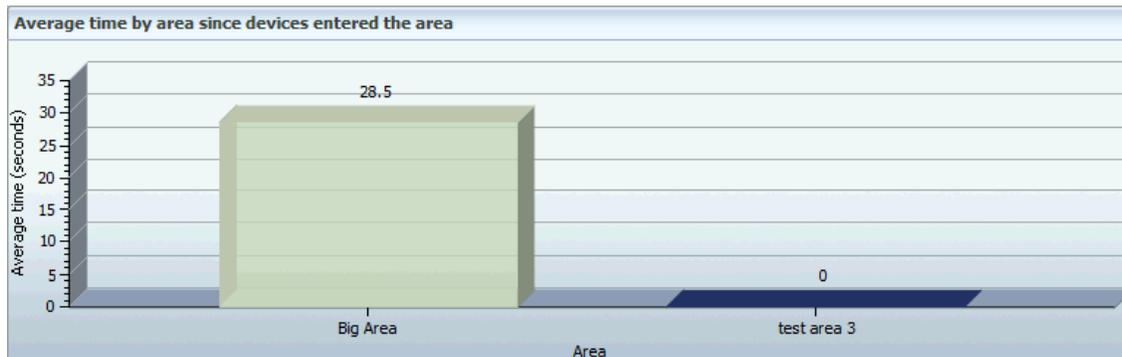
The Devices by Area view is a bar chart showing the number of devices present in each area. The count of devices is mapped on the Y-axis and the name of the area on the X-axis. The Y-axis maps the count from zero to infinity. The count is also displayed as a label above each bar, corresponding to its area.



Average Time by Area Since Devices Entered the Area

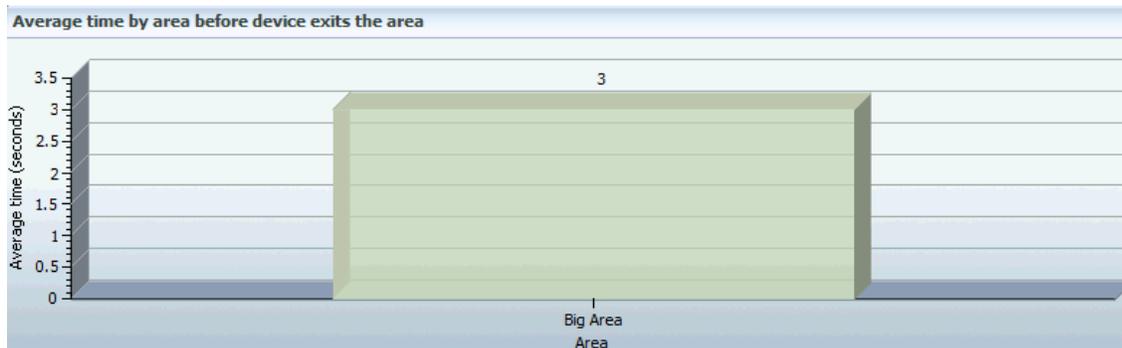
The Average Time by Area Since Devices Entered the Area view is a bar chart showing the average time for which devices have stayed in an area since the time of their entry. The average time in seconds is mapped on the Y-axis and the name of the area mapped on the X-

axis. The Y-axis maps time from zero to infinity. The time count is also displayed as a label above each bar, corresponding to its area.



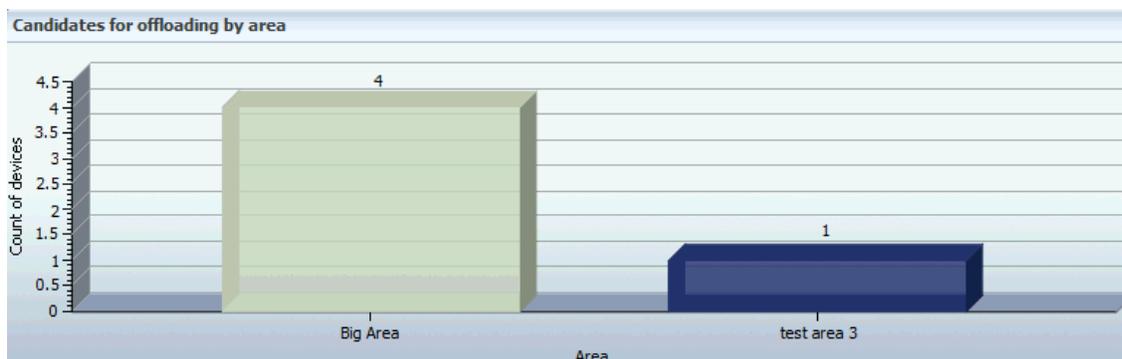
Average Time by Area Before Device Exits the Area

The Average Time by Area Before Device Exits the Area view is a bar chart showing the average time a device has stayed in each area. The Y-axis maps the average time in seconds from zero to infinity, and the X-axis maps the name of the area. The time count is also displayed as a label above each bar, corresponding to its area.



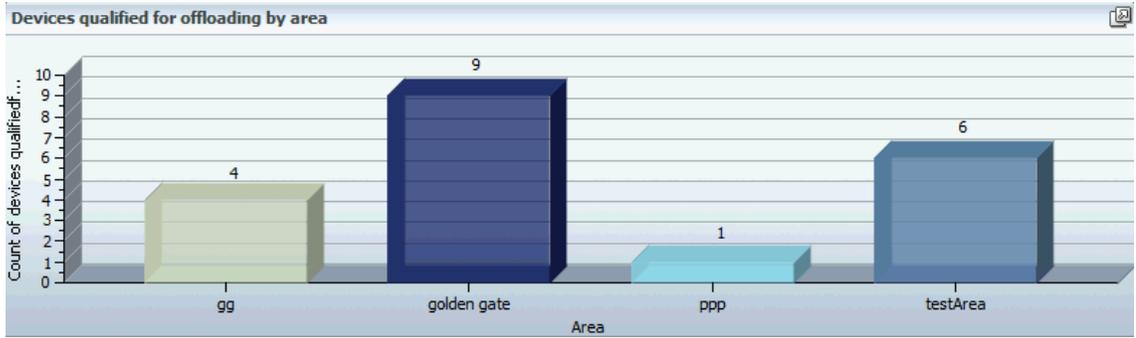
Candidates for Offloading by Area

The Candidates for Offloading by Area view is a bar chart showing the number of devices for offloading, by each area, irrespective of whether they are eligible for offloading per the set policy or not. The Y-axis maps the count of the devices from zero to infinity. The X-axis maps the individual areas. The device count is also displayed as a label above each bar, corresponding to its area.



Devices Qualified for Offloading by Area

The Devices Qualified for Offloading by Area view is a bar chart showing the number of devices eligible for data traffic offloading as per specified policies, by each area. The Y-axis maps the count of devices qualified for offloading, from zero to infinity. The X-axis maps the individual areas. The device count is also displayed as a label above each bar, corresponding to its area.



Event Monitoring Report

The Event Monitoring Report contains views from real-time monitoring of the mobile data offloading process to make sure it is running smoothly. This report has two views.

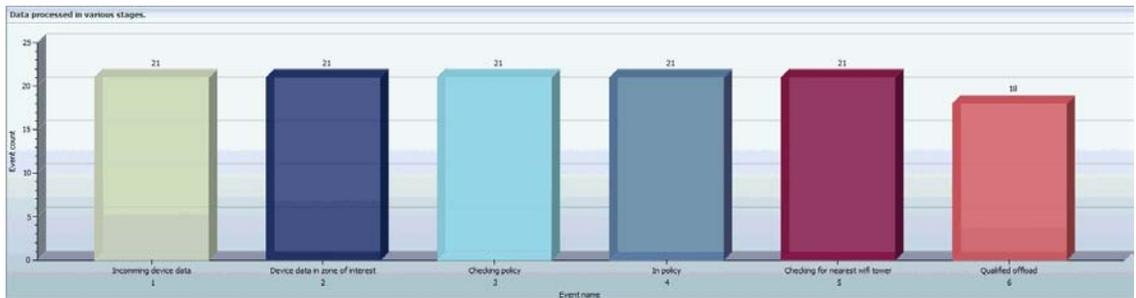
Streaming List of Device Data

The Streaming List of Device Data view is a table with three columns which displays the count of device data being processed by their stages in the offloading process. From left to right, the table has three columns which are, Stage ID, Event Name, and Event Count.

Stage ID	Event name	Event count
1	Incoming device data	206
2	Device data in zone of interest	7
3	Checking policy	7
4	In policy	7
5	Checking for nearest cell tower	7
6	Qualified offload	1

Data Processed in Various Stages

The Data Processed in Various Stages view is a bar graph that displays the count of device data being processed by their stages in the offloading process. The Y-axis maps the device data count and the X-axis maps the Event Name. The device data count is also displayed as a label above each bar, corresponding to its event name.



Delivered Documentation

This section provides a complete list of the delivered documentation for Oracle Mobile Data Offloading (MDO).

The delivered documents are:

Oracle Fusion Middleware Installation Guide for Oracle Process Accelerators - This content provides instructions for installing any Oracle Process Accelerator.

Oracle Fusion Middleware Extensibility Guide for Oracle Process Accelerators - This content provides information about customizing and extending Oracle Process Accelerators.

Oracle Process Accelerators Known Issues - This content provides information about the known issues with any Oracle Process Accelerator.

Oracle Fusion Middleware User's Guide for Oracle Mobile Data Offloading Process Accelerator - This content provides information on how to use and modify Oracle Mobile Data Offloading Process Accelerator. The content of this manual is also available in the following formats:

- Process Accelerator Help system
- User Productivity Kit (UPK)
- demoUPK source content

Process Accelerator Help System - The Help system is available when you launch the  or the **User Productivity Kit** link from the process accelerator Help menu.

UPK Demo - You can use the User Productivity Kit (UPK) demo for training or presentation purposes while installing the process accelerator. To utilize the UPK demo, unzip the **PAacronymUPKDemo.zip** file and distribute the PlayerPackage directory and its contents to those who need training; or place the PlayerPackage directory and its contents on a web server and provide the URL to its location. The **play.exe** file launches the UPK Player.

UPK Source Content - If you have a licensed version of Oracle User Productivity Kit you can modify the UPK content using the **UPKSource.zip** file. Use the following steps to deploy your modified UPK content as the Help for the Process Accelerator.

1. Unzip **UPKSource.zip**.
2. In UPK Developer, import the **PAacronymUPKSourceContent.odarc** file you want to modify.
3. Modify and publish your updated content to the Player.
4. Rename the **PlayerPackage** directory to **PAacronymUPK**.
5. Convert the **PAacronymUPK** directory and its contents into a web application archive (war) file called **PAacronymUPK.war**.
6. On your Oracle WebLogic Server, navigate to `$PA_HOME/pa/src/PAacronym/UPKObjects`, rename **PAacronymUPK.war** to **PAacronymUPK.warORIG**.
7. Copy your new **PAacronymUPK.war** to `$PA_HOME/pa/src/PAacronym/UPKObjects`.
8. Navigate to `$MW_HOME/user_projects/domains/soainfra/servers/AdminServer/upload/PAacronymUPK/app`, rename **PAacronymUPK.war** to **PAacronymUPK.warORIG**.
9. Copy your new **PAacronymUPK.war** to `$MW_HOME/user_projects/domains/soainfra/servers/AdminServer/upload/PAacronymUPK/app`.

10. In Oracle WebLogic Server Administration Console, navigate to the **Domain Structure** navigation tree, click **Deployments**.
11. On the Summary of Deployments page, select the **PAacronymUPK** check box, and click **Update**.
12. On the Update Application Assistant page, change the **Source Path** to the location you extracted the **PAacronymUPK.war** file to.
13. Click **Next**, **Next**, then **Finish**.
14. Launch the Process Accelerator Help to view the updated documentation.