

**Oracle Utilities Analytics Dashboards for
Meter Data Analytics**

Metric Reference Guide

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Oracle Utilities Analytics Dashboards for Meter Data Analytics Metric Reference Guide

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Preface

This document describes the Oracle Utilities Meter Data Analytics metrics (such as dashboards, analyses, and subject areas) available in Oracle Utilities Analytics Dashboards. These metrics are used in the pre-built analyses, and/or available for customers to use via Oracle Answers in building new analyses or extending existing analyses.

Audience

This guide is intended for all users of Oracle Utilities Analytics Dashboards for Meter Data Analytics for Oracle Utilities Meter Data Management.

Related Documents

For more information, see the following documents:

- *Oracle Utilities Analytics for Oracle Utilities Extractors and Schema and Oracle Utilities Analytics Dashboards Installation Guide*
- *Oracle Utilities Analytics for Oracle Utilities Extractors and Schema and Oracle Utilities Analytics Dashboards Quick Install Guide*
- *Oracle Utilities Analytics for Oracle Utilities Extractors and Schema and Oracle Utilities Analytics Dashboards Release Notes*
- *Oracle Utilities Analytics for Oracle Utilities Extractors and Schema and Oracle Utilities Analytics Dashboards User's Guide*
- *Oracle Utilities Analytics for Oracle Utilities Extractors and Schema and Oracle Utilities Analytics Dashboards Administration Guide*

See Also:

- Oracle Utilities Meter Data Management Documentation Library

Notational Conventions

The following notational conventions are used in this document:

| Notation | Indicates |
|-----------------|--|
| boldface | Graphical user interface elements associated with an action, terms defined in text, or terms defines in the glossary |

| Notation | Indicates |
|---------------|--|
| <i>italic</i> | Book titles, emphasis, or placeholder variables for which you supply particular values |
| monospace | Commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter |

Chapter 1

Dashboard Content Reference

Oracle Utilities Analytics Dashboards, Release 2.5.0.0.1, provides analysis of and data from Oracle Utilities Meter Data Management using Oracle Business Intelligence Enterprise Edition built-in metrics. Non-spatial analytics, information that is not tied to geography, is represented in a series of dashboards showing tables, bar graphs, pie charts, and gauges. Spatial analytics, or information that is geographically related, use OBIEE integrated Map Viewer technology to represent events, weather data, map data, and other geographical information.

Oracle Utilities Meter Data Analytics includes metrics that help customers in the Utilities market to monitor their meter data management.

This chapter describes the Oracle Utilities Meter Data Analytics' content in the following dashboards:

- **Overview**
- **Device Activities**
- **Device Events**
- **Devices & Installations**
- **Performance**
- **Usage Details**
- **Usage Summary**
- **VEE Exceptions**

Overview

The Overview dashboard presents an overall picture of the Oracle Utilities Meter Data Management (MDM) system showing all important KPIs to help users identify the overall state of the product. Each of the analyses drills down to the respective detailed dashboard page.

To access the dashboard:

1. Go to the **Home** page.
2. Select **Dashboards > Meter Data Analytics > Overview**.

The data for current month and year is displayed by default. You can modify the generic criteria per requirement before compiling the analyses in this dashboard.

Percent of Normal Intervals

| Property | Details |
|--------------------|--|
| Description | <p>This analysis shows the percentage of normal intervals that were received in the selected month.</p> <p>Note: This analysis is configured to select a default aggregation type from the database. If it has to be based on a different aggregation type, the appropriate aggregation type as available in the source Oracle Utilities Meter Data Management application needs to be set.</p> |
| Purpose | <p>This analysis indicates the quality of the interval meter readings being handled by the utility. It is often used to determine the quality of the data sent by the AMI head end systems or other sources. If the percentage of normal interval readings (not estimated, missing, etc.) is low, it might mean that corrective actions will have to be undertaken by the utility. Business users are not limited to viewing data by head end system. Other attributes, such as device type, can also be selected.</p> |
| Representation | <p>The gauge shows the percentage, using different colors to denote how the business users perceive the calculated result.</p> <p>The needle movement in the gauge towards yellow or red indicates a need to pay more attention on the interval scenarios. Hover over the gauge for specific values.</p> <p>Note: The ranges for green, yellow, and red can be configured.</p> |
| Drill Down | The gauge drills down to the Overview dashboard page in the Performance dashboard for specific interval details. |
| Source Object | Quality Count Fact |
| OBIEE Subject Area | MDM - Quality Count |
| Metrics | Normal Interval % |

Percent of On-Time Intervals

| Property | Details |
|-------------|---|
| Description | <p>This analysis shows the percentage of on-time intervals that were received in the selected month.</p> <p>Note: This analysis is configured to select a default aggregation type from the database. If it has to be based on a different aggregation type, the appropriate aggregation type as available in the source Oracle Utilities Meter Data Management application needs to be set.</p> |

| Property | Details |
|--------------------|---|
| Purpose | This analysis indicates the timeliness of the interval meter readings received by the utility. It is used to determine the timeliness of the data sent by the AMI head end systems or other sources, which allows customers to see if the metering system is delivering meter readings on time. Business users are not limited to viewing data by head end system. Other attributes, such as device type, can also be selected. |
| Representation | The gauge shows the percentage, using different colors to denote how the business users perceive the calculated result. The needle movement in the gauge towards yellow or red indicates a need to pay more attention on the on-time interval scenarios. Hover over the gauge for specific values. Note: The ranges for green, yellow, and red can be configured. |
| Drill Down | The gauge drills down to the Overview dashboard page in the Performance dashboard for specific interval details. |
| Source Object | Timeliness Count Fact, Timeliness Quantity Fact |
| OBIEE Subject Area | MDM - Timeliness Overview |
| Metrics | On-Time Intervals % |

Usage Unreported for > 30 Days

| Property | Details |
|----------------|--|
| Description | This analysis provides a snapshot of unreported usage for more than 30 days. Note: This analysis is configured to select a default Unit Of Measure (UOM) value from the database. If it has to be based on a different UOM value, the appropriate UOM code as available in the source Oracle Utilities Meter Data Management application needs to be set. It is based on how customers might want to customize the analysis. |
| Purpose | Business users can see consumption that has not yet been sent to the billing system (bill determinants). The analysis indicates the potential revenue that is yet to be realized by the utility. |
| Representation | The bar graph shows the unreported usage quantity (in Kilowatt-Hours) per number of service points per month. The X-axis represents the month. The Y1-axis represents the unreported usage quantity, while the Y2-axis represents the number of service points. The line on the bars shows the number of service points for which the unreported usage quantity is being displayed. Hover over the bars for specific values. |
| Drill Down | The graph bars drill down to the Overview dashboard page in the Usage Summary dashboard for specific usage details in that month. |

| Property | Details |
|--------------------|--|
| Source Object | Unreported Usage Analysis Snapshot Fact |
| OBIEE Subject Area | MDM - Unreported Usage Analysis Snapshot |
| Metrics | Usage Quantity (KWH) |

Exception Types

| Property | Details |
|--------------------|---|
| Description | This analysis shows how the VEE exceptions are distributed across each exception type in the selected month. |
| Purpose | Business users can identify the top five exception types that occurred during the VEE processing of the raw initial measurement data. The analysis serves as a starting point to analyze why these exceptions occur and any patterns within them. |
| Representation | The pie chart shows the distribution of VEE exception types in the selected month. It shows only the top five exception types and merges the remaining exception types into one slice. If there are fewer than five, all the exceptions are shown as individual slices. |
| Drill Down | The pie chart drills down to the Overview dashboard page in the VEE Exceptions dashboard for specific details. |
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM - VEE Exception |
| Metrics | % of Total |

Degree Days

| Property | Details |
|-------------|---|
| Description | <p>This analysis shows the actual heating and cooling degree days, and also the total usage/load for the previous three months.</p> <p>Cooling Degree Days is normally the number of degrees the average daily temperature is above the baseline (65F) on hot days. Heating Degree Days is the number of degrees below 65F on cold days. Daily values are added together to get a monthly value. Degree days are configurable.</p> <p>Note: This analysis is configured to select a default aggregation type from the database. If this analysis has to be based on a different aggregation type, the appropriate aggregation type available in the source Oracle Utilities Meter Data Management application has to be set.</p> |

| Property | Details |
|--------------------|---|
| Purpose | This analysis shows the relationship between usage and degree days. Degree days are used to identify when weather sensitive premises began using air conditioning or heating. Both heating and cooling degree days can be shown. For temperature sensitive premises, the energy consumed should correlate with the degree days. |
| Representation | The bar graph shows the heating and cooling degree days in each month. The line on the graph shows the total usage in each month. Electric kWh 60min (Measured Quantity) represents the aggregator measuring component based on which the consumption is filtered. |
| | The X-axis represents the month. The Y-axis represents the degree days, along with the total usage. Hover over the bars for specific details. |
| Drill Down | The graph drills down to the Degree Days dashboard page for specific usage details. |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Bar - Heating and cooling degree days Line - Usage |

Initial Measurements with Exceptions

| Property | Details |
|----------------|--|
| Description | This analysis shows the total number of initial measurements that resulted into exceptions. The data is shown for the selected month. $\% \text{ of Total} = \frac{\text{Sum } ((\text{Distinct IMD count with exceptions}))}{\text{Sum } (\text{Distinct IMD count})} * 100$ |
| Purpose | This analysis serves as a health indicator of raw initial measurement data. If the needle points to red, it means that more than an acceptable quantity of initial measurement data is resulting in exceptions. That warrants a quick corrective action by the utility. A high number of exceptions can be caused by numerous occurrences, such as head end system failure, interface failure (devices not setup), VEE rule tolerances are set too tightly, etc. |
| Representation | The gauge shows the percentage of initial measurements that resulted into exceptions in the current month. It uses different colors to denote how the users perceive the calculated result. The needle movement in the gauge towards yellow or red indicates a need to pay more attention on the exceptions. Note: The ranges for green, yellow, and red can be configured. |
| Drill Down | The gauge drills down to the Overview dashboard page in the VEE Exceptions dashboard for specific exception details. |

| Property | Details |
|--------------------|---------------------|
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM - VEE Exception |
| Metrics | % of Total |

Devices Stopped Receiving Measurements

| Property | Details |
|--------------------|--|
| Description | This analysis shows the number of devices (as a percentage of the total) that were sending measurement data and then stopped sending for some reason. The data is displayed for the selected month. |
| Purpose | Using this analysis, business users can analyze devices that have stopped recording measurements. They can also see how long this has been a problem. This is often an indicator that a meter has “died” and needs to be replaced. |
| Representation | The pie chart shows the distribution of devices (that stopped sending measurements) across various aging buckets in the selected month. |
| Drill Down | The pie chart drills down to the Devices without Measurements dashboard page for specific device measurement details. |
| Source Object | Service Point Snapshot Fact |
| OBIEE Subject Area | MDM - Service Point Snapshot |
| Metrics | Devices (shown as % distribution among the buckets) |

Activity Distribution

| | |
|--------------------|--|
| Description | This analysis shows how the device activities (that are both open and completed) are distributed as a percentage of total. The data is shown for the selected month. |
| Purpose | Using this tool, business users can identify the activity types that are performed by the utility. An activity is a generic object used to represent AMI commands, outage processes, service orders, etc. An activity is often used to represent a business process. |
| Representation | The pie chart shows the distribution of device activities as a percentage of the total. |
| Drill Down | The pie chart drills down to the Device Activities Overview dashboard page for specific device activity details. |
| Source Object | Device Activity Fact |
| OBIEE Subject Area | MDM - Device Activity |
| Metrics | Count of Device Activity (Shown as % of Device Activities distribution for all Activity Types) |

Tamper Events

| | |
|--------------------|---|
| Description | Tamper events are the types of device events defined in the system to indicate that a particular meter/device installed in the field has been tampered for illicit purposes. |
| | This analysis shows the count of tamper device events based on the event category. The data is shown for the selected month and previous two months. |
| | Note: To view the data, this analysis should be configured to set the appropriate code for tamper events to be shown. The appropriate Event Category code as available in the source Oracle Utilities Meter Data Management application has to be set in the filter section. |
| Purpose | With this analysis, business users can monitor device tampering trends. A large volume of such events, in the graph, could warrant immediate corrective action by the utility to prevent device tampering which contributes to revenue loss. |
| Representation | The bar graph shows the tamper event count for each month. The X-axis represents the event count. The Y-axis represents the month and year. Hover over the bars for specific values. |
| Drill Down | The graph bars drill down to the Device Activities Overview dashboard page for more details. |
| Source Object | Device Event Fact |
| OBIEE Subject Area | MDM - Device Event |
| Metrics | Events |

Installed Smart Meters

| | |
|--------------------|--|
| Description | A device is active if it reads and sends measurement data to the collection devices. |
| | This analysis shows the total number of smart devices that are active in a month. The data is shown for the selected month and previous two months. |
| Purpose | Using this tool, business users can monitor smart devices installed in the field. |
| Representation | The bar graph shows the active installed devices in each month. The X-axis represents the device count. The Y-axis represents the year and month. Hover over the bars for specific values. |
| Drill Down | The graph drills down to the Device Status page in the Devices & Installations dashboard. |
| Source Object | Service Point Snapshot Fact |
| OBIEE Subject Area | MDM - Service Point Snapshot |
| Metrics | Installed Devices |

Device Activities

The Device Activities dashboard provides key performance indicators (KPIs) for the Oracle Utilities Meter Data Management device activities. An activity is a generic object used to represent AMI commands, outage processes, service orders, etc. An activity is often used to represent a business process. This dashboard provides statistics on various activities issued to help utilities monitor the effectiveness of AMI systems and to look for anomalies. These statistics may also be used for regulatory purposes, such as number of disconnects in a region and other activities like outages.

To access the dashboard:

1. Go to the **Home** page.
2. Select **Dashboards > Meter Data Analytics > Device Activities**.

The data for current month and year is displayed by default. You can modify the generic criteria per requirement before compiling the analyses in this dashboard.

The dashboard provides the following dashboard pages:

- **Overview**
- **Activity Trend**
- **Activity Analysis**
- **Activity Analysis Detail**
- **Activity Duration**

Overview

The Overview dashboard page focuses on the count of all Oracle Utilities Meter Data Management activities. It also provides a bird's eye view of device activity distribution and average completed activity duration based on the selected criteria.

Device Activities

| | |
|--------------------|--|
| Description | This analysis provides a geographical view to quickly identify the count of device activities in a specific region. The data is shown for the selected month. |
| Purpose | Using this map view, business users can view activity volumes in particular areas. Activities are often commands, but can be service orders, outage processes, or other processes. This view can be used to monitor command trends, such as disconnects going up in a particular city, if any. |
| Representation | The color-coded region on the map shows the device activity count in that area, along with the city and state details. |
| | The City,State link broadcasts the region details to the Activity Distribution and Activities by Month analyses on the same dashboard page. |
| Drill Down | No drill down |
| Source Object | Device Activity Fact |
| OBIEE Subject Area | Device Activity Fact |
| Metrics | Count of Activities |

Activity Distribution

| | |
|--------------------|--|
| Description | This analysis provides insight into the distribution of device activities in a geographical area (postal code) across various dimensional attributes. |
| | The data is based on the postal code selected on the Device Activities map on the same dashboard page. |
| Purpose | Using this tool, business users can analyze the distribution of device activities in a geographical area for the selected period. |
| Representation | The View By drop down slices the data by activity type, device type, head end system, manufacturer, or model. The City,State drop down filters the data for the area with the respective postal code. The pie chart shows how the device activities related to each attributes of the selected dimensional attribute are distributed as a percentage of total. |
| Drill Down | The pie chart drills down to the Activity Trend or Activity Analysis dashboard pages for activity specific details. |
| Source Object | Device Activity Fact |
| OBIEE Subject Area | MDM - Device Activity |
| Metrics | Count of Activities |

Activities by Month

| | |
|--------------------|--|
| Description | This analysis shows a 15-month trend for the number of device activities in a geographical area. It also shows the yearly average. The data is based on the postal code selected on the Device Activities map on the same dashboard page. |
| Purpose | Using this tool, business users can monitor activities carried out in a specific city, and also compare the volume, for each month, against the yearly average. |
| Representation | The City,State drop down filters the data for the area with the respective postal code. The bar graph shows the number of device activities for each month in the selected geographical area. The X-axis represents the month and year. The Y-axis represents the device activities. Hover over the bars for specific details. The line on the graph shows the average device activity count for the selected year. |
| Drill Down | The graph drills down to the Activity Trend or Activity Analysis dashboard pages for activity specific details. |
| Source Object | Device Activity Fact |
| OBIEE Subject Area | MDM - Device Activity |

| | |
|---------|--|
| Metrics | Count of Activities (Bar), Yearly Average (Line) |
|---------|--|

Average Completion Duration

| | |
|--------------------|--|
| Description | Every activity is worked upon for certain time before it is marked as complete. This analysis displays the average time (in DD-HH:MI:SS) taken for activities of various activity types to be completed. The data is shown for the selected month. |
| Purpose | Using this tool, business users can understand which activity types, on average, take more time to complete. It allows users to see the response times for their AMI head end systems. |
| Representation | The Head End System drop down filters the activities related to the respective head end system. |
| | The bar graph shows the average completion duration of the activities across various activity types. The X-axis represents the average completion duration in seconds. The Y-axis represents the activity types. Hover over the bars for specific details. |
| | The table displays the number of activities and their average completion duration for each activity type. The duration is shown in the <days>-<hours>:<min>:<sec> format. |
| Drill Down | The Average Completion Time (DD-HH:MI:SS) column link drills down to the Activity Duration dashboard page for activity duration details for the selected activity type. |
| Source Object | Device Activity Fact |
| OBIEE Subject Area | MDM - Device Activity |
| Metrics | Count of Activities |

Activity Trend

The Activity Trend dashboard page focuses on the activity trend for various attributes in the previous 15 months.

Device Activity Trend

| | |
|-------------|---|
| Description | This analysis shows the trend in the number of activities across various segments, for the previous 15 months. |
| Purpose | Using this analysis, business users can monitor the volume of device activities carried out by the utility. The analysis can be used to see command trends, such as the disconnects going up, if any. |
| | The monthly graph also has stacks to further classify the volume based on activity type, device type, etc. It helps users to understand sub trends within the overall volume of activities. |

| | |
|----------------|--|
| Representation | The View By drop down slices the data by device type, activity type, head end system, manufacturer, or model. |
|----------------|--|

First graph:

The stacked bar graph shows the 15-month trend in the total number of activities per the selected **View By** option. Each stack indicates the number of activities of a particular type. The X-axis represents the year and month. The Y-axis represents the number of activities. Hover over the bars for specific values.

Second graph:

Use the slider to view the data for a specific month.

The bar graph shows the number of activities per each segment selected in the **View By** drop down, for the selected month. The X-axis represents the selected attribute. The Y-axis represents the number of activities.

Table:

The table displays the number of activities per each attribute in the selected **View By** option. The data is shown for previous 15 months.

| | |
|--------------------|---|
| Drill Down | The Month Year column link drills down to the Activity Analysis dashboard page for a granular view. |
| Source Object | Device Activity Fact |
| OBIEE Subject Area | MDM - Device Activity |
| Metrics | Count of Device Activity |

Activity Analysis

The Activity Analysis dashboard page provides a summary of the activities and their comparison across different dimensions.

Activity Analysis Summary

| | |
|-------------|---|
| Description | This analysis shows the number of activities associated with a combination of various segments. It also indicates the percentage of total activities contributed by the selected combination. The data is displayed for the selected month. |
| Purpose | This analysis provides a summarized view of activities. It allows users to “slice” the database to perform custom data analysis. The three “View By” selections allow users to define the viewing hierarchy, such as head end system, activity type, and city. Once the selection is made, the user is presented a summary of the data. The user can then drill into the details to see the particular device/service points in question. |

| | |
|--|---|
| Representation | The View By drop down slices the data by head end system, activity type, device type, manufacturer, model, geographical code, or city. |
| | The table displays the number of activities and percentage of the total for each attribute selected in the View By drop down. |
| $\% \text{ of Total} = (\text{Activities} / \text{Grand Total}) * 100$ | |
| Drill Down | The Activities column link drills down to the Activity Analysis Detail dashboard page for more detailed information. |
| Source Object | Device Activity Fact |
| OBIEE Subject Area | MDM - Device Activity |
| Metrics | Activity Count, % of Total |

Activity Comparison

| | |
|--------------------|--|
| Description | This analysis shows a comparison of the activity duration between the selected dimensional values based on the selected comparison dimension. The data is displayed for the selected month. |
| Purpose | This analysis serves as a comparison tool for analysts to view the volume of activities and their average completion time against two specific values for any chosen dimensional attribute, such as comparing one head end system with another. |
| Representation | <p>The Comparison Dimension drop down allows you to select the dimension for which you want to compare information for. You can select either head end system, device type, service provider, manufacturer, model, or city.</p> <p>The Dimension Value 1 and Dimension Value 2 drop downs filters allows you to select the dimensional values that you want to compare.</p> |
| | <p>The bar graph displays the average duration for each activity category in the selected dimension values. The X-axis represents the activity category. The Y-axis represents the average duration (in seconds). Hover over the bars for specific values.</p> |
| | <p>The table displays the number of device activities and average completion time pertaining to each activity type and category. These details are shown for each of the selected dimension values.</p> |
| Drill Down | The Average Completion Time (DD-HH:MI:SS) column link drills down to the Activity Analysis Detail page for activity specific details. |
| Source Object | Device Activity Fact |
| OBIEE Subject Area | MDM - Device Activity |
| Metrics | Count of Activities, Average Completion Time |

Activity Analysis Detail

The Activity Analysis Summary dashboard page provides a summary of device activities, and the service point and device details associated with each activity.

Activity Analysis Detail

| | |
|--------------------|--|
| Description | This analysis shows a list of the top 100 service points (in each customer class) with the highest number of activities in the selected month. |
| Purpose | Business users can use this detail-level analysis to navigate back to the source Oracle Utilities Meter Data Management system and view specific details pertaining to a service point or device in the MDM 360 Degree View portal. |
| Representation | The table displays the service point, device, and activity details for each customer. |
| Drill Down | The Service Point and Device column links drill back to the MDM 360 Degree View page in the Oracle Utilities Meter Data Management system. |
| Source Object | Device Activity Fact |
| OBIEE Subject Area | MDM - Device Activity |
| Metrics | Count of Activities |

Activity Duration

The Activity Duration dashboard page focuses on the duration for activities to be complete.

Top Activity Duration

| | |
|--------------------|---|
| Description | This analysis displays the top 100 device activities with longest duration. Along with the activity type and duration, the analysis also provides information about device, service point, and customer associated with each activity. |
| Purpose | This tool helps business users identify the longest running activities. It identified the problem areas where a processes are not completing, such as a meter is not connecting. |
| Representation | Business analysts can use this detail-level analysis to navigate back to the source Oracle Utilities Meter Data Management system and view specific details pertaining to a service point or device in the MDM 360 Degree View portal. |
| Drill Down | The Service Point and Device column links drill back to the MDM 360 Degree View page in the Oracle Utilities Meter Data Management system. |
| Source Object | Device Activity Fact |
| OBIEE Subject Area | MDM - Device Activity |
| Metrics | Actual Activity Duration |

Device Events

The Device Events dashboard provides KPIs for the Oracle Utilities Meter Data Management device events. It provides a snapshot of various device related events occurring across the metering system. This information helps the Utilities companies to identify problematic devices, meter errors, and possible theft situations.

To access the dashboard:

1. Go to the **Home** page.
2. Select **Dashboards > Meter Data Analytics > Device Events**.

The data for current month and year is displayed by default. You can modify the generic criteria per requirement before compiling the analyses in this dashboard.

The dashboard provides the following dashboard pages:

- **Overview**
- **Event Trend**
- **Event Analysis**
- **Event Analysis Detail**
- **Event and Exception Correlation**

Overview

The Overview dashboard page focuses on the count of all Oracle Utilities Meter Data Management events. It also provides a bird's eye view of device event distribution and average completed event duration based on the selected criteria.

Device Events

| | |
|--------------------|---|
| Description | This analysis provides a geographical view to identify the count of device events in a specific region. The data is shown for the selected month. |
| Purpose | Using this map, business users can identify the areas with higher device events across various device categories. They can also analyze the nearby areas and look for patterns in the events, looking for differences in geographic regions. |
| Representation | The color-coded region on the map shows the device event count in that area, along with the city and state details. The City,State link broadcasts the region details to the Device Events Distribution and Device Events by Month analyses on the same dashboard page. |
| | The pie chart on the map shows the event count per event category in that region. |
| Drill Down | No drill down |
| Source Object | Device Event Fact |
| OBIEE Subject Area | MDM - Device Event |
| Metrics | Count of Device Events |

Device Events Distribution

| | |
|--------------------|--|
| Description | This analysis provides insight into the distribution of device events in a geographical area (city, state) across various segments. The data is shown for the selected month. |
| | The data is based on the city and state selected on the Device Events map on the same dashboard page. |
| Purpose | Using this tool, business users can analyze the distribution of device events in a geographical area (city) for the selected period. Users can view the data by event type, event category, head end system, device type and device model. |
| Representation | The View By drop down slices the data by event type, event category, device type, head end system, manufacturer, or model. |
| | The City,State drop down filters the data for the area with the respective postal code. |
| | The pie chart shows how the device events related to each attribute of the selected segment are distributed as a percentage of total. |
| Drill Down | The pie chart drills down to the Event Trend or Event Analysis dashboard pages for event specific details. |
| Source Object | Device Event Fact |
| OBIEE Subject Area | MDM - Device Event |
| Metrics | % of Device Events |

Device Events by Month

| | |
|----------------|---|
| Description | This analysis shows a 15-month trend on the number of device events in a geographical area. It also shows the yearly average. |
| | The data is based on the city, state selected on the Device Events map on the same dashboard page. |
| Purpose | Using this tool, business analysts can monitor event trends for a specific city and also compare the volume for each month against the yearly average. |
| Representation | The City,State drop down filters the data for the area with the respective postal code. |
| | The bar graph shows the device event count for each month in the selected geographical area. The X-axis represents the month and year. The Y-axis represents the device events. Hover over the bars for specific details. The line on the graph shows the average device event count for the selected year. |
| Drill Down | The graph drills down to the Event Trend or Event Analysis dashboard pages for activity specific details. |
| Source Object | Device Event Fact |

| | |
|--------------------|--|
| OBIEE Subject Area | MDM - Device Event |
| Metrics | Count of Events (Bar), Yearly Average (Line) |

Event Trend

The Event Trend dashboard page focuses on the event trend per event type in the previous 15 months.

Device Event Trend

| | |
|---|---|
| Description | This analysis shows the trend in the number of device events across various segments, for the previous 15 months. |
| Purpose | Using this analytical tool, business users can monitor trends in the volume of device events recorded in the system. The monthly graph also has stacks to further classify the volume based on event category, event type, device type, head end system, manufacturer, or model. It helps to understand the sub trends within the overall volume of device events. |
| Representation | The View By drop down slices the data by event category, event type, device type, head end system, manufacturer, and model. |
| First graph: | |
| The stacked bar graph shows the 15-month trend in the total number of device events per the selected View By option. Each stack indicates the number of device events of a particular dimension attribute. The X-axis represents the year and month, while the Y-axis represents the number of device events. Hover over the bars for specific values. | |
| Second graph: | |
| Use the slider to view the data for a specific month. Use the play button to see the chronologic changes in activity by month. | |
| The bar graph shows the number of device events per each dimension attribute selected in the View By drop down, for the selected month. The X-axis represents the selected segment. The Y-axis represents the number of device events. | |
| Table: | |
| The table displays the number of events per each dimension attribute in the selected View By option. The data is shown for previous 15 months. | |
| Drill Down | The Month Year column link drills down to the Event Analysis dashboard page for a granular view. |
| Source Object | Device Event Fact |
| OBIEE Subject Area | MDM - Device Event |
| Metrics | Count of Events |

Event Analysis

The Event Analysis dashboard page provides a summary of device events and their comparison across different dimensions.

Device Event Analysis Summary

| | |
|--------------------|--|
| Description | This analysis shows the number of device events associated with a combination of various segments. It also indicates the percentage of total events contributed by the selected combination. The data is displayed for the selected month. |
| Purpose | Using this view, business users get a summarized view of device events. This tool allows users to “slice” the database to perform custom data analysis. The three “View By” selections allow users to define the viewing hierarchy, such as event type, event category and city. Once the selection is made the user is presented a summary of the data. The user can then drill into the details to see the particular device/service points in question. |
| Representation | The View By drop down slices the data by dimensions, such as device type, head end system, manufacturer, model, event category, event type, reporting category, geographical code, city, or postal code. |
| | The table displays the number of device events and percentage of total for each segment selected in the View By drop down. $\% \text{ of Total} = (\text{Events} / \text{Grand Total}) * 100$ |
| Drill Down | The Events column link drills down to the Event Analysis Detail dashboard page for a granular view. |
| Source Object | Device Event Fact |
| OBIEE Subject Area | MDM - Device Event |
| Metrics | Count of Event |

Device Event Comparison

| | |
|-------------|--|
| Description | This analysis shows a comparison of the device event count between the selected dimensional values based on the selected comparison dimension. The data is displayed for the selected month. |
| Purpose | This analysis serves as a comparison tool for business analysts to view event data by two view dimensional values, such as head end system one vs. head end system two. |

| | |
|--------------------|--|
| Representation | The Comparison Dimension drop down compares the data by head end system, device type, service provider, manufacturer, model, or city. |
| | The Dimension Value 1 and Dimension Value 2 drop downs filters the data on the dimension attributes, such as electric simple meter – manual, electric smart meter, electric solar smart meter, or gas AMR meter. |
| | The bar graph displays the device event count for each device event attribute in the selected dimension values. The X-axis represents the event category. The Y-axis represents the device count. Hover over the bars for specific values. |
| | The table displays the number of device events and the percentage of total pertaining to each event type and event category. These details are shown for each of the selected dimension values. |
| | $\% \text{ of Total} = (\text{Events} / \text{Grand Total}) * 100$ |
| Drill Down | The Events or the % of Total column links drill down to the Event Analysis Detail page for device event specific details. |
| Source Object | Device Event Fact |
| OBIEE Subject Area | MDM - Device Event |
| Metrics | Count of Events, % of Total |

Event Analysis Detail

The Event Analysis Detail dashboard page provides a summary of device events, and the service point and device details associated with each event.

Activity Analysis Summary

| | |
|--------------------|---|
| Description | This analysis shows a list of the top 100 service providers (in each customer class) with the highest number of device events in the selected month. |
| Purpose | Business analysts can use this detail-level analysis to navigate back to the source Oracle Utilities Meter Data Management system and view specific details pertaining to a service point or device in the MDM 360 Degree View portal. |
| Representation | The table displays the service point, device, and event details for each customer. |
| Drill Down | The Service Point and Device column links drill back to the 360 Degree View page in the Oracle Utilities Meter Data Management system. |
| Source Object | Device Event Fact |
| OBIEE Subject Area | MDM - Device Event |
| Metrics | Count of Events |

Event and Exception Correlation

The Event and Exception Correlation dashboard page focuses on the correlation between events that took place for the device and the VEE exceptions that were encountered for the device's measuring components.

Top Device Events and Exceptions

| | |
|--------------------|--|
| Description | This analysis displays the top 100 service points with the highest number of device events and exceptions. |
| Purpose | Using this view, business users can correlate the events and exceptions that occur on the service point/device for every customer. |
| | This tool will help customers identify revenue protection problems and equipment failures. For example, the user requests all devices that have revenue protection related VEE exceptions and AMI events related to tampering. |
| | Wherever anomalies are observed, users can navigate back to the source Oracle Utilities Meter Data Management system and view specific details pertaining to a service point or device in the MDM 360 Degree View portal. |
| Representation | The table displays the service point, device, and total device events and exceptions details for each customer. The customers are ranked on the highest total device events and exceptions. |
| Drill Down | The Service Point and Device column links drill back to the 360 Degree View page in the Oracle Utilities Meter Data Management system. |
| Source Object | Device Event Fact, VEE Exception Snapshot |
| OBIEE Subject Area | MDM - Device Event, MDM - VEE Exception Snapshot |
| Metrics | Count of Events, Count of Exceptions, Total Device Events and Exceptions |

Devices & Installations

The Devices & Installations dashboard provides key performance indicators (KPIs) for the Oracle Utilities Meter Data Management device installations and removals. It provides a snapshot of the device status, installation status, on/off information, and commissioning status of the devices.

Customers can use this information to identify problems and understand trends in their AMI infrastructure.

To access the dashboard:

1. Go to the **Home** page.
2. Select **Dashboards > Meter Data Analytics > Devices & Installations**.

The data for current month and year is displayed by default. You can modify the generic criteria per requirement before compiling the analyses in this dashboard.

The dashboard provides the following dashboard pages:

- **Overview**
- **Device Status**
- **Installation Trend**
- **Devices without Measurements**
- **Devices without Measurements Detail**

Overview

The Overview dashboard page provides an overview of the installed devices, helping in monitoring various device installations. You can also have a spatial view of the devices installed at various locations.

Installed Device Summary

| | |
|--|--|
| Description | This analysis provides a geographical view to identify number of installed devices by device category in a specific region. The data is shown for the current month. |
| Purpose | This analysis provides a map view that allows users to see type of meters installed by geographic region. It is especially helpful during AMI rollouts to determine the status of the rollout. |
| Representation | The color-coded region on the map shows the device count in that area, along with the city and state details. The pie chart on the map shows the distribution of devices across various device categories in the selected area. |
| | The table shows the number of devices in each device category that are installed in a specific region. It also shows the percentage of total devices installed in that region. |
| $\% \text{ of Total} = (\text{Installed devices in each category}/\text{Grand Total}) * 100$ | |
| Drill Down | No drill down |
| Source Object | Service Point Snapshot Fact |
| OBIEE Subject Area | MDM - Service Point Snapshot |
| Metrics | Count of Devices, % of Total |

Installed Devices

| | |
|-------------|--|
| Description | This analysis shows the number of devices installed in the selected month, by their type or category. |
| Purpose | Business users can quickly see the number of meter installed by device type. They can also see how the meter totals have changed from the past year. The analysis is especially helpful during AMI rollouts. |

| | |
|--------------------|--|
| Representation | The View By drop down slices the details by device type and category. |
| | The first pie chart shows how the installed devices are distributed across the selected dimension attributes in the previous year. The second pie chart shows the distribution of installed devices across the selected dimension attribute in the current year. |
| | The table shows the number of devices and the percentage of total across various device categories in the selected month. |
| | $\% \text{ of Total} = (\text{Devices} / \text{Grand Total}) * 100$ |
| Drill Down | The pie chart shows the quarter-wise details for the selected year. The data is shown per each device type. |
| Source Object | Service Point Snapshot Fact |
| OBIEE Subject Area | MDM - Service Point Snapshot |
| Metrics | Devices, % of Total |

Device Status

The Device Status dashboard page displays the current status of the installed devices.

Device Status

| | |
|--------------------|---|
| Description | Devices can be turned ON or OFF based on whether a particular customer needs power supply or not. |
| Purpose | This analysis shows the count of devices under each device category and device status. |
| Representation | This analysis provides business users with a summary of the device's status by device type, e.g., ON (connected) or OFF (disconnected). |
| | The pie chart shows how the devices in various statuses are distributed. |
| | The table shows the count of devices and that count's percentage out of the total for each combination of device status and category. |
| | $\% \text{ of Total} = (\text{Devices Count} / \text{Grand Total}) * 100$ |
| Drill Down | The Devices and % of Total column links drill down to the Device Status Detail dashboard page for specific details on the status of various devices. |
| Source Object | Service Point Fact |
| OBIEE Subject Area | MDM - Service Point |
| Metrics | Devices, % of Total |

Installation Status

| | |
|--------------------|---|
| Description | This analysis shows the count of devices based on the installation status (the device life cycle). |
| Purpose | This analysis provides a summary of the device's installation status (the device life cycle). It is especially helpful when looking at AMI meters to see the devices commissioned, decommissioned, etc. |
| Representation | The pie chart shows how the devices in various life cycle states are distributed across the selected device category. The table shows the count of devices in a particular life cycle state and the percentage of that count out of the total. |
| Drill Down | The Devices and the % of Total column links drill down to the Device Status Detail dashboard page for specific details about devices. |
| Source Object | Service Point Fact |
| OBIEE Subject Area | MDM - Service Point |
| Metrics | Devices, % Total |

Installation Trend

The Installation Trend dashboard page gives a bird's eye view of the device installations and removals.

Installation History

| | |
|--------------------|---|
| Description | This analysis shows the count of devices that were installed in the previous 15 months. |
| Purpose | Using this tool, business users can monitor device installation trends and the sub trends (by head end system, model, etc.) within the overall volume of device installations. |
| Representation | The View By drop down slices the data by head end system, device type, device category, manufacturer, model, or geographical code. The stacked bar graph shows the number of devices (across the selected View By attribute) installed in each month, for the previous 15 months. The X-axis represents the month and year. The Y-axis represents the installed device count. Hover over the bars for specific details. |
| | The table displays the number of devices installed in each month (across each of the selected attribute) for previous 15 months. |
| Drill Down | The Month Year column link drills down to show the day-to-day details. |
| Source Object | Service Point Snapshot Fact |
| OBIEE Subject Area | MDM - Service Point Snapshot |
| Metrics | Installed Devices |

Installs and Removals

| | |
|--------------------|--|
| Description | This analysis shows the total number of devices that are installed and removed in the previous 15 months. |
| Purpose | Using this tool, business users can monitor the trends for devices that are installed and removed in the field. They can analyze the installation demands over historical periods. This tool also helps to identify equipment problems, such as an increasing trend in device exchanges due to equipment failures. |
| Representation | The line graph shows the count of devices that are installed or removed in each month, for previous 15 months. The X-axis represents the month and year. The Y-axis represents the device count. Hover over the lines for specific values. |
| | The table displays the count of installed devices and removed devices for each month. |
| Drill Down | The Month Year column link drills down to view daily values for the selected month. |
| Source Object | Installation Event Fact |
| OBIEE Subject Area | MDM - Installation Event |
| Metrics | Installed Devices, Removed Devices |

Devices without Measurements

Devices, after installation, are expected to send measurement readings (“sending measurement” is only true for smart meters. Manual meters have to be read manually). The Devices without Measurements dashboard page focuses on those devices which either stopped sending measurements or never recorded any.

Devices Stopped Receiving Measurements

| | |
|-------------|--|
| Description | This analysis shows a summary of devices that were sending measurements and then stopped for some reason. (“sending measurement” is only true for smart meters. Manual meters have to be read manually) |
| Purpose | <p>This tool allows users to quickly see devices that have stopped working. It is helpful with AMI meters that can suddenly stop functioning, including aging columns that lets the user know how long measurements have been missing.</p> <p>Business users can analyze the trends by slicing the data into various attributes, such as service point type, device type, etc.</p> |

| | |
|--------------------|--|
| Representation | The pie chart shows the distribution of devices that stopped receiving measurements by age buckets in the selected month. |
| | The View By drop down slices the details by service point type, head end system, service provider, device type, manufacturer, and model. |
| | The table shows the number of devices and their percentage of total for the selected attribute. The details are shown across various age buckets. |
| Drill Down | The Devices and the % of Total column links drill down to the Devices without Measurements Detail dashboard page for a detailed view. |
| Source Object | Service Point Snapshot Fact |
| OBIEE Subject Area | MDM - Service Point Snapshot |
| Metrics | Devices, % of Total |

Devices Never Received Measurements

| | |
|--------------------|---|
| Description | This analysis shows a summary of new devices that never received any measurements since the time of their installation. |
| Purpose | This analysis allows users to see meters that have never recorded measurements. It helps them identify faulty installations, devices configured improperly, manufacturing defects, MDM master data not setup properly, etc. |
| Representation | The View By drop down slices the details by service point type, head end system, service provider, device type, manufacturer, and model. |
| | The pie chart shows the distribution of devices that never received measurements in the selected month, for the selected attribute. |
| | The table shows the number of devices and their percentage of total for the selected month. |
| Drill Down | The Devices and the % of Total column links drill down to the Devices Never Received Measurements Detail dashboard page for a detailed view. |
| Source Object | Service Point Snapshot Fact |
| OBIEE Subject Area | MDM - Service Point Snapshot |
| Metrics | Devices, % of Total |

Devices without Measurements Detail

The Devices without Measurements Detail dashboard page shows the details of the devices that stopped measurements.

Devices Stopped Receiving Measurements Detail

| | |
|--------------------|---|
| Description | This analysis shows a list of the top 100 devices that stopped sending measurements due to some reason. The data is displayed for the selected month. |
| Purpose | Business analysts can use this detailed analysis to navigate back to the source Oracle Utilities Meter Data Management system and view specific details pertaining to a service point or device on the MDM 360 Degree View portal. They can investigate why measurements are not being received. |
| Representation | The table shows the service point and device details, along with number of days the device has not recorded measurements. |
| Drill Down | The Service Point and Device column links drill back to the MDM 360 Degree View portal in Oracle Utilities Meter Data Management. |
| Source Object | Service Point Snapshot Fact |
| OBIEE Subject Area | MDM - Service Point Snapshot |
| Metrics | Days without Measurement |

Performance

The Performance dashboard provides KPIs for the Oracle Utilities Meter Data Management performance.

To access the dashboard:

1. Go to the **Home** page.
2. Select **Dashboards > Meter Data Analytics > Performance**.

The data for current month and year is displayed by default. You can modify the generic criteria per requirement before compiling the analyses in this dashboard.

The dashboard provides the following dashboard pages:

- **Overview**
- **Quality**
- **Quality Analysis**
- **Timeliness**
- **On-Time Analysis**
- **Estimation**

Overview

The Overview dashboard page provides an overview of the Oracle Utilities Meter Data Management system performance

Percent of Normal Intervals

| | |
|-------------|--|
| Description | This analysis shows the percentage of normal intervals that were received in the selected month. |
|-------------|--|

| | |
|--------------------|---|
| Purpose | This analysis indicates the quality of the interval meter readings being handled by the utility. If there is a dip in the percentage of normal (not missing or estimated or otherwise inferior) interval readings, it might mean that corrective actions will have to be undertaken by the utility. An increase in non-normal readings may indicate that a group of AMI devices are beginning to fail. |
| Representation | <p>The gauge shows the percentage of normal intervals that have been received, using different colors to denote how the business users perceive the calculated result.</p> <p>The needle movement in the gauge towards yellow or red indicates a need to pay more attention on the interval scenarios. Hover over the gauge for specific values.</p> <p>Note: The ranges for green, yellow, and red can be configured.</p> |
| | <p>The table displays the count of normal intervals, its percentage against the total, and the total interval count for the selected month.</p> |
| Drill Down | The gauge drills down to the Quality dashboard page for the same time period. |
| Source Object | Quality Count Fact |
| OBIEE Subject Area | MDM - Quality Count |
| Metrics | Normal Interval %, Normal Count, Total Count |

Percent of On-Time Intervals

| | |
|----------------|---|
| Description | This analysis shows the percentage of on-time intervals that were received in the selected month. |
| Purpose | <p>This analysis indicates the timeliness of the interval meter readings received by the utility. If there is a dip in the percentage of interval readings received on time, it might mean that corrective actions will have to be undertaken to correct the late arriving measurements.</p> <p>The analysis is especially useful when utilities are determining if the head end systems are meeting their service level agreements (SLA) for on time reading delivery.</p> |
| Representation | <p>The gauge shows the percentage of on-time intervals, using different colors to denote how the business users perceive the calculated result. The needle movement in the gauge towards yellow or red indicates a need to pay more attention on the on-time interval scenarios. Hover over the gauge for specific values.</p> <p>Note: The ranges for green, yellow, and red can be configured.</p> |
| | <p>The table displays the count of on-time intervals, its percentage against the total, and the total quantity for the selected month.</p> |
| Drill Down | The gauge drills down to the Timeliness dashboard page for the same time period. |
| Source Object | Timeliness Count Fact, Timeliness Quantity Fact |

| | |
|--------------------|--|
| OBIEE Subject Area | MDM - Timeliness Count, MDM - Timeliness Quantity |
| Metrics | On-Time Intervals %, On-Time Count, On-Time Quantity |

Percent of Normal Intervals by Segment

| | |
|--------------------|---|
| Description | This analysis shows a breakdown of normal intervals by the selected segment. The data is shown for the selected month. |
| Purpose | This analysis indicates the quality of the interval meter readings received by the utility. If there is a dip in the percentage of normal interval readings, it might mean that corrective actions will have to be undertaken by the utility. |
| Representation | The View By drop down slices the details by head end system, device type, manufacturer, market, service provider, usage calculation group, city, or postal code. |
| | The table shows the normal %, normal count, and the total count of intervals for the selected segment. |
| Drill Down | The <i><segment></i> column link drills down to the Quality dashboard page for specific details. |
| Source Object | Quality Count Fact |
| OBIEE Subject Area | MDM - Quality Count |
| Metrics | Normal Interval %, Normal Count, Total Count |

Percent On-Time Intervals by Segment

| | |
|--------------------|--|
| Description | This analysis shows a breakdown of on-time intervals by the selected segment. The data is shown for the selected month. |
| Purpose | This analysis indicates the timeliness of the interval meter readings received by the utility. If there is a dip in the percentage of interval readings received on time, it might mean that corrective actions will have to be undertaken by the utility. |
| Representation | The View By drop down slices the details by head end system, city, device type, market, service provider, usage calculation group, manufacturer, or postal code. |
| | The table shows the on-time %, on-time count, and the on-time quantity for the selected segment. |
| Drill Down | The <i><segment></i> column link drills down to the Timeliness dashboard page for specific details. |
| Source Object | Timeliness Count Fact, Timeliness Quantity Fact |
| OBIEE Subject Area | MDM - Timeliness Overview |
| Metrics | On-Time Interval %, On-Time Count, On-Time Quantity |

Quality

The Quality dashboard page shows the quality of measurement data.

Quality Distribution

| | |
|--------------------|--|
| Description | This analysis shows the distribution based on the quality of the measurements for the selected month. It displays the count for each quality category as well as the percentage of that count out of the entire total. |
| Purpose | Using this tool, business users can analyze the distribution of normal and non-normal measurements for the selected period. |
| Representation | The pie chart shows the distribution of normal measurements as a percentage of total measurements. |
| | The table shows the details of the measurements segmented by quality categories. |
| Drill Down | No drill down |
| Source Object | Quality Count Fact |
| OBIEE Subject Area | MDM - Quality Count |
| Metrics | % of Total |

Non-Normal Intervals

| | |
|--------------------|--|
| Description | This analysis shows the count of non-normal interval data against each quality category. |
| Purpose | Using this tool, business users can analyze the non-normal interval details on a daily basis and identify the respective quality categories. A large number of non-normal measurements may signify a problem with the metering system or other application issues. |
| Representation | The stacked bar graph shows the count of non-normal interval data per month segmented by quality category. The X-axis represents the month and year. The Y-axis represents the interval percentage. Hover over the bars for specific details. |
| | The table shows the count and percentage of non-normal intervals for the previous 15 months. |
| Drill Down | The Month column link drills down to view the daily details. |
| Source Object | Quality Count Fact |
| OBIEE Subject Area | MDM - Quality Count |
| Metrics | % of Total |

Quality Analysis

The Quality Analysis dashboard page focuses on the quality measures.

Quality Analysis

| | |
|--------------------|---|
| Description | This analysis shows the count of various quality measures for the selected segments. The data is shown for the selected time period. |
| Purpose | This analysis provides a summarized view of the various quality measures, such as normal, estimated, etc. It allows users to “slice” the database to perform custom data analysis. The three “View By” selections allow users to define the viewing hierarchy. Once the selection is made, the user is presented a summary of the data. They can then drill into the details to see the particular device/service points in question. |
| Representation | The View By drop down slices the details by head end system, manufacturer, geo code, city, device type, market, service provider, usage calculation group, or postal code. Note: You can select a combination of three segments. The table displays the count of quality measures and the respective percentages for the selected segments. |
| Drill Down | No drill down |
| Source Object | Quality Count Fact |
| OBIEE Subject Area | MDM - Quality Count |
| Metrics | Normal Count, Estimated Count, User-Edited Count, No Measure / IMD No IMD Count, No Measure / IMD Exists Count, No Read – Outage Count, % of Total |

Timeliness

The Timeliness dashboard page provides an overview of the AMI timeliness data.

AMI Interval Timeliness Distribution

| | |
|----------------|---|
| Description | This analysis shows the distribution of AMI interval timeliness in the selected month. |
| Purpose | Using this tool, business users can identify what percentage of interval readings are arriving late. This analysis can be further classified into various late buckets as configured in the source system. |
| Representation | The pie chart shows the distribution of AMI interval timeliness (on time, < 24 hours late, 24-48 hours late, 48+ hours late, and missing). The table displays the count and percentage total of the AMI intervals. |
| Drill Down | No drill down |
| Source Object | Timeliness Count Fact, Timeliness Quantity Fact |

| | |
|--------------------|---|
| OBIEE Subject Area | MDM - Timeliness Overview |
| Metrics | <p>On-Time Count, Late Count, Missing Count</p> <p>Note: Late Count measures are dynamically calculated as per the late bucket configuration in the source system.</p> |

Late AMI Intervals

| | |
|--------------------|---|
| Description | This analysis shows the monthly trend of the late AMI intervals over time. The data is shown for the previous 15 months. |
| Purpose | Using this tool, business users can monitor the trends, in the quantity, of late arriving interval meter reads. They can also analyze the sub trends based on the various late buckets as configured in the source system. |
| Representation | <p>The stacked bar graph shows the trend of late AMI intervals over time.</p> <p>The X-axis represents the month and year. The Y-axis represents the late AMI interval count. Hover over the bars for specific details.</p> |
| Drill Down | The Month column link drills down to view the daily details of intervals for the selected month. |
| Source Object | Timeliness Count Fact, Timeliness Quantity Fact |
| OBIEE Subject Area | MDM - Timeliness Overview |
| Metrics | <p>Late Count, Late Quantity</p> <p>Note: Late Count measures are dynamically calculated as per the late bucket configuration in the source system.</p> |

On-Time Analysis

The On-Time Analysis dashboard page provides a breakdown of the timeliness of measurement data.

AMI Interval Timeliness Analysis

| | |
|-------------|---|
| Description | This analysis shows the count of various timeliness measures for the selected attributes. The data is shown for the selected time period. |
| Purpose | This analysis provides a summarized view of the various timeliness measures. Business users can view the data by various combinations. |
| | The analysis allows users to “slice” the database to perform custom data analysis. The three “View By” selections allow users to define the viewing hierarchy. Once the selection is made, the user is presented a summary of the data. |

| | |
|--------------------|--|
| Representation | The View By drop down slices the details by head end system, manufacturer, geo code, city, device type, market, service provider, usage calculation group, or postal code. |
| | The table shows the count and percentage total of the AMI intervals in the selected attributes. |
| Drill Down | No drill down |
| Source Object | Timeliness Count Fact, Timeliness Quantity Fact |
| OBIEE Subject Area | MDM - Timeliness Overview |
| Metrics | On-Time Count, On-Time Quantity, Late Count, Missing Count Note: Late Count measures are dynamically calculated as per the late bucket configuration in the source system. |

Estimation

The Estimation dashboard page focuses on estimated measurements.

Estimation Summary

| | |
|--------------------|---|
| Description | This analysis shows the distribution of estimated and user-edited measurement quantity per estimated and user-edited measurement count per month. |
| Purpose | This analysis allows users to see the estimated quantities by month, if the estimates are trending up or down. |
| Representation | The stacked bar graph shows the estimated and user-edited quantities. The lines on the graph represent the estimated and user-edited count. The X-axis represents the month and year. The Y1-axis represents the estimated and user-edited quantities, while the Y2-axis represents the estimated and user-edited count. Hover over the bars for specific details. |
| Drill Down | No drill down |
| Source Object | Quality Count Fact |
| OBIEE Subject Area | MDM - Quality Overview |
| Metrics | Estimated Quantity, User Edited Quantity, Estimated Count, User Edited Count, % of Total |

Usage Details

The Usage Details dashboard provides key performance indicators (KPIs) for the Oracle Utilities Meter Data Management usage.

To access the dashboard:

1. Go to the **Home** page.
2. Select **Dashboards > Meter Data Analytics > Usage Details**.

The data for current month and year is displayed by default. You can modify the generic criteria per requirement before compiling the analyses in this dashboard.

The dashboard provides the following dashboard page:

- **Overview**
- **Usage Trend**
- **Degree Days**
- **Usage by Day**
- **Usage by Hour**
- **Usage Comparison**

Overview

The Overview dashboard page displays the usage distribution and usage summary details.

Usage Distribution

| | |
|--------------------|--|
| Description | This analysis shows the measured usage quantity distribution by various dimension attributes. The data is shown for the selected month. |
| Purpose | Using this tool, business users can analyze the distribution of usage quantity for the selected period. In other words, how good are the meter readings? Users can view this data in various ways, such as usage calculation group (rate class), device type, region, etc. |
| Representation | The View By drop down slices the data by usage calculation group, city, device type, geo code, head end system, manufacturer, market, model, postal code, service provider, or service type. |
| | The pie chart shows the distribution of usage quantity per the category selected in the View By option. |
| | The table displays the measured usage quantity and the percentage of total for the selected category. Note: This analysis shows two pie charts which enable you to view the distribution across two different categories simultaneously. |
| Drill Down | The <i><category></i> column link drills down to the Usage by Day dashboard page for more details. |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Measured Quantity, % of Total |

Usage Summary

| | |
|--------------------|--|
| Description | This analysis summarizes the measured usage quantities over the previous 15 months. |
| Purpose | Using this tool, business users can analyze usage trends from previous periods. |
| Representation | The bar graph shows the total usage per month, for the previous 15 months. The quantities are color coded for each quarter. The line on the graph represents the monthly average by year. The X-axis represents the month and year. The Y-axis represents the total usage quantity. Hover over the bars for specific details. |
| Drill Down | The Month column link drills down to the Usage by Day dashboard page for daily details in the selected month. |
| | The Usage Trend link at the bottom-left corner of this analysis navigates to the Usage Trend dashboard page for detailed analysis and insight into total quantity. |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Total Quantity, Monthly Average by Year |

Usage Trend

The Usage Trend dashboard page shows the trends across normal usage, estimated usage, and time-of-use (TOU) mapped usage.

Usage Trend

| | |
|----------------|---|
| Description | This analysis shows the trend in normal usage quantities for the previous 15 months. |
| Purpose | Using this tool, business users can analyze measurement trends from the previous periods. |
| Representation | The bar graph shows the normal measured quantity for each month. The line on the graph represents the count of measuring components for each month. The X-axis represents the month and year. The Y1-axis represents the normal measured quantity, while the Y2-axis represents the measurement component count. Hover over the bars for specific details. |
| | The table displays the normal measured quantity, normal quantity %, and the total quantity for each month. |
| Drill Down | The Month column link drills down to the Usage by Day dashboard page for specific usage details in the selected month. |
| Source Object | Measured Quantity Fact |

| | |
|--------------------|--|
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Normal Quantity, MC Count, Normal Quantity %, Total Quantity |

Estimated Usage Trend

| | |
|--------------------|--|
| Description | This analysis shows the trend of estimated measurement quantities for the previous 15 months. |
| Purpose | Using this tool, business users can monitor trends regarding estimated and user-edited quantities. They can also understand the sub trends within the overall usage quantities. Utilities always strive to limit the number estimated bills. |
| Representation | The stacked bar graph shows the monthly trend in usage quantity across various dimension attributes. The X-axis represents the month and year. The Y-axis represents the usage quantity. Hover over the bars for specific details. |
| | The table displays the usage quantity across various categories for each month. |
| Drill Down | The Month column link drills down to the Usage by Day dashboard page for specific usage details in the selected month. |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Usage Quantity, % of Total |

TOU-Mapped Usage

| | |
|--------------------|---|
| Description | This analysis shows the TOU-mapped estimated measurement quantities for the previous 15 months. |
| Purpose | Using this tool, business users can monitor usage trends. Users can also apply time-of-use maps to see the peak and off peak totals. |
| Representation | The TOU Map drop down slices the data for a particular interval. |
| | The bar graph shows the estimated quantities across various mapped time-of-use for each month. The X-axis represents the month and year. The Y-axis represents the estimate quantity. Hover over the bars for specific details. |
| | The table displays the estimated quantity and % of total for each time-of-use. |
| Drill Down | The graph bars drill down to the Usage by Day dashboard page for specific usage details in the selected month. |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Estimated Quantity |

Degree Days

The Degree Days dashboard page provides details about the heating and cooling degree days for the selected period.

Degree Days - Total Usage

| | |
|--------------------|---|
| Description | This analysis shows a 15-month historical trend of the total usage quantity and also the heating/cooling degree days. |
| Purpose | This analysis shows the relationship between total usage and degree days. Degree days are used to identify when weather sensitive premises began using air conditioning or heating. Both heating and cooling degree days can be shown. For temperature sensitive premises, the energy consumed should correlate with the degree days. |
| | Business users use the data for energy monitoring and targeting purposes. They also use this analysis as an input in making decisions for energy management programs. |
| | Cooling Degree Days is normally the number of degrees the average daily temperature is above the baseline (65F) on hot days. Heating Degree Days is the number of degrees below 65F on cold days. Daily values are added together to get a monthly value. |
| Representation | The bar graph shows the degree days and total usage for each month. The X-axis represents the month and year. The Y1-axis represents the heating/cooling degree days and the Y2-axis represents the total usage. Hover over the bars for specific details. |
| | The table displays the heating degree days, cooling degree days, and the total usage details for each month, for the previous 15 months. |
| Drill Down | The Month column link drills down to the details page displaying daily values in the selected month. |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Heating and cooling degree days, Total Usage |

Degree Days - Average Usage

| | |
|-------------|---|
| Description | This analysis shows a 15-month historical trend of the average usage per measuring component, and also the heating/cooling degree days. |
|-------------|---|

| | |
|--------------------|---|
| Purpose | This analysis shows the relationship between average usage and degree days. Degree days are used to identify when weather sensitive premises began using air conditioning or heating. Both heating and cooling degree days can be shown. For temperature sensitive premises, the energy consumed should correlate with the degree days. |
| | Business users use the data for energy monitoring and targeting purposes. They also use this analysis as an input in making decisions for energy management programs. |
| | Cooling Degree Days is normally the number of degrees the average daily temperature is above the baseline (65F) on hot days. Heating Degree Days is the number of degrees below 65F on cold days. Daily values are added together to get a monthly value. |
| Representation | The bar graph shows the degree days and average usage for each month. The X-axis represents the month and year. The Y1-axis represents the heating/cooling degree days and the Y2-axis represents the average usage. Hover over the bars for specific details. |
| | The table displays the heating degree days, cooling degree days, and the average usage details for each month, for the previous 15 months. |
| Drill Down | The Month column link drills down to the details page displaying daily values in the selected month. |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Heating and cooling degree days, Average Usage |

Usage by Day

The Usage by Day dashboard page provides the daily usage details.

Usage by Day

| | |
|-------------|--|
| Description | This analysis displays the usage values for the selected month on a daily basis. |
| Purpose | Using this tool, business users can monitor trends in the usage quantities for each day in the selected month. The analysis is useful for consumption analysis, allowing users to determine how consumer behavior changes by day. It helps in analyzing usage for weekdays, weekend days and holidays. It is also helpful when evaluating critical peak events to see how consumer behavior changed. |

| | |
|--------------------|--|
| Representation | The View By drop down slices the data by measured quantity or average measured quantity. |
| | The bar graph shows the quantity and the respective measuring component count against the selected segment, for each day in the selected month. The X-axis represents the month and day. The Y1-axis represents the measured quantity and the Y2-axis represents the measuring component count. Hover over the bars for specific values. |
| | The table displays the measured quantity, cumulative quantity, average measured quantity, and the estimated quantity details. |
| Drill Down | The Calendar Day column link drills down to the Usage by Hour dashboard page for hourly details. |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Quantity, Measuring Component Count |

Three-Month Usage Trend

| | |
|--------------------|---|
| Description | This analysis compares the usage data trend over a three-month period. |
| Purpose | Using this tool, business users can monitor daily usage trends over a three month period. |
| Representation | The bar graph shows the measured quantity for each day in the previous three months. The X-axis represents the month and day. The Y-axis represents the measured quantity. Hover over the bars for specific values. |
| | The table displays the measured quantity, cumulative quantity, and the estimated quantity details for the previous three months. |
| Drill Down | No drill down |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Measured Quantity, Cumulative Quantity, Estimated Quantity, % of Total |

Usage by Hour

The Usage by Hour dashboard page provides the hourly usage details.

Usage by Hour

| | |
|-------------|---|
| Description | This analysis displays the usage values on an hourly basis. The data is displayed for the selected day. |
|-------------|---|

| | |
|--------------------|---|
| Purpose | Using this tool, business analysts can monitor trends in the usage volume for each hour of the selected day. |
| | This is very useful for consumption analysis. It allows users to determine how consumer behavior changes by hour. This will help business users determine optional TOU periods: on-peak, off-peak, etc. It is also helpful when evaluating critical peak events to see how consumer behavior changed. |
| Representation | The View By drop down slices the data by measured quantity and average measured quantity segments. |
| | The bar graph shows the measured quantity details for each hour on the selected day. The X-axis represents the hour. The Y1-axis represents the measured quantity, while the Y2-axis represents the measuring component count. Hover over the bars for specific values. |
| | The table displays the measured quantity, cumulative quantity, and average measured quantity details for each hour of the selected day. |
| Drill Down | No drill down |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Measured Quantity, Cumulative, Average usage for day, % of Total |

Three-Day Usage Trend

| | |
|--------------------|--|
| Description | This analysis helps in comparing the usage data trend for a three-day period. |
| Purpose | Using this tool, business users can monitor usage trends for each hour in a three-day period. |
| Representation | The bar graph shows the measured quantity for each hour in the three-day period. The X-axis represents the day and hour. The Y-axis represents the measured quantity. Hover over the bars for specific values. |
| | The table displays the measured quantity and cumulative quantity details for each hour in the three-day period. |
| Drill Down | No drill down |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Measured Quantity, Cumulative Quantity, % of Total |

Usage Comparison

The Usage Comparison dashboard page focuses on the usage comparison against the selected dimensions.

Usage Comparison

| | |
|--------------------|--|
| Description | This analysis compares the usage data for two selected dimensions during the selected calendar month. |
| Purpose | This analysis serves as a comparison tool for analysts to view the usage volume against two specific values for any chosen dimensional attribute. |
| | This is helpful when making comparisons between types of customers, such as those on electric vehicles rates and those not on electric vehicle rates. |
| Representation | <p>The Comparison Dimension drop down allows you to select the dimension for comparison (by device type, city, geo code, head end system, market, manufacturer, model, service provider, or usage calculation group).</p> <p>The Dimension Value 1 and Dimension Value 2 drop downs filter the data by the available dimensional values in the selected comparison dimension.</p> <p>The bar graph shows the usage against the selected dimension attributes for each day of the selected month. The X-axis represents the month and day. The Y-axis represents the usage. Hover over the bars for specific values.</p> <p>The table displays the measured quantity and cumulative quantity for each day in the selected month.</p> |
| Drill Down | No drill down |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Average Measured Usage per MC for Dimensional Value 1, Average Measured Usage per MC for Dimensional Value 2, Measured Quantity, Cumulative Quantity, % of Monthly Total |

TOU-Mapped Usage Comparison

| | |
|-------------|---|
| Description | This analysis compares the TOU mapped usage for the dimensions selected in the Usage Comparison analysis on the same dashboard page. The data is shown for the selected month. |
| Purpose | Using this tool, business users can monitor the trends in the usage volume and also the sub trends based on the time-of-use maps. |

| | |
|--------------------|--|
| Representation | The TOU Map drop down filters the data by TOU map dimension attributes. |
| | The bar graph shows the average measured quantity for the selected dimensions. The X-axis represents the attributes in the selected TOU map. The Y-axis represents the average measured quantity. Hover over the bars for specific values. |
| | The table displays the measured quantity, cumulative usage quantity, and average measured quantity details for the attributes in the selected usage option. |
| Drill Down | No drill down |
| Source Object | Measured Quantity Fact |
| OBIEE Subject Area | MDM - Measured Quantity |
| Metrics | Average Measured Usage per MC for Dimensional Value 1, Average Measured Usage per MC for Dimensional Value 2 |

Usage Summary

The Usage Summary dashboard provides key performance indicators (KPIs) related to the energy usage.

To access the dashboard:

1. Go to the **Home** page.
2. Select **Dashboards > Meter Data Analytics > Usage Summary**.

The data for current month and year is displayed by default. You can modify the generic criteria per requirement before compiling the analyses in this dashboard.

The dashboard provides the following dashboard pages:

- **Overview**
- **Usage Views**
- **Usage Analysis**
- **Top N Analysis**
- **Unreported Usage Details**

Overview

The Overview dashboard page provides a summary about usage and unreported usage.

Usage Summary

| | |
|-------------|--|
| Description | This analysis compares two months of usage summary for the selected usage snapshot type. |
| Purpose | This analysis allows business users to analyze usage trends using time-of-use (TOU) maps. Users can view current and previous month's usage by TOU period, giving an overview of usage trends. |

| | |
|--------------------|---|
| Representation | The Usage Snapshot Type drop down filters the data by the available usage snapshot types. |
| | The bar graph shows the month-on-month consumption quantity based on the TOU period. The X-axis represents the quantity (on/off/shoulder KWH (this on/off/shoulder KWH is a usage snapshot type and depends on the data) and the Y-axis represents the time of use. Hover over the bars for specific details. |
| | The table displays the usage quantity details against each time of use, for each month. |
| Drill Down | No drill down |
| Source Object | Consumption Fact |
| OBIEE Subject Area | MDM - Consumption |
| Metrics | Quantity |

Unreported Usage

| | |
|--------------------|--|
| Description | This analysis shows a summary of unreported usage per various age buckets in the selected month. |
| Purpose | A usage is “unreported” when there is consumption, but it was never processed and sent for billing. |
| | Higher unreported usage means revenue loss to the utility. Business users should focus on bringing down the unreported usage quantity. |
| Representation | Select the unit of measure, service point type, and unreported usage aging type for which you want to view the unreported usage details. |
| | The unreported usage details for various age buckets are represented as vertical gauge views, one for each bucket (such as < 30 days old, 31-45 days old, 45-60 days old, and > 60 days old). |
| | The vertical bar changes the color to indicate whether the data is within predefined limits. The inner rectangle of the vertical bar shows the current level of data against the ranges marked on the outer rectangle. |
| | The View By drop down slices the details by usage subscription type, usage group, or customer class. |
| | The table shows the count of service points and percent of usage for the segment selected in View By . |
| Drill Down | No drill down |
| Source Object | SP Usage Transaction Fact |
| OBIEE Subject Area | MDM - SP Usage Transaction |
| Metrics | Service Point Count, Usage Quantity, % of Total |

Usage Views

The Usage Views dashboard page focuses on the total and non-normal usage quantities based on various attributes.

Usage Summary by TOU Period

| | |
|--------------------|--|
| Description | This analysis shows a 15-month usage trend by TOU period. |
| Purpose | Using this tool, business users can monitor the trends in usage volume and also the sub trends based on time-of-use periods. |
| Representation | Both the stacked bar graph and table show the usage summary against each TOU period. The X-axis represents the month and year, and the Y-axis represents the usage quantity. Hover over the bars for specific details. |
| Drill Down | No drill down |
| Source Object | Consumption Fact |
| OBIEE Subject Area | MDM - Consumption |
| Metrics | Usage Quantity |

Non-Normal Usage Summary by Condition Code

| | |
|--------------------|--|
| Description | This analysis shows a 15-month non-normal usage trend sliced by condition code. Note: Non-normal usage classification is as done by the Oracle Utilities Meter Data Management system based on the Measurement Condition Category attribute. |
| Purpose | Using this tool, business users can monitor the trends in non-normal usage (estimated, missing, etc.). This number should be trending down or very low. |
| Representation | Both the stacked bar graph and table show the non-normal usage summary against each condition code. The X-axis represents the month and year, and the Y-axis represents the usage quantity. Hover over the bars for specific details. |
| Drill Down | No drill down |
| Source Object | Consumption Fact |
| OBIEE Subject Area | MDM - Consumption |
| Metrics | Usage Quantity |

Usage Analysis

The Usage Analysis dashboard page focuses on the usage variations.

Usage Analysis

| | |
|--------------------|--|
| Description | This analysis provides insight into usage associated with a combination of dimensions. The data is shown for the selected month. |
| Purpose | This analysis provides a summarized view of the usage, allowing users to “slice” the database to perform custom data analysis. The three “View By” selections allow users to define the viewing hierarchy, such as all usage for this market, city and rate class (usage group). After the selection, the user is presented a summary of the data. |
| Representation | The View By drop down slices the details by service point type, market, usage subscription type, city, geographical code, postal code, service provider, or usage group. You can vary the combination of dimensions. |
| | The table displays a summary of usage and percentage of the total for the selected attributes. |
| Drill Down | No drill down |
| Source Object | Consumption Fact |
| OBIEE Subject Area | MDM - Consumption |
| Metrics | Usage Quantity |

Top N Analysis

The Top N Analysis dashboard page provides a snapshot of the top extreme scenarios - the highest and lowest usage details.

Top N Analysis - Highest Usage

| | |
|----------------|--|
| Description | This analysis shows the top service points with the highest usage consumption in the selected month. |
| Purpose | This analysis helps business users to identify the customers with highest usage, such as my top customers. It is very useful in customer analysis, rate planning, and contract renewal. |
| Representation | The bar graph on the left shows the top 10 records with the highest usage quantity in the selected month. The X-axis represents the quantity and the Y-axis represents the rank. Hover over the bars for specific details. |
| | The bar graph on the right shows the consumption for top 100 service points and for the total service points. The X-axis represents the service points. The Y-axis represents the consumption. Hover over the bars for specific details. |
| | The table displays the top 100 records with highest consumption for the selected month. |
| Drill Down | The Service Point column link drills back to the MDM 360 Degree View portal in the Oracle Utilities Meter Data Management system. |

| | |
|--------------------|-------------------|
| Source Object | Consumption Fact |
| OBIEE Subject Area | MDM - Consumption |
| Metrics | Quantity |

Top N Analysis - Lowest Usage

| | |
|--------------------|--|
| Description | This analysis shows a list of service points with lowest consumption for the selected month. |
| Purpose | This analysis helps business users to identify the customers whose consumption is low and allows them to drill back into MDM to determine if the meters are showing accurate readings. |
| Representation | The table displays the top 100 records with lowest consumption for the selected month. |
| Drill Down | The Service Point column link drills back to the MDM 360 Degree View portal in the Oracle Utilities Meter Data Management system. |
| Source Object | Consumption Fact |
| OBIEE Subject Area | MDM - Consumption |
| Metrics | Quantity |

Unreported Usage Details

The Unreported Usage Details dashboard page provides a summary of service points and the usage details associated with each service point.

Top Service Points Without Usage Transactions

| | |
|----------------|--|
| Description | This analysis lists the top 100 records with highest unreported usage quantity in the selected month. |
| Purpose | Usage is “unreported” when there is consumption in Oracle Utilities Meter Data Management, but it has not been sent to billing. High unreported usage means revenue losses for the utility and slow cash flow. Business users should focus on bringing down the unreported usage quantity. |
| Representation | Business analysts can use this detail-level analysis to navigate back to the source Oracle Utilities Meter Data Management system and view specific details pertaining to a service point or device in the MDM 360 Degree View portal. |
| Representation | The table displays the service point and unreported usage quantity details for each service point. The data is shown for the selected month. |

| | |
|--------------------|---|
| Drill Down | The Service Point column link drills back to the 360 Degree View portal in the Oracle Utilities Meter Data Management system. |
| | The Account column link drills back to the Account portal in the Oracle Utilities Customer Care and Billing system. |
| Source Object | SP Usage Transaction Fact |
| OBIEE Subject Area | MDM - SP Usage Transaction |
| Metrics | Usage Quantity |

VEE Exceptions

The VEE Exceptions dashboard provides information about various exceptions related to VEE failures. Examples of these exceptions include high/low errors and spike failures. This information is used to identify patterns across regions, device types, and monthly trends.

To access the dashboard:

1. Go to the **Home** page.
2. Select **Dashboards > Meter Data Analytics > VEE Exceptions**.

The data for current month and year is displayed by default. You can modify the generic criteria per requirement before compiling the analyses in this dashboard.

The dashboard provides the following dashboard pages:

- **Overview**
- **Exception Trend**
- **Exception Analysis**
- **Exception Analysis Detail**

Overview

The Overview dashboard page provides insight into VEE exception distribution across cities.

Exceptions

| | |
|----------------|---|
| Description | This analysis provides a geographical view to quickly identify the VEE exception distribution in a specific region. The data is shown for the selected month. |
| Purpose | Using this map, business users can identify areas with high VEE exceptions. They can also analyze the nearby areas and look for patterns in the exceptions. The tool looks for differences in geographic regions. |
| Representation | The color-coded region on the map shows the VEE exception count in that area, along with the city and state details. |
| Drill Down | The City,State link broadcasts the region details to the Exception Types and Exceptions by Month analyses on the same dashboard page. |

| | |
|--------------------|---------------------|
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM – VEE Exception |
| Metrics | Count of Exceptions |

Exception Types

| | |
|--------------------|--|
| Description | This analysis shows the exception distribution based on the exception type for the selected city. The data is based on the postal code selected on the Exceptions map. |
| Purpose | Using this tool, business users can analyze the distribution of VEE exception in a geographical area (city) for the selected period. Users can “slice” the data using various view by selections, such as exception type, head end system, device type, device model, etc. |
| Representation | The View By drop down slices the data by exception type, device type, head end system, service provider, manufacturer, or model. The City,State drop down filters the data for the area with the respective postal code. |
| | The pie chart shows how each attribute of the selected segment are distributed as a percentage of total. |
| | $\% \text{ of Total} = (\text{Count of Exceptions} / \text{Grand Total}) * 100$ |
| Drill Down | The pie chart drills down to the Exception Trend or Exception Analysis dashboard pages for exception specific details. |
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM – VEE Exception |
| Metrics | Percentage of total |

Exceptions by Month

| | |
|----------------|---|
| Description | This analysis shows a 15-month trend in the VEE exception count in a geographical area. It also shows the yearly average. The data is based on the postal code selected on the Exceptions map. |
| Purpose | Using this tool, business analysts can monitor exception trends for a specific city and compare the monthly total to the yearly average. |
| Representation | The City,State drop down filters the data for the area with the respective postal code. The bar graph shows the exception count for each month in the selected geographical area. The X-axis represents the month and year. The Y-axis represents the exceptions. Hover over the bars for specific details. |
| | The line on the graph shows the average exception count for the selected year. |

| | |
|--------------------|--|
| Drill Down | The graph drills down to the Exception Trend or Exception Analysis dashboard pages for exception specific details. |
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM – VEE Exception |
| Metrics | Count of Events (Bar), Yearly Average (Line) |

Exception Trend

The Exception Trend dashboard page focuses on the trend for initial measurements with exceptions over 15 months.

Initial Measurements with Exceptions

| | |
|-------------|--|
| Description | This analysis shows the trend in the number of initial measurements with exceptions across various segments, for the previous 15 months. |
| Purpose | Using this analysis, business users can monitor initial measurements, with exceptions, received by the utility. The analysis is an indicator of quality of the data being received from the head end system and possible problems at the service point, such as missing measurements, low usage, spikes, etc., |

The monthly graph also has bars to further classify the volume based on device type, head end system, service provider, manufacturer, and model. It helps users understand sub trends within the overall volume of exceptions.

| | |
|----------------|---|
| Representation | The View By drop down slices the data by device type, head end system, service provider, manufacturer and model. |
|----------------|---|

First graph:

The stacked bar graph shows the 15-month trend in the total number of initial measurements with exceptions per the selected **View By** option. Each stack indicates the number of initial measurements with exceptions of a particular type. The X-axis represents the month and year. The Y-axis represents the number of initial measurements with exceptions. Hover over the bars for specific values.

Second graph:

Use the slider to view the data for a specific month.

The bar graph shows the number of initial measurements with exceptions per each segment selected in the **View By** drop down, for the selected month. The X-axis represents the selected segment. The Y-axis represents the number of initial measurements with exceptions.

Table:

The table displays the number of initial measurements with exceptions, initial measurements with no exceptions, and percentage of measurements with exceptions for the attribute in the selected **View By** option. The data is shown for previous 15 months.

% Initial Measurements with Exceptions = $\frac{\text{Initial Measurement with Exception}}{\text{Initial Measurement with Exception} + \text{Initial Measurement with No Exception}} * 100$

| | |
|--------------------|---|
| Drill Down | The Month column link drills down to the Exception Analysis dashboard page for a granular view. |
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM – VEE Exception |
| Metrics | Count of Events (Bar), Yearly Average (Line) |

Exceptions by Severity

| | |
|-------------|---|
| Description | This analysis shows the count of VEE exceptions by severity. |
| Purpose | Business users can monitor the exception trends by exception severity. This tool shows which VEE exceptions were informational and which were more critical. It can also be used to help defined the exception severity configured in MDM. Perhaps some exceptions should be classified differently – either raising or lowering the severity classification. |

| | |
|--------------------|---|
| Representation | The Exception Category , Exception Type , and Exception Severity drop downs filter the data accordingly. |
| | The bar graph shows the exception severity trend for each month, for the previous 15 months. The X-axis represents the month and year. The Y-axis represents the exception count. Hover over the bars for specific details. |
| | The table shows the total exceptions and the exceptions against the selected severity for the previous 15 months. |
| Drill Down | The Month column link drills down to the Exception Analysis dashboard page for a granular view. |
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM – VEE Exception |
| Metrics | Count of exceptions, Trend compared to previous month |

Exception Analysis

The Exception Analysis dashboard page provides insight into the rules that are violated the most and a summary of exceptions based on various attributes.

Exceptions Analysis Summary

| | |
|--------------------|--|
| Description | This analysis shows the number of exceptions for a combination of various segments, along with the percentage of total exceptions. The data is displayed for the selected month. |
| Purpose | Using this analysis, business users can get a customized view of exceptions. The tool allows users to “slice” the database to perform custom data analysis. The three “View By” selections allow users to define the viewing hierarchy, such as all exceptions of this type, for this type of device and in this city. After the selection, the user is presented a summary of the data. The user can then drill into the details to see the particular device/service points in question. |
| Representation | The View By drop down slices the details by head end system, device type, service provider, manufacturer, model, customer class, exception type, exception category, exception severity, postal code, or city. |
| | The table displays the number of exceptions and percentage of total for each segment selected in the View By drop down. |
| | $\% \text{ of Total} = (\text{Exceptions} / \text{Grand Total}) * 100$ |
| Drill Down | The Exceptions column link drills down to the Exception Analysis Detail dashboard page for a granular view. |
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM – VEE Exception |
| Metrics | Exceptions Count, % of Total |

VEE Rules with Most Exceptions

| | |
|--------------------|--|
| Description | This analysis displays the VEE rules with highest VEE exceptions in the selected month. |
| Purpose | This rule shows the VEE rules that have failed the most often and are generated the most exceptions. Users can use this information to look for problems. These problems could be metering issues, revenue protection issues, or MDM configuration issues. Perhaps the VEE tolerances are configured too tightly and the rule is generating false positives. Based on this information, business users may focus on taking corrective measures to reduce the number of exceptions generated. |
| Representation | The table shows VEE rules, their respective VEE groups, and the number of exceptions per each rule. |
| Drill Down | No drill down |
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM – VEE Exception |
| Metrics | Exceptions |

Exception Comparison

| | |
|--------------------|---|
| Description | This analysis shows a comparison of the exception count between the selected dimensional values based on the selected comparison dimension. |
| Purpose | This analysis serves as a comparison tool for analysts to view the volume of exceptions for two specific values for any chosen dimensional attribute, such as head end system one versus head end system two. |
| Representation | The Comparison Dimension drop down slices the data by head end system, device type, service provider, manufacturer, model, or city. The Dimension Value 1 and Dimension Value 2 drop downs filter the data by the available dimensions in the selected comparison dimension. |
| | The bar graph shows the exception count against the selected dimension attributes for the selected month. The X-axis represents the exception category. The Y-axis represents the exception count. Hover over the bars for specific values. |
| | The table displays the exception count and the percentage of total for each exception type in the exception categories. |
| Drill Down | Both Exceptions and % of Total column links drill down to the Exception Analysis Detail dashboard page for more details. |
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM – VEE Exception |
| Metrics | Count of Exceptions, % of Total |

Exception Analysis Detail

The Exception Analysis Detail dashboard page provides a summary of service points and the exception details associated with each service point.

Exceptions Analysis Detail

| | |
|--------------------|---|
| Description | This analysis shows a list of the top 100 devices with the highest number of VEE exceptions in the selected month. |
| Purpose | Business analysts can use this detail-level analysis to navigate back to the source Oracle Utilities Meter Data Management system and view specific details pertaining to a service point or device in the MDM 360 Degree View portal. |
| Representation | The table shows the service point and device details, along with the exception count. |
| Drill Down | The Service Point and Device column links drill back to the MDM 360 Degree View portal in the Oracle Utilities Meter Data Management system. |
| Source Object | VEE Exception Fact |
| OBIEE Subject Area | MDM – VEE Exception |
| Metrics | Exception Count |

Additional Information

The Licensing and Packaging Guide contains valuable information on the features and data structures available in Oracle Utilities Analytics Dashboards for Oracle Utilities Meter Data Management. The guide is provided as an Excel spreadsheet, Oracle Utilities Analytics v2.5.0.0.1 Licensing and Packaging Guide.xls. Content includes:

- A list of all of the available Oracle Utilities Analytics products.
- Installer Options - the required extractors and schemas for each product.
- Subject Areas, Facts, and Dimensions.
- Dashboards and Answers - the standard dashboards available and the associated Answers along with the Answer path.