

Oracle Utilities Work & Asset Analytics

Metric Reference Guide

Release 2.4.1

E39955-01

May 2013

Copyright © 2012, 2013 Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this software or related documentation is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS

Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are “commercial computer software” or “commercial technical data” pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

This software or hardware and documentation may provide access to or information on content, products and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third party content, products and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third party content, products or services.

Contents

Preface..... i-i

 Audience i-i

 Related Documents i-i

 Notational Conventions i-i

Chapter 1

Dashboard Content Reference..... 1-1

 Overview 1-1

 Inventory..... 1-3

 Storeroom Transactions 1-5

 Cost and Expenditure 1-7

 Maintenance..... 1-10

 Additional Information..... 1-15

Preface

This document describes the Oracle Utilities Work & Asset metrics (such as dashboards, analyses, and subject areas) available in Oracle Utilities Advanced Spatial and Operational Analytics. These metrics are used in the prebuilt analyses, and/or available for customers to use via OBIEE Answers in building new analyses or extending existing analyses.

Audience

This guide is intended for all users of Oracle Utilities Work and Asset Management Business Intelligence.

Related Documents

For more information, see the following documents:

- *Oracle Utilities Advanced Spatial and Operational Analytics Installation Guide*
- *Oracle Utilities Advanced Spatial and Operational Analytics Quick Install Guide*
- *Oracle Utilities Advanced Spatial and Operational Analytics Administration Guide*
- *Oracle Utilities Advanced Spatial and Operational Analytics Release Notes*
- *Oracle Utilities Advanced Spatial and Operational Analytics User's Guide*

See Also:

- *Oracle Utilities Business Intelligence V2.4.0 Server Administration Guide*
- Oracle Utilities Work and Asset 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 defined in the glossary
<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 Advanced Spatial and Operational Analytics, Release 2.4.1, provides analysis of and data from Oracle Utilities Work and Asset 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 Work & Asset Analytics includes metrics that help customers in the Utilities market to monitor and measure their asset and work order management.

Oracle Utilities Work and Asset Management Business Intelligence provides Work & Asset Analytics content in the Work & Assets dashboard.

- This chapter describes the Oracle Utilities Work & Asset Analytics' content in the following dashboard pages:
- **Overview**
- **Inventory**
- **Storeroom Transactions**
- **Cost and Expenditure**
- **Maintenance**

o access these dashboard pages:

1. Go to the **Home** page.
2. Select > **Dashboards** > **Work & Asset Analytics** > **Work & Assets**.

By default, the data for current month and year is displayed. You can modify the criteria per requirement.

Overview

The Overview dashboard page provides a snapshot of work management process, focusing on the overall health of the organization.

Proactive Maintenance

Property	Details
Description	<p>Proactive maintenance of assets is less expensive and ensures assets are in good condition to prevent break downs. This analysis includes two views which show if the Utility Company is proactively maintaining their assets or is being reactive.</p> <p>For selected year: This view shows the proactive maintenance of assets for the selected year.</p> <p>For selected month: This view shows the proactive maintenance of assets for the selected month.</p>
Purpose	<p>Business users can analyze the targets for proactive maintenance. For example, a goal can be 80% of all maintenance should be proactive as opposed to reactive.</p>
Representation	<p>For selected year: The gauge shows the proactive percentage for the selected year, using different colors to denote how the business users perceive the calculated result.</p> <p>$\text{Proactive \%} = 100 * (\text{Proactive Maintenance Cost} / (\text{Proactive Maintenance Cost} + \text{Reactive Maintenance Cost}))$</p> <p>The needle movement in the gauge towards yellow or red indicates a need to pay more attention on the maintenance scenarios. Note: The ranges for green, yellow, and red can be configured.</p> <p>For selected month: The gauge shows the proactive percentage for the selected month, 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 maintenance scenarios. Note: The ranges for green, yellow, and red can be configured.</p>
Drill Down	<p>The gauges drill down to the Maintenance dashboard page for specific maintenance details.</p>
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Proactive %

Actual vs Estimated Total Cost

Property	Details
Description	This analysis shows a monthly comparison of the total estimated costs versus actual costs for the work orders. The cost information comes from the work order cost summaries. The data is displayed for the selected month and previous two months.
Purpose	Business users can analyze the effectiveness of their estimation techniques by showing the deviation between actual and estimated amounts.
Representation	The bar graph shows the estimated total amount and the actual total amount for previous three months. X-axis represents the month. Y-axis represents the amount. Hover over the bars for specific values.
Drill Down	The graph drills down to the Cost and Expenditure dashboard page for details about materials, labor, and other costs.
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Estimated Total Amount, Actual Total Amount

Inventory

The Inventory dashboard page provides a snapshot of the inventory process. It shows the stock items in inventory and then plots a trend on the stock items over the year.

Inventory Summary

Property	Details
Description	<p>“Inventory” consists of spare assets which can replace the installed assets in case of defects in them.</p> <p>This analysis shows a summary of all the storerooms and items in each of these storerooms, along with the total value of the stock items. The data is displayed for the selected calendar month.</p>
Purpose	Business users can analyze the storeroom details, stock, and total value. They get a quick snapshot on the inventory status.
Representation	The table lists all the storerooms and number of items in each of these storerooms, in the selected month. It also shows the total value of the stock items.
Drill Down	No drill down
Source Object	Storeroom Inventory Snapshot Fact
OBIEE Subject Area	WAM - Storeroom Inventory Snapshot
Metrics	Stock Items, Total Value

Stockout Trend

Property	Details
Description	<p>A “stockout” is defined as a material request that was not fulfilled because the materials were not available. In the Oracle Utilities Work and Asset Management system, stock outs are tracked in the Store-room Transaction Log.</p> <p>This analysis shows the trend of the number of stock outs per month, for previous 15 months, initially sliced by commodity category.</p>
Purpose	Business users can analyze the trend in stockout. Further, they can look into the cause of stockout in the selected month.
Representation	<p>The View By drop down slices the data by commodity category, storeroom, or stock class.</p> <p>The line graph shows the monthly trend in stockout of an entity. X-axis represents the calendar month. Y-axis represents the stockout. The lines on the graph represent various items in the selected View By entity. Hover over the lines for specific values.</p>
Drill Down	No drill down
Source Object	Storeroom Transaction Fact
OBIEE Subject Area	WAM - Storeroom Transaction
Metrics	Number of Stockouts

Top 10 Stockouts by Stock Code

Property	Details
Description	This analysis shows the top 10 stock codes that had the maximum number of stockouts in the selected month.
Purpose	If the same stock code is consistently out of stock, business users should investigate the reason and have the stock item available.
Representation	<p>The table shows the number of stockout events for each stock code. It also shows the storeroom and stock class details for each stock code.</p> <p>Rank = Rank (Stockout Events)</p>
Drill Down	No drill down
Source Object	Storeroom Transaction Fact
OBIEE Subject Area	WAM - Storeroom Transaction
Metrics	Stockout Events

Top 10 Stock Codes by Value Over Max

Property	Details
Description	<p>Every stock item has a predefined maximum limit to be maintained at a store room. If the inventory quantity in the storerooms exceeds the maximum limit, the procurement should be adjusted to keep the items in the predefined limit.</p> <p>This analysis displays the top 10 stock items that exceeded the maximum limit in the selected month. The number of items over the maximum are valued and presented as a dollar value.</p>
Purpose	Business users can take necessary measures so that such stock codes are not produced. Thus, they can plan the usage of these items.
Representation	<p>The table shows the actual stock items on hand and the stock items that exceeded the maximum limit for each of the stock codes. It also displays the respective storeroom details.</p> <p>$\text{Value Over Max} = (\text{Quantity Over Max} / \text{Value Over Max}) * 100$</p> <p>$\text{Rank} = \text{Rank}(\text{Value Over Max})$</p>
Drill Down	No drill down
Source Object	Storeroom Inventory Snapshot Fact
OBIEE Subject Area	WAM - Storeroom Inventory Snapshot
Metrics	Quantity On Hand, Quantity Over Max, Value Over Max

Storeroom Transactions

The Storeroom Transactions dashboard page provides a snapshot of the transaction amount for the stock.

Transaction Amount Trend

Property	Details
Description	This analysis summarizes the monthly trend in transaction amount of the storerooms. The data is displayed for previous 15 months.
Purpose	Business analysts can identify the storerooms where maximum transactions happen and when. The analysis provides a high-level summary and helps in planning the resources accordingly.

Property	Details
Representation	<p>The View By drop down slices the transaction amount by storeroom, stock class, commodity category, or commodity type segments.</p> <p>Note: The selected segment is broadcasted to the Transaction Amount Distribution analysis on the same dashboard page</p> <p>The stacked bar graph compares the month-on-month transaction amount for the selected View By segment, and shows the trend for previous 15 years. X-axis represents the calendar month. Y-axis represents the transaction amount. Hover over the bars for specific values.</p> <p>The table shows the transaction amount and % of total for the segment selected in the View By option. These details are displayed for each of the month for previous 15 months.</p>
Drill Down	No drill down
Source Object	Storeroom Transaction Fact
OBIEE Subject Area	WAM - Storeroom Transaction
Metrics	Transaction Amount, % of Total

Transaction Amount Distribution

Property	Details
Description	This analysis shows the distribution of transaction amount of the segment initially selected in the Transaction Amount Trend analysis on the same dashboard page. The data is displayed for the selected month.
Purpose	Business users can get an insight into how each storeroom contributes to the total transaction amount. It helps them in planning the resources accordingly.
Representation	<p>The View By drop down slices the transaction amount by storeroom, stock class, commodity category, or commodity type.</p> <p>Use the slider to view the transformation amount distribution for a particular month.</p> <p>The pie chart shows the distribution of transaction amount under each segment for the selected month.</p>
Drill Down	No drill down
Source Object	Storeroom Transaction Fact
OBIEE Subject Area	WAM - Storeroom Transaction
Metrics	Transaction Amount, % of Total

Cost and Expenditure

The Cost and Expenditure dashboard page provides a snapshot of the cost and expenditure incurred in planning the work.

Asset Failure Cost

Property	Details
Description	This analysis provides information about the asset failure cost for 15 months.
Purpose	This analysis gives an overall picture about failures reported by various factors. Business users can take necessary pro-active measures and improve the failure handling capability.
Representation	<p>The Criticality prompt filters the data by criticality. For ex: A failure might impact the production at area level, result in personal injury, or have no impact on production.</p> <p>The View By drop down slices the data by failure, root cause, repair description, or asset class.</p> <p>The stacked bar graph shows the asset failure cost for the selected segment for previous 15 months. X-axis represents the calendar month. Y-axis represents the failure cost. Hover over the bars for specific values.</p> <p>Note: Click the graph for respective granular details.</p> <p>Use the slider to view the failure cost distribution for a particular month.</p> <p>The pie chart shows the distribution of asset failure costs around a failure for the selected month.</p> <p>Note: Click the pie chart for respective granular details.</p>
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Asset Failure Cost, % of Total

Actual vs Estimated Total Cost

Property	Details
Description	This analysis shows the monthly trend between the actual and estimated total costs involved in planning the work. The data is displayed for previous 15 months.

Property	Details
Purpose	Business users can analyze the effectiveness of their estimation techniques by showing the deviation between actual and estimated amounts.
Representation	<p>The bar graph shows the estimated and actual total amounts for each month, for previous 15 months. X-axis represents the calendar month. Y-axis represents the total amount. Hover over the bars for specific values.</p> <p>The table displays the estimated cost, the actual cost incurred, and also the difference as a percentage, for previous 15 months.</p> <p>$\% \text{ Difference in Cost} = (\text{Actual Total Amount} / \text{Estimated Total Amount}) * 100$</p>
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Estimated Total Amount, Actual Total Amount, % Difference in Cost

Actual vs Estimated Service Cost

Property	Details
Description	This analysis shows the monthly trend between the actual and estimated contract services costs involved in planning the work, for previous 15 months.
Purpose	Business users can analyze the effectiveness of their estimation techniques by showing the deviation between actual and estimated service costs.
Representation	The bar graph shows the estimated and actual contract services cost for each month, for previous 15 months. X-axis represents the calendar month. Y-axis represents the total services amount. Hover over the bars for specific values.
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Actual Contract Services Amount, Estimated Contract Services Amount

Actual vs Estimated Cost of Material

Property	Details
Description	This analysis shows the monthly trend between the actual and estimated material costs involved in planning the work, per month, for previous 15 months.
Purpose	Business users can analyze the effectiveness of their estimation techniques by showing the deviation between actual and estimated costs of materials.
Representation	The bar graph shows the estimated and actual material costs for each month, for previous 15 months. X-axis represents the calendar month. Y-axis represents the total material cost. Hover over the bars for specific values.
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Actual Materials Amount, Estimated Materials Amount

Actual vs Estimated Labor Cost

Property	Details
Description	This analysis shows the monthly trend between the actual and estimated labor costs involved in planning the work, per month, for previous 15 months.
Purpose	Business users can analyze the effectiveness of their estimation techniques by showing the deviation between actual and estimated labor costs.
Representation	The bar graph shows the estimated and actual labor costs for each month, for previous 15 months. X-axis represents the calendar month. Y-axis represents the total labor cost. Hover over the bars for specific values.
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Actual Labor Amount, Estimated Labor Amount

Actual vs Estimated Labor Hours

Property	Details
Description	This analysis shows the trend between the actual and estimated labor hours involved in planning the work, per month, for previous 15 months.
Purpose	Business users can analyze the effectiveness of their estimation techniques by showing the deviation between actual and estimated labor hours.
Representation	The bar graph shows the estimated and actual labor hours for each month, for previous 15 months. X-axis represents the calendar month. Y-axis represents the total labor hours. Hover over the bars for specific values.
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Actual Labor Hours, Estimated Labor Hours

Maintenance

The Maintenance dashboard page provides insight into the maintenance costs (such as expenditure, repair, etc) associated with assets.

Proactive Maintenance Trend

Property	Details
Description	This analysis presents the data from the work order showing the trend in proactive versus reactive maintenance work done over the previous 15 months.
Purpose	Business users can analyze the trend in proactive versus reactive maintenance work and make business decisions accordingly.
Representation	<p>The line graph shows the monthly trend in proactive maintenance for previous 15 months. X-axis represents the calendar month. Y-axis represents the proactive maintenance percentage. Hover over the line for specific values.</p> <p>The table shows the proactive and reactive maintenance details, and also the proactive percentage for each month.</p>
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Proactive Maintenance, Reactive Maintenance, Proactive %

Maintenance Cost

Property	Details
Description	This analysis presents the total amount spent on maintenance, every year.
Purpose	Business users can analyze the total preventive maintenance costs summarized by year. They can focus on the reasons for any increase in cost in a specific year, and propose suggestions for controlling the costs.
Representation	<p>The bar graph shows the total maintenance costs, for every year. X-axis represents the calendar year. Y-axis represents the maintenance cost. Hover over the bars for specific values.</p> <p>Click the graph to view quarter-wise details of the selected year.</p>
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Maintenance Cost

Work Order Trend by Type

Property	Details
Description	This analysis shows the total number of work orders closed in a month, by the type of work order. The work order types include urgent, regular, preventive maintenance, emergency, etc. The data is presented for previous 15 months.
Purpose	Business users can analyze the areas where most efforts are spent. They can come up with respective balancing techniques in all areas.
Representation	<p>The stacked bar graph shows the total work orders per month against each work order type. The data is displayed for previous 15 months.</p> <p>X-axis represents the calendar month. Y-axis represents the number of work orders. Hover over the bars for specific values.</p>
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Work Order Count

Average Work Order Completion Time

Property	Details
Description	This analysis presents the overall average time to complete the work orders on hand, per month. The data is shown for previous 15 months.
Purpose	Business users can analyze how effectively the work orders are being handled over a period of time.
Representation	The line graph shows the number of hours taken to complete the work orders on hand for a month. X-axis represents the calendar month. Y-axis represents the hours for completion. Hover over the line for specific values.
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Average Time to Complete

Work Order Labor Hours

Property	Details
Description	This analysis presents the total labor hours required to complete the work orders on hand. The data is shown for previous 15 months.
Purpose	Business users can analyze the labor hours spent over a period and the average time taken to handle a task. This helps to identify the effectiveness in labor usage.
Representation	<p>The line-bar combo graph shows the merge view with total labor hours and average labor hours per task aggregated by month. The details are displayed for previous 15 months.</p> <p>X-axis represents the calendar month. Y-axis represents the total labor hours. The Z-axis represents the average labor hours per task. Hover over the bars or line for specific values.</p>
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Total Labor Hours, Average Labor Hours

Top 10 Assets With Longest Mean Time to Repair

Property	Details
Description	<p>This analysis shows the top 10 assets with longest mean time to repair. The data is displayed for the selected month.</p> <p>The source for this information comes from the work order closeout information, where start and finish time details are captured.</p>
Purpose	Business users can identify the assets which take longer to repair. Necessary actions can be taken and planned accordingly.
Representation	<p>The Criticality drop down filters data by the criticality of the asset repair. The Apply button applies the selection to the analysis.</p> <p>The table shows the mean time taken to repair each asset, ranked by order of mean time.</p> <p>Mean Time To Repair(hours) = Avg (Actual Labor Hours)</p> <p>Rank = TOPN (Mean Time To Repair(hours))</p>
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Mean Time To Repair (Hours)

Top 10 Assets with Highest Work Orders

Property	Details
Description	This analysis shows the top 10 assets with highest number of attached work order tasks in the selected month.
Purpose	Business users can identify the assets in demand, so that the supply can be planned accordingly.
Representation	<p>The Criticality drop down filters data by critical repair details. The Apply button applies the selection to the analysis.</p> <p>The Asset Class drop down filters data by the type of asset. The Apply button applies the selection to the analysis.</p> <p>The table shows the number of work order tasks in hand against each asset. It also shows the description and rank for each of the assets.</p> <p>Rank = Rank (Work Orders)</p>
Drill Down	No drill down
Source Object	Work Order Task Fact

Property	Details
OBIEE Subject Area	WAM - Work Order Task
Metrics	Work Order Count

Top 10 Assets with Highest Expenditure

Property	Details
Description	This analysis shows the top 10 assets that need maximum maintenance in the selected month. Users tend to spend more on these assets.
Purpose	Business users can identify the assets that incur highest expenditure. Companies can plan for alternatives or take necessary actions to reduce the expenses.
Representation	<p>The Criticality drop down filters data by critical repair details. The Apply button applies the selection to the analysis.</p> <p>The Asset Class drop down filters data by the type of asset. The Apply button applies the selection to the analysis.</p> <p>The table shows the expenditure of each asset in the selected month. It also shows the asset description, location and department details, and rank for each of the assets.</p> <p>Rank = TopN (Transaction Amount)</p>
Drill Down	No drill down
Source Object	Work Order Task Fact
OBIEE Subject Area	WAM - Work Order Task
Metrics	Expenditure of the Asset

Additional Information

The Licensing and Packaging Guide contains valuable information on the features and data structures available in Oracle Utilities Work and Asset Management Business Intelligence. The guide is provided as an Excel spreadsheet, Oracle Utilities Advanced Spatial and Operational Analytics v2.4.1 Licensing and Packaging Guide.xls. Content includes:

- A list of all of the available Oracle Utilities Business Intelligence 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.