Oracle Utilities Analytics Insights Integration to Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System

Release Notes

Release 23A

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Oracle Utilities Analytics Insights Integration to Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System Release Notes, Release 23A

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Preface

Welcome to the Oracle Utilities Analytics Insights Integration to Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System Release Notes for release 23A.

The preface includes the following:

- Audience
- Documentation and Resources
- Documentation Accessibility
- Conventions
- Acronyms

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Oracle Utilities Analytics Insights Integration to Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System Release Notes

Audience

This document is intended for anyone implementing the Oracle Utilities Analytics Insights integration with Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System.

Documentation and Resources

For more information regarding this integration, foundation technology and the edge applications, refer to the following documents:

Product Documentation

Topic	Location
Oracle Utilities Analytics Insights Integration to Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System documentation	https://docs.oracle.com/en/industries/energy-water/integrations-index.html
Oracle Utilities Network Management System documentation	https://docs.oracle.com/en/industries/energy-water/network-management-system/
Oracle Utilities Digital Asset Cloud Service documentation	https://docs.oracle.com/en/industries/energy-water/digital-asset-cloud-service/
Oracle Utilities Analytics Insights documentation	https://docs.oracle.com/en/industries/energy-water/analytics-insights/index.html

Additional Documentation

Resource	Location
Oracle Integration Cloud Service documentation	Refer to the OIC documentation at: https://docs.oracle.com/en/cloud/paas/integration-cloud/index.html
Oracle Support	Visit My Oracle Support at https://support.oracle.com regularly to stay informed about updates and patches. Refer to the *Certification Matrix for Oracle Utilities Products (Doc ID 1454143.1)* on My Oracle Support to determine if support for newer versions of the listed products is included. For more information, refer to the Oracle Utilities Integrations page at http://my.oracle.com/site/tugbu/productsindustry/productinfo/utilities/integration/index.htm

Oracle Technology Network (OTN) Latest versions of documents	http://www.oracle.com/technetwork/index.html
Oracle University for training opportunities	http://education.oracle.com/

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers have access to electronic support for the hearing impaired. Visit: http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Acronyms

The following terms are used in this document:

Term	Expanded Form
DERMS	Oracle Utilities Digital Asset Cloud Service
DACS	Oracle Utilities Grid Edge Distributed Energy Resources Management System
OIC	Oracle Integration Cloud
OUAI	Oracle Utilities Analytics Insights

Chapter 1

Release Notes

This release notes outline the information about the functionality in integrating Oracle Utilities Analytics Insights with Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System for release 23A. Each section includes a brief description of the feature, the steps to enable or start using the feature, and any tips or considerations.

The release notes focuses on the following:

- Overview
- Supported Applications
- About Oracle Utilities Analytics Insights
- About Oracle Utilities Digital Asset Cloud Service
- About Oracle Utilities Grid Edge Distributed Energy Resources Management System
- About Oracle Integration Cloud
- New Features Summary
- Known Issues

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Oracle Utilities Analytics Insights Integration to Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System Release Notes

Overview

The integration between Oracle Utilities Analytics Insights, Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System components facilitates the exchange of information related to controllable devices at a customer's premise.

This integration can be leveraged to support customer enrollments, unenrollments, load reduction forecasts, program event participation outcomes, and energy (kWh) avoided calculations.

Oracle Utilities Digital Asset Cloud Service is responsible for managing (demand response) programs and initiating program enrollments and orchestration of the customer enrollment journey. Oracle Utilities Grid Edge Distributed Energy Resources Management System supports the creation, scheduling, and dispatching of (demand response) events, whilst Oracle Utilities Analytics Insights computes load reduction forecast values for each customer to facilitate optimal resource utilization during event creation. Oracle Utilities Analytics Insights is also responsible for calculation of post event actual energy reduction for each customer to allow financial settlement calculations.

For more information about the functionality, refer to the *Oracle Utilities Analytics Insights Integration to Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System Configuration Guide* included in this release. The documentation is available on Oracle Help Center at: https://docs.oracle.com/en/industries/energy-water/integrations-index.html

This integration supports the following flows:

- Synchronizing the customer's program subscription information on the back of enrollments and unenrollments from Oracle Utilities Digital Asset Cloud Service to Oracle Utilities Analytics Insights.

- Transferring of Load Reduction Forecast values for customers enrolled to active programs from Oracle Utilities Analytics Insights to Oracle Utilities Grid Edge Distributed Energy Resources Management System.

- Sending of post event device outcome responses from Oracle Utilities Grid Edge Distributed Energy Resources Management System to Oracle Utilities Analytics Insights.

- Transfer the computed post event kWh Avoided values for participating customers from Oracle Utilities Analytics Insights to Oracle Utilities Digital Asset Cloud Service.

The following diagram illustrates the business processes supported in this integration.
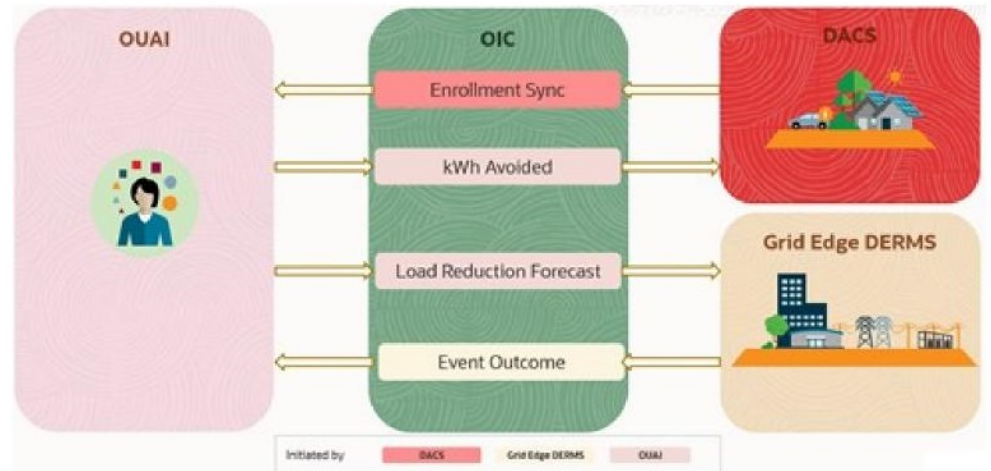
In this integration, Oracle Integration Cloud is used as a middleware to connect the applications. It uses REST APIs to facilitate communication between these two applications.

Supported Applications

The following table shows the supported application versions in this integration:

Application	Version
Oracle Utilities Digital Asset Cloud Service	23A or higher
Oracle Utilities Grid Edge Distributed Energy Resources Management System	V2.6.0.0.0 or higher
Oracle Utilities Analytics Insights	23A or higher
Oracle Integration Cloud	V23.1.3.0.0 or higher

Refer to the *Certification Matrix for Oracle Utilities Products (Doc ID 1454143.1)* on My Oracle Support to determine if support for newer versions of the listed products is included.

About Oracle Utilities Analytics Insights

Oracle Utilities Analytics Insights delivers pre-built and trained machine learning insights designed to drive utility business outcomes, solving specific and complex use cases with data science. It provides a client-facing web portal user interface with a back-end analytics engine. Insights are surfaced onto Oracle Analytics Cloud to be explored further by utility users.

Oracle Utilities Analytics Insights supports standardized data ingest from other Oracle Utilities applications to significantly speed up delivery. It provides a flexible platform that allows the ability to ingest any type of data and allow data scientists to add it into an algorithm. Export tools featured within the product allows insights to be added to any data lake.

About Oracle Utilities Digital Asset Cloud Service

Oracle Utilities Digital Asset Cloud Service provides the core functionality for utilities to create, run, and maintain demand response and distributed energy resource programs. It comprises the following functional areas:

- **Asset and Device Management**: Maintenance of controllable assets, such as "smart" thermostats, electric vehicle chargers, storage batteries, and other types of devices.

- **Program Enrollment/Unenrollment**: Identifying specific customers that are eligible for particular programs, and establishing relationships between the customers, the programs, and if appropriate, device locations where one or more controllable devices are (or have been) installed.

- **Program Management**: Creation and maintenance of Demand Response Programs to which customers can subscribe and which allows utilities to temporarily alter the settings of specific devices in their homes as a response to periods of high demand.

- **Program Subscriptions**: Maintenance of a customer's program subscriptions that represent the customer's enrollment in a program and device registration. Program subscriptions link the customer to a program and device location where controllable devices are installed.

- **Demand Response Event Management**: Identification and reservation of a customer's controllable devices in response to usage demand.

About Oracle Utilities Grid Edge Distributed Energy Resources Management System

Oracle Utilities Grid Edge Distributed Energy Resources Management System is built on Oracle Utilities Network Management System (NMS). It adds incremental support to the Oracle Utilities Network Management System platform for the management of behind the meter demand response resources. Oracle Utilities Grid Edge Distributed Energy Resources Management System can initiate control signals to devices inside customer homes, such as smart thermostats. Oracle Utilities Network Management System facilitates the modeling of individual Demand Response devices down to the customer service point and/or aggregated to load transformers to support Oracle Utilities Network Management System driven optimization. In conjunction with Oracle Utilities Network Management System the Oracle Utilities Grid Edge Distributed Energy Resources Management System component can help optimize electrical networks both operationally and commercially.

Oracle Utilities Grid Edge Distributed Energy Resources Management System offers strategy templates to be used for forecasting for various scenarios during event management. It provides event functions that help grid operators manage and review the forecasted impact of an event. This includes the ability to nominate, approve or reject an event; monitor or cancel an ongoing event and audit historical events. Oracle Utilities Grid Edge Distributed Energy Resources Management System supports automatic generation of event stages (blocks of field device activity) for configured objectives. Stages are built based on cost scores and reduction forecasts received from external applications used to help monitor and manage the Demand Response programs.

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Oracle Utilities Analytics Insights Integration to Oracle Utilities Digital Asset Cloud Service and Oracle Utilities Grid Edge Distributed Energy Resources Management System Release Notes

About Oracle Integration Cloud

Oracle Integration Cloud is a unified platform to integrate the applications, automate processes and create applications.

Using integrations, connect the applications into a continuous business flow. The integrations can be quickly developed and activated between both the cloud and on-premises applications. The lookups help to match application-specific codes between the two applications. Oracle Integration Cloud provides graphical mapper where the user can map just by dragging and dropping between the applications.

New Features Summary

The following new features were included in this integration:

- Enrollment Sync
- Load Reduction Forecasts
- Event Outcomes
- kWh Avoided

Enrollment Sync

The enrollment orchestration within Oracle Utilities Digital Asset Cloud Service sets up the relationship between the customer, their controllable device, and the associated program via the program subscription. Once a customer and their controllable device is successfully enrolled in Oracle Utilities Digital Asset Cloud Service, it triggers a message to synchronize the data with Oracle Utilities Analytics Insights for the associated service point so that it is included in load reduction forecasting and actual kWh Avoided calculations.

A mandatory pre-requisite for this integration flow to be executed successfully is the synchronization between Customer Information System (CIS) and Oracle Utilities Analytics Insights, which ensures that the customers contact information and location information are already updated so that only identifier values can be processed.

This integration includes:

- A scheduled integration to extract a flat file from Oracle Utilities Digital Asset Cloud Service containing the list of customer's program subscription information for enrollments and unenrollments.
- Transfer the extracted flat file to a target location for Oracle Utilities Analytics Insights to process the individual records.
- Receive an acknowledgment flat file from Oracle Utilities Analytics Insights with the processing outcome for each individual record from the initially transferred file.
- Processing individual records from the acknowledgment file and updating Oracle Utilities Digital Asset Cloud Service.

Load Reduction Forecasts

Oracle Utilities Analytics Insights is responsible for calculating a load reduction forecast for each metered service point that is associated to an active program by leveraging historic consumption, historical event outcome and weather forecast data. Oracle Utilities Grid Edge Distributed Energy Resources Management System uses the forecasted reduction received from Oracle Utilities Analytics Insights along with the device score and availability to reserve the optimal set of controllable devices for a program event.

A pre-requisite for this integration flow to be executed successfully is the synchronization between Oracle Utilities Analytics Insights and Oracle Utilities Analytics Insights which ensures that the Program Subscription information is updated for all customers.

This integration includes:

- A scheduled integration to extract a flat file from Oracle Utilities Analytics Insights containing the load reduction forecast values for each metered service point (SP) linked to device(s) enrolled in a program.

- Transfer the extracted flat file to a target location for Oracle Utilities Grid Edge Distributed Energy Resources Management System to process the individual records.

Event Outcomes

Oracle Utilities Grid Edge Distributed Energy Resources Management System will dispatch a control signal via Oracle Utilities Live Energy Connect to a controllable device identified for a demand response event. After the duration of the event is complete, it is expected that each controllable device would respond back with an event outcome to indicate if it successfully participated, or the event was manually overridden by the customer, or the device was non-responsive during the event, or the control signal was rejected by the controllable device. Oracle Utilities Live Energy Connect will receive the event outcome from external sources and pass that on to Oracle Utilities Grid Edge Distributed Energy Resources Management System.

Oracle Utilities Grid Edge Distributed Energy Resources Management System will be responsible for capturing the event outcome information, transforming it to a consistent message format, and generating an event outcome file to be published.

This integration includes:

- Receive the post Event Device outcome as a flat file attachment from Oracle Utilities Grid Edge Distributed Energy Resources Management System containing the event information and device level outcomes.

- Transfer the extracted flat file to a target location for Oracle Utilities Analytics Insights to process the individual records.

- Trigger an acknowledgment response to Oracle Utilities Grid Edge Distributed Energy Resources Management System confirming the successful transfer of the file.

kWh Avoided

Oracle Utilities Analytics Insights is responsible for calculating the actual kWh reduction achieved for each customer that participated in a program event. Oracle Utilities Analytics Insights will leverage the event outcome received from Oracle Utilities Grid Edge Distributed Energy Resources Management System, the smart meter consumption data received from AMI/MDM systems and load curve values based on historical consumption data to compute the actual energy reduction achieved for the duration of the event.

Oracle Utilities Analytics Insights will generate the kWh Avoided that consist of comma separated records for each metered service point that participated in a program event and send it to Oracle Utilities Digital Asset Cloud Service for using it for settlement calculations.

This integration includes:

- A scheduled integration to extract a flat file from Oracle Utilities Analytics Insights containing the kWh Avoided values for each metered service point (SP) that participated in a program event.

- Transfer the extracted flat file to a target location for Oracle Utilities Digital Asset Cloud Service to process the individual records and store them at a metered service point level.

Known Issues

There are no issues known at the time of this integration release.