

**Oracle Utilities Digital Asset Cloud
Service Integration to Oracle Utilities Grid
Edge Distributed Energy Resources
Management System**

Release Notes

Release 22C

F75931-02

January 2023

Oracle Utilities Digital Asset Cloud Service Integration to Oracle Utilities Grid Edge Distributed Energy Resources Management System Release Notes, Release 22C

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Preface

Welcome to the Oracle Utilities Digital Asset Cloud Service Integration to Oracle Utilities Grid Edge Distributed Energy Resources Management System Release Notes.

The preface includes the following:

- [Audience](#)
- [Documentation and Resources](#)
- [Documentation Accessibility](#)
- [Conventions](#)
- [Acronyms](#)

Audience

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

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 Digital Asset Cloud Service Integration to 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/

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	<p>Visit My Oracle Support at https://support.oracle.com regularly to stay informed about updates and patches.</p> <p>Refer to the <i>Certification Matrix for Oracle Utilities Products (Doc ID 1454143.1)</i> on My Oracle Support to determine if support for newer versions of the listed products is included.</p> <p>For more information, refer to the Oracle Utilities Integrations page at http://my.oracle.com/site/tugbu/productsindustry/productinfo/utilities/integration/index.htm</p>
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.
<i>italic</i>	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 Grid Edge Distributed Energy Resources Management System
DACS	Oracle Utilities Digital Asset Cloud Service
OIC	Oracle Integration Cloud

Chapter 1

Release Notes

This release notes outline the information about the functionality in integrating Oracle Utilities Digital Asset Cloud Service with Oracle Utilities Grid Edge Distributed Energy Resources Management System. 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 Digital Asset Cloud Service](#)
- [About Oracle Utilities Grid Edge Distributed Energy Resources Management System](#)
- [About Oracle Integration Cloud](#)
- [New Features Summary](#)
- [Known Issues](#)

Overview

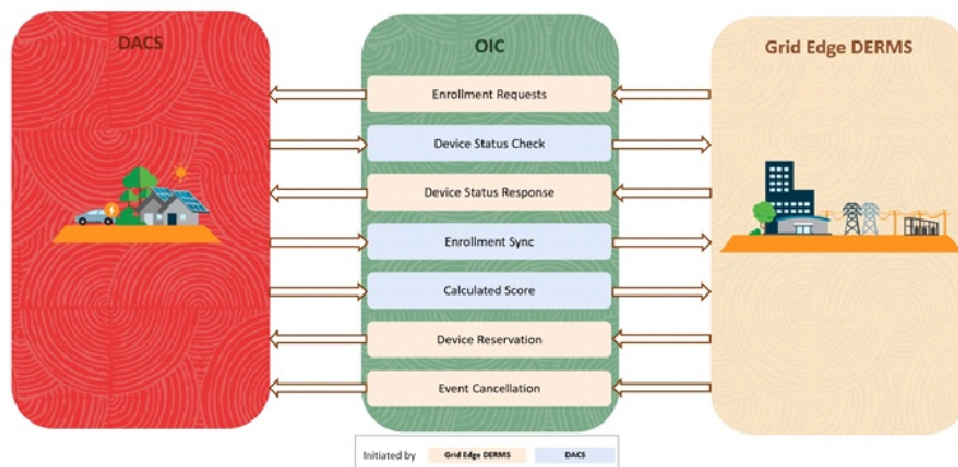
Oracle Utilities Digital Asset Cloud Service integration to the Oracle Utilities Grid Edge Distributed Energy Resources Management System component facilitates the exchange of information related to controllable devices at a customer's premise. This integration can be leveraged to support customer enrollment, unenrollment, controllable device replacement, and program event participation.

For more information about the functionality, refer to the *Oracle Utilities Digital Asset Cloud Service Integration to 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:

- Sending program enrollment requests for customer owned controllable devices from Oracle Utilities Grid Edge Distributed Energy Resources Management System to Oracle Utilities Digital Asset Cloud Service.
- Initiating the controllable device status check request from Oracle Utilities Digital Asset Cloud Service and receiving the controllable device status response from Oracle Utilities Grid Edge Distributed Energy Resources Management System.
- Synchronizing the customer, controllable device, and program subscription information from Oracle Utilities Digital Asset Cloud Service to Oracle Utilities Grid Edge Distributed Energy Resources Management System.
- Transferring the controllable device calculated score values from Oracle Utilities Digital Asset Cloud Service to Oracle Utilities Grid Edge Distributed Energy Resources Management System.
- Sending event creation and device reservation information from Oracle Utilities Grid Edge Distributed Energy Resources Management System to Oracle Utilities Digital Asset Cloud Service.
- Notifying Oracle Utilities Digital Asset Cloud Service of any pre-event cancellations initiated in Oracle Utilities Grid Edge Distributed Energy Resources Management System.

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	22C or higher
Oracle Utilities Grid Edge Distributed Energy Resources Management System	2.6.0
Oracle Integration Cloud	V21.2.3.0.0 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 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.

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 Requests](#)
- [Device Status Check and Response](#)
- [Enrollment Synchronization](#)
- [Device Calculated Score](#)
- [Device Reservation](#)
- [Event Cancellation](#)

Enrollment Requests

This interface sends the enrollment requests from Oracle Utilities Grid Edge Distributed Energy Resources Management System to Oracle Utilities Digital Asset Cloud Service for customer-owned controllable devices originating through external entities, such as energy aggregators or head-end system providers, and initially received in Oracle Utilities Live Energy Connect (LEC). Oracle Utilities Digital Asset Cloud Service initiates the enrollment process for each individual enrollment request received from Oracle Utilities Grid Edge Distributed Energy Resources Management System.

This integration includes:

- Receiving a collection of customer enrollment requests from Oracle Utilities Grid Edge Distributed Energy Resources Management System.
- Mapping each individual request to Oracle Utilities Digital Asset Cloud Service and invoking the program enrollment process.
- Capturing the success or failure for the invocation of the enrollment process in Oracle Utilities Digital Asset Cloud Service for each individual enrollment request.
- Submitting an overall response to Oracle Utilities Grid Edge Distributed Energy Resources Management System on completion of the process.

Device Status Check and Response

This integration flow initiates a controllable device status check request from Oracle Utilities Digital Asset Cloud Service to Oracle Utilities Grid Edge Distributed Energy Resources Management System and subsequently receives the controllable device status response back. This request and response will follow an asynchronous pattern and supports the retrieval of device's communication status required as either part of customer enrollment or during troubleshooting for non-communicating devices.

This integration includes:

- Receiving a device status check request for a controllable device from Oracle Utilities Digital Asset Cloud Service.
- Transforming the device status request and send it to Oracle Utilities Grid Edge Distributed Energy Resources Management System.
- Receiving the asynchronous device status response from Oracle Utilities Grid Edge Distributed Energy Resources Management System
- Transforming the device status response and invoking Oracle Utilities Digital Asset Cloud Service to update the response.

Enrollment Synchronization

The purpose of this integration flow is to synchronize Oracle Utilities Grid Edge Distributed Energy Resources Management System with Oracle Utilities Digital Asset Cloud Service on the back of a successful program enrollment or unenrollment. A mandatory pre-requisite for this integration flow to work is that Oracle Utilities Grid Edge Distributed Energy Resources Management System already has the customers contact and location information synchronized from the existing Customer Information System. This integration notifies Oracle Utilities Grid Edge Distributed Energy

Resources Management System of devices that are eligible to be evaluated for a program event participation.

This integration includes:

- Receiving an enrollment sync message from Oracle Utilities Digital Asset Cloud Service containing the customer, location, program subscription and controllable devices information.
- Transferring the enrollment sync message to Oracle Utilities Grid Edge Distributed Energy Resources Management System.
- Sending the enrollment sync acknowledgment response to Oracle Utilities Digital Asset Cloud Service.

Device Calculated Score

Oracle Utilities Digital Asset Cloud Service calculates a cost value for each controllable device the **device score**. This integration will facilitate the scheduled transfer of device score file generated by Oracle Utilities Digital Asset Cloud Service to Oracle Utilities Grid Edge Distributed Energy Resources Management System to allow calling upon the most eligible set of controllable devices for a program event.

This integration includes:

- Retrieving a new device score file generated by Oracle Utilities Digital Asset Cloud Service from the designated location as per the defined schedule.
- Transferring the device score file to Oracle Utilities Grid Edge Distributed Energy Resources Management System and renaming the file on the source to indicate success or failure of file transfer.
- Checking for any more unprocessed files and repeating the above steps to transfer them to Oracle Utilities Grid Edge Distributed Energy Resources Management System.
- Notifying configured stakeholders via email about successful or erroneous outcomes for all files.

Device Reservation

Program events are created in Oracle Utilities Grid Edge Distributed Energy Resources Management System to call upon controllable devices for participation. This integration flow facilitates the transfer of the event details and the list of devices reserved for that program event to Oracle Utilities Digital Asset Cloud Service. It will allow Oracle Utilities Digital Asset Cloud Service to track the event participation and use that information while calculating the device score for the impacted controllable devices.

This integration flow includes:

- Receiving an event device reservation message from Oracle Utilities Grid Edge Distributed Energy Resources Management System containing the event details and list of devices reserved for that event.
- Sending an acknowledgment of the message back to Oracle Utilities Grid Edge Distributed Energy Resources Management System.

- Checking the service availability of Oracle Utilities Digital Asset Cloud Service prior to sending the device reservation message.
- Sending the event device reservation message in collections to Oracle Utilities Digital Asset Cloud Service by invoking the event participation process.
- Sending an asynchronous acknowledgment on completion of processing all reserved devices and notifying configured stakeholders via email of successful or erroneous outcomes.

Event Cancellation

Oracle Utilities Grid Edge Distributed Energy Resources Management System supports the functionality to cancel a program event prior to its scheduled start time. The purpose of this integration flow is to send pre-event cancellation messages from Oracle Utilities Grid Edge Distributed Energy Resources Management System to Oracle Utilities Digital Asset Cloud Service so that the event status is updated and the associated devices are no longer reserved.

This integration flow includes:

- Receiving an event cancellation message prior to its scheduled start time from Oracle Utilities Grid Edge Distributed Energy Resources Management System containing the event details.
- Transforming the event cancellation message and invoking the Oracle Utilities Digital Asset Cloud Service process for cancelling the event.

Known Issues

Following are the known issues that impact the integration flows with respect to the supported application versions:

- Status of the program subscription is being transitioned incorrectly to ACTIVE in Oracle Utilities Digital Asset Cloud Service on receipt of the enrollment request from the integration layer. It should be in the INACTIVE status until the enrollment process is completed. It could result in sending not fully enrolled customer details to Oracle Utilities Grid Edge Distributed Energy Resources Management System when the Enrollment Sync message is triggered.
- The unenrollment process in Oracle Utilities Digital Asset Cloud Service is not setting the correct values for program subscription status, program end date, and device status. Hence, the outbound message is not being sent to the integration layer. Oracle Utilities Grid Edge Distributed Energy Resources Management System will not be aware of unenrolled customers and continue to evaluate the associated devices during program event creation.
- Oracle Utilities Digital Asset Cloud Service is allowing duplicate device identifiers to be created during the enrollment process. This impacts the device score calculation as the device score file gets multiple records for the same device. Oracle Utilities Grid Edge Distributed Energy Resources Management System could get an incorrect device score value resulting in poor customer experience.

- Oracle Utilities Grid Edge Distributed Energy Resources Management System is returning a failure response for all device status check requests triggered from Oracle Utilities Digital Asset Cloud Service. This is happening as Oracle Utilities Grid Edge Distributed Energy Resources Management System does not have the functionality to retrieve the device status from Oracle Utilities Live Energy Connect during enrollment. The enrollment process will fail in Oracle Utilities Digital Asset Cloud Service for all devices that support this configuration.