

# **Oracle Utilities Digital Asset Management**

Release Notes

Release 2.0.0.1.2

**F83899-01**

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Oracle Utilities Digital Asset Management Release 2.0.0.1.2 Release Notes

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# Preface

Welcome to the Oracle Utilities Digital Asset Management Release Notes. This release notes provides an overview of the new functionality, enhancements, known issues and other changes in Oracle Utilities Digital Asset Management V2.0.0.1.2.

The preface includes:

- [Audience](#)
- [Related Documents](#)
- [Updates to Documentation](#)
- [Conventions](#)
- [Acronyms](#)
- [Additional Resources](#)

## Audience

Release Notes is intended for anyone installing or using Oracle Utilities Digital Asset Management.

## Related Documents

For more information, refer to these Oracle documents:

### Installation Guides and Release Notes

- *Oracle Utilities Digital Asset Management Release Notes*
- *Oracle Utilities Digital Asset Management Quick Install Guide*
- *Oracle Utilities Digital Asset Management Installation Guide*
- *Oracle Utilities Digital Asset Management Database Administrator's Guide*
- *Oracle Utilities Digital Asset Management Licensing Information User Manual*

### User Guide

- *Security Guide*
- *Server Administration Guide*

## Updates to Documentation

The complete Oracle Utilities Digital Asset Management documentation set is available from Oracle Help Center at <https://docs.oracle.com/en/industries/energy-water/index.html>.

Visit [My Oracle Support](#) for additional and updated information about the product.

## Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>boldface</b>	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.

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## Acronyms

The following acronyms and terms are used in this document:

Acronym	Definition
CCB	Oracle Utilities Customer Care and Billing
C2M	Oracle Utilities Customer To Meter
SOM	Oracle Utilities Service Order Management
SGG	Oracle Utilities Smart Grid Gateway
ODM	Oracle Utilities Operational Device Management
MDM	Oracle Utilities Meter Data Management
OUAF	Oracle Utilities Application Framework
DAM	Oracle Utilities Digital Asset Management

## Additional Resources

Additional and updated information about the product is available on [My Oracle Support](#). For more information and support, visit the [Oracle Support](#) website.

# Chapter 1

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## Oracle Utilities Digital Asset Management Release Notes

Welcome to the Oracle Utilities Digital Asset Management Release Notes. This document provides general information about Oracle Utilities Digital Asset Management V2.0.0.1.2 including new functionality, known issues, and other important information.

This guide includes the following:

- [About This Release](#)
- [Supported Platforms](#)
- [Supported Integrations](#)
- [Demo Data Information](#)
- [User Configuration](#)
- [Enhancements in Digital Asset Management](#)
- [Known Issues in This Release](#)
- [Oracle Utilities Application Framework V4.5.0.1.2 Release Notes](#)

For information about supported platforms and installation steps, refer to the *Quick Install Guide* and *Installation Guide* included in this release.

## About This Release

This section contains general information about this release of Oracle Utilities Digital Asset Management 2.0.0.1.2. The release includes the following components:

- Oracle Utilities Digital Asset Management 2.0.0.1.2
- Oracle Utilities Application Framework 4.5.0.1.2

Please visit My Oracle Support (<http://support.oracle.com>) and Oracle Software Delivery Cloud (<http://edelivery.oracle.com/>) for the most recent service packs and patches for Oracle Utilities Digital Asset Management 2.0.0.1.2 to ensure you have the most current version of this product.

## Supported Upgrades

This version of Oracle Utilities Digital Asset Management supports the following upgrade paths:

- From Oracle Utilities Digital Asset Management v2.0.0.0.0 to 2.0.0.1.2

## Supported Platforms

See the **Supported Platforms** section in the Oracle Utilities Digital Asset Management *Quick Install Guide* (included in this release) for a list of supported platforms.

## Supported Integrations

The following integrations are supported in this version of Oracle Utilities Digital Asset Management.

- Oracle Utilities Digital Asset Management 2.0.0.1.2 Integration to Oracle Utilities Distributed Energy Resources Management System
- Oracle Utilities Analytics Insights Integration to Oracle Utilities Digital Asset Management 2.0.0.1.2 and Oracle Utilities Grid Edge Distributed Energy Resources Management System

**Note:** Version numbers listed are supported as of the v2.0.0.1.1. release (January 2023). Refer to the Certification Matrix for Oracle Utilities Products (Document ID 1454143.1) on My Oracle Support to determine if support for newer versions of the listed products have been added.

## Demo Data Information

The application delivers a demo database based on the application versions provided with the release, including Oracle Utilities Application Framework. Demo data provides sample configuration and data for key application features.



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Demo data is included in the package and includes its own installation instructions. Please refer to the *Oracle Utilities Digital Asset Management Database Administrator's Guide* for more information or contact Oracle Support.

## User Configuration

*Oracle Utilities Digital Asset Management* shares its application environment with other Oracle Utilities products, including Oracle Utilities Customer to Meter and Oracle Utilities Work and Asset Management. The default installation of any of these products provides access to all menu items and functionality provided with these products.

To configure the system such that only menu items and functionality used by *Oracle Utilities Digital Asset Management* is available, application users should be assigned to the following set of user groups:

- Digital Asset Services (DACS\_SERVICES)
- DACS WAM Services\* (DACS\_WAM\_SERVICES)

\*This user group provides access to Work and Asset Management functionality included with *Oracle Utilities Digital Asset Management*.

Refer to the **Defining Users** section in the *Administrative User Guide* for more information about setting up users.

## Enhancements in Digital Asset Management

This section describes new features and functionality included in this release of *Oracle Utilities Digital Asset Management* including the following:

- [Customer Interaction](#)
- [Product Usability](#)
- [Batch Processing](#)
- [Integrations](#)

### Customer Interaction

This section describes new customer interaction enhancements introduced in this release, including:

- [Customer Settlement](#)

#### Customer Settlement

Oracle Utilities Digital Asset Management is responsible for calculating the financial settlement amount for the customer's participation in a demand response event. At the conclusion of the demand response event, Oracle Utilities Grid Edge Distributed Energy Resources Management Systems sends the device's event participation outcome to an analytics engine and Oracle Utilities Digital Asset Management. The analytics component computes the actual energy reduction achieved during the event duration and passes it to Oracle Utilities Digital Asset Management as a "kWh Avoided" value.

In parallel or a few days after the event, Oracle Utilities Digital Asset Management receives hourly prices, market prices, or other price components relevant to the event timeline. Oracle Utilities Digital Asset Management uses the kWh Avoided value and price inputs to calculate the amount to credit to the enrolled customer who participated in the event. Periodically or following a business event (for example, move-out or unenrollment), Oracle Utilities Digital Management Service aggregates the unbilled settlement credit amounts and sends them to the CIS application for processing on the customer's energy bill.

The key components of Customer Settlement are the following:

- **Event Settlement:** Event Settlement is initiated when Oracle Utilities Digital Asset Management receives the consumption saved for a particular event from Oracle Utilities Analytics Insights. The Event Settlement amount is calculated by the settlement calculation group/rule set on the program subscription or on its type.
- **Interval Prices:** Interval Prices are recorded in Oracle Utilities Digital Asset Management as Measurements of an Interval Price measuring of component. The prices are retrieved by the rule and are used to calculate the settlement amount.
- **Program Subscription:** Program Subscription has been enhanced to support Event Settlement Calculations. The Event Settlement Calculation Groups containing the rules is configured on the Program Subscription and on the program Subscription Type.
- **Event Settlement Calculation Group and Rule:** A new Event Settlement Calculation Rule calculates the credit amount for the concluded event and records it on the Event Settlement.
- **Customer Settlement:** Customer Settlement Request are initiated from the CIS application either periodically or when a customer unenrolls from a program. Customer Settlement looks for all Event Settlements Transactions for the requested period, aggregates the amounts and quantities, and links the event settlements to itself.

This calculates an event level financial settlement and records it for the participating service point.

See **About Event Settlement Transactions** and **About Customer Settlement Transactions** in the *Business User Guide* for more information.

## Product Usability

This section describes new product usability enhancements introduced in this release, including:

- [Service Task Query](#)
- [Work Completion Event](#)

### Service Task Query

You can query service tasks created by the enrollment and unenrollment processes using name, address, and external ID as filters.

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This introduces service task query to the application and renders portals and zones that are only applicable to Oracle Utilities Digital Asset Management.

### Work Completion Event

You can configure a new Completion Event Type to record work-related tasks (such as installation, removal, exchange and maintenance) performed on controllable devices.

This provides the ability to record the work completion outcome and make the necessary updates.

## Batch Processing

This section describes new batch processing enhancements introduced in this release, including:

- [Legacy Customer Information Synchronization and Legacy DRMS Data Conversion](#)

### Legacy Customer Information Synchronization and Legacy DRMS Data Conversion

You can synchronize customer information from legacy customer information systems to Oracle Utilities Digital Asset Management using a flat file-based data load approach. A plugin-driven batch loads the customer data as part of the initial synchronization at the start of the implementation and any ongoing updates will be incrementally synchronized to Oracle Utilities Digital Asset Management. The batch creates an inbound synchronization request to stage the data upload and subsequently the synchronization request transforms the snapshot, and creates or updates the following data objects in Oracle Utilities Digital Asset Management:

- Contact
- Metered Service (Parent Subscription)
- Metered Service Point

A similar flat file-based load approach enables you to convert data for existing enrollments within the legacy DRMS application. An upload batch job creates an inbound synchronization request to stage the data conversion and subsequently the synchronization request transforms the snapshot and creates the following data objects in Oracle Utilities Digital Asset Management:

- Controllable Device
- Device Location
- Enrollments
- Event Participation

This facilitates synchronization of relevant customer information and conversion of required objects from legacy systems to Oracle Utilities Digital Asset Management.

See **Importing Data From External Systems** in the *Administrative User Guide* for more information.

## Integrations

This section describes new integration-related enhancements introduced in this release, including:

- [Completion Event Type - Record Install/Remove Controllable Device](#)
- [Controllable Devices - Work Activity Requests and Work Completion](#)
- [Program Event Lifecycle - DERMS Event Stage Status Mirrored](#)
- [Program Event REST Service](#)

### Completion Event Type - Record Install/Remove Controllable Device

Completion event types define the completion events that capture closeout information received from an external application. The Update Controllable Asset completion event type records the installation and/or removal of Work and Asset controllable devices initiated by Oracle Utilities Digital Asset Management. It captures information as Oracle Utilities Digital Asset Management sends the install or removal activities to an external system, updates the device collection of the device location in Meter Solution after receiving the completion information from the external system, and updates the assets in Oracle Utilities Work and Asset Management.

This allows a single completion message from the external application (such as Oracle Field Service) to install or remove devices in Oracle Utilities Meter Solution and assets in Oracle Utilities Work and Asset Management.

**Note:** System administrators should grant access to the Update Controllable Asset Completion Event BO application service to any user that processes the completion event.

### Controllable Devices - Work Activity Requests and Work Completion

You can leverage the Oracle Integration Cloud flow to send work activity requests from Oracle Utilities Digital Asset Management to Oracle Field Service and enabling field crews to receive relevant work details like locations and assets, complete the required work, and capture work details.

Oracle Utilities Digital Asset Management creates the work orders and its associated work activities as part of the device setup step for the enrollment or unenrollment of controllable devices. The work activities contain key information such as work type, work window, duration, required crew, and so on.

The Oracle Utilities Digital Asset Cloud Service-Oracle Field Service integration enables you to send work activities to Oracle Field Service, manage the completion of field activities, and send the completion details to Oracle Utilities Digital Asset Cloud Service for processing.

This allows field crews to receive work-related details like locations or assets, complete the required work on time, and send work completion details.

See the *Oracle Utilities Digital Asset Cloud Service-Oracle Field Service Configuration Guide* for more information.

## Program Event Lifecycle - DERMS Event Stage Status Mirrored

The Program Event lifecycle within Oracle Utilities Digital Asset Management now mirrors the relevant statuses of event stages within Oracle Utilities Grid Edge Distributed Energy Resources Management System, allowing you to map Oracle Utilities Grid Edge Distributed Energy Resources Management System event stages to Oracle Utilities Digital Asset Management program events.

The Program Event REST service creates the program event and captures the status transition operations but the following status are specifically considered by the Program Event REST service:

- **Scheduled** - Indicates a scheduled event stage in Oracle Utilities Grid Edge Distributed Energy Resources Management System and invokes the REST operation to create the Oracle Utilities Grid Edge Distributed Energy Resources Management System event stage as a Oracle Utilities Digital Asset Management program event.
- **Cancelled** - Indicates a cancelled scheduled event in Oracle Utilities Grid Edge Distributed Energy Resources Management System and invokes the REST operation to transition from the Scheduled status to the Cancelled status.
- **In Progress** - Indicates a scheduled event reaching the configured start time in Oracle Utilities Grid Edge Distributed Energy Resources Management System and invokes the REST operation to transition from the Scheduled status to the In Progress status.
- **Completed** - Indicates an in-progress scheduled event reaching the configured end time in Oracle Utilities Grid Edge Distributed Energy Resources Management System and invokes the REST operation to transition from the In Progress status to the Completed status.

This captures DERMS event stage statuses relevant to Oracle Utilities Digital Asset Cloud Service at a program level.

Refer to **Program Enrollments** and **Program Events** in the **Digital Asset Cloud Service / Digital Asset Management Inbound Web Services** section of the *Administrative User Guide* for more information.

### Tips and Considerations

- As the Program Event REST service now creates the program events, the following have been removed:
  - Auto-creation of program event within Device Reservation
  - Pre-Event Cancellation operation
  - Algorithm plugged-in to the Event Participation business object's complete status
- The existing pre-event Device Reservation flow continues to notify Oracle Utilities Digital Asset Management about devices reserved for an event and called after Oracle Utilities Digital Asset Management creates the program event.
- The device-level Event Outcome flow continues to update the actual participation outcome in Oracle Utilities Digital Asset Management.

## Program Event REST Service

Oracle Utilities Digital Asset Management provides a new Program Event REST service to capture the creation of Oracle Utilities Grid Edge Distributed Energy Resources Management System event stages and state transitions. In Oracle Utilities Grid Edge Distributed Energy Resources Management System an event can be created over multiple stages separated by time durations. While the overall event may span across different programs, each stage will be linked to a Oracle Utilities Digital Asset Management program. In addition, the Oracle Utilities Digital Asset Management Program Event business object lifecycle now mirrors the relevant Oracle Utilities Grid Edge Distributed Energy Resources Management System event stage states, enabling the mapping of an event stage to a program event.

An event stage transitioning to the "Scheduled" status as part of an Oracle Utilities Grid Edge Distributed Energy Resources Management System event sends an outbound message with the following attributes to the Oracle Integration Cloud flow:

- Stage ID
- Event ID
- Event Type
- Stage Start Date and Time
- Stage End Date and Time
- Program ID

The Oracle Integration Cloud flow calls the Program Event REST service to create the program event in Oracle Utilities Digital Asset Management. When the event stage within Oracle Utilities Grid Edge Distributed Energy Resources Management System transitions to the next status, an outbound message with the following attributes is sent to the Oracle Integration Cloud flow:

- DERMS Stage ID
- Transition Action (Cancelled, In Progress, or Completed)
- Cancel Reason (Optional)

This enables you to send relevant event statuses from Oracle Utilities Grid Edge DERMS to Oracle Utilities Digital Asset Management, monitor the event progress, and trigger customer notifications at a program level.

Refer to the *Oracle Utilities Digital Asset Cloud Service Integration to Grid Edge Distributed Energy Resources Management System Configuration Guide* for more information.

### Tips and Considerations

- The initial release of Oracle Utilities Digital Asset Management and Oracle Network Management System to Oracle Utilities Grid Edge Distributed Energy Resources Management Systems focuses on supporting enrollments for customer-owned demand-response devices like smart thermostats. Similarly, the Oracle Integration Cloud flows were developed to support the Edge application functionality.
- The pre-event Device Reservation flow is still in use for notifying Oracle Utilities Digital Asset Management of the list of reserved devices for an event. The pre-event Device Reservation flow is typically called after the creation of the program event in Oracle Utilities Digital Asset Management.

- The event status transition update to "Cancelled" replaces the pre-event Cancellation flow and handles the Program Event Status cancellation.
- The device-level Event Outcome flow is still in use for updating the actual participation outcome to Oracle Utilities Digital Asset Management.

## Known Issues in This Release

There are no known issues in this release.

# Oracle Utilities Application Framework V4.5.0.1.2 Release Notes

This section describes enhancements, system data details and deprecation notices in Oracle Utilities Application Framework v4.5.0.1.2 including:

- [Product Usability](#)
- [To Do Management and Processing Enhancements](#)
- [Batch Processing Enhancements](#)
- [Implementation Tool Enhancements](#)
- [Integration Enhancements](#)
- [Content Migration Assistant \(CMA\)](#)
- [Miscellaneous Enhancements](#)
- [Oracle Utilities Application Framework Deprecation Notices](#)

**Note:** The **Steps To Enable**, **Tips and Considerations**, **Key Resources**, and **Role Information** sections provide guidelines for enabling each feature, where applicable.

## Product Usability

This section describes the new and enhanced product usability features in this release, including:

- [Additional Inbound Web Service Query Options](#)
- [Batch Job Submission Query Portal](#)
- [Enter Menu Name in Search Without Slash](#)
- [Improvements to Batch Analytics Snapshot Update Processes](#)
- [New Batch Analytics Views](#)
- [Zone SQL and UI Map HTML Editor Improvements](#)

### Additional Inbound Web Service Query Options

You can search for REST Inbound Web Services by operation information and help text details.

In addition, the Open API spec may also be launched from the **Inbound Web Service Operation** portal for your convenience.

This provides more flexible search options. There is no impact to existing extensions with this enhancement.

#### Steps To Enable

No steps are required to enable this feature.

### Batch Job Submission Query Portal

The **Batch Job Submission** search page has been converted to a portal to provide you with a more flexible user experience. The portal includes additional filters to allow more



granularity in the search. The search also supports pagination, providing the ability to navigate between sets of search results.

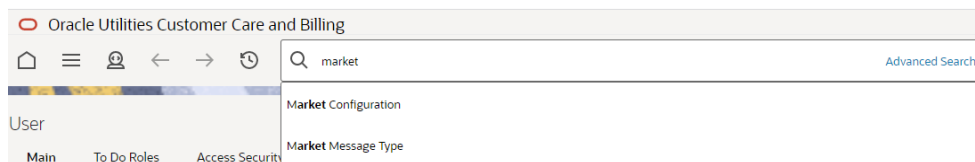
This provides you with more search criteria and additional information in the search results. There is no impact to existing extensions with this enhancement.

**Steps To Enable**

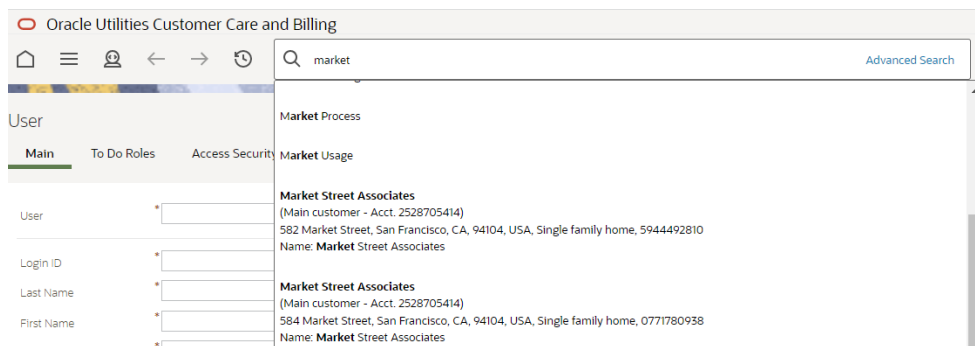
No steps are required to enable this feature.

**Enter Menu Name in Search Without Slash**

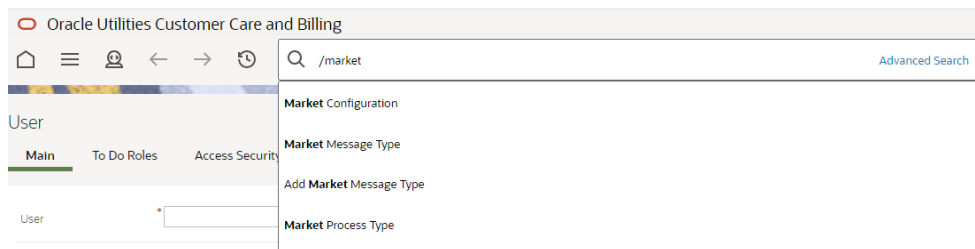
The search widget no longer requires a preceding slash to search for a menu item.



If the keyword for the menu name matches keywords in the unified search results, you will see results mixed in. In this example, the word "market" includes results with "market" in the menu name and "market" in a customer's name or address.



When you enter a slash before the menu item text, it is a signal to the search to only search for the text in menu entries.



When using the Search widget, no longer requiring the slash improves usability and consistency.

**Steps To Enable**

No steps are required to enable this feature.

## Improvements to Batch Analytics Snapshot Update Processes

Based on volume testing, the queries used to select records for the batch run and batch thread analytics snapshot tables have been optimized. Additional indexes have been added to the tables to support the amended queries. The batch processes now also support selecting records within a range of days, instead of months, to provide more flexibility in the initial population of the snapshot tables.

The processes used to populate the batch analytics table have been amended to improve performance.

### Steps To Enable

No steps are required to enable this feature.

## New Batch Analytics Views

The batch analytics views no longer derive data directly from the various batch run related tables. Instead, the views now reference the snapshot tables, which have been designed to simplify the view SQL and to take advantage of specific indices that are not available in the source data.

### Steps To Enable

No steps are required to enable this feature.

## Zone SQL and UI Map HTML Editor Improvements

The CodeMirror library is now used to apply syntax highlighting logic to the SQL editor in data explorer Zones. Line sequence numbers were also added.

### SQL

SQL Statement 1 

```

1 SELECT
2   A.BNDL_ID,
3   A.SEQNO,
4   A.LOG_DTTM,
5   A.LOG_ENTRY_TYPE_FLG,
6   A.USER_ID,
7   B.FIRST_NAME,
8   B.LAST_NAME
9 FROM F1_BNDL_LOG A,
10      SC_USER B
11 WHERE A.BNDL_ID = :H1
12 AND A.USER_ID = B.USER_ID

```

The same improvements are visible in the HTML Editor for a UI map.



```

1 <html lang="en-US" dir="ltr">
2 <head>
3 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
4 <title oraMLabel="F1_VIEW_TODO_ENTRY"></title>
5 <link href="cisDisabled.css" type="text/css" rel="stylesheet">
6 <link href="cisEnabled.css" type="text/css" rel="stylesheet">
7 </head>
8 <body class="oraZoneMap" onload="oraInitializeUserMap();" style="width:800px; height:600px;">
9 <div class="oraSectionFull">
10 <h1 oraMLabel="F1_COLLAPSE_SECTION" aria-level="3" role="heading">
11 
13 <label oraMLabel="F1_TODO_ENTRY_DTLS"></label>
14 </h1>
15 <div>
16 <label for="todoId" oraLabel="todoId"></label>
17 <span id="todoId" oraField="todoId"></span>

```

When viewing or editing the SQL definition in zone maintenance and when viewing or editing the HTML for a UI map, readability is improved with syntax highlighting.

### Steps To Enable

No steps are required to enable this feature.

## To Do Management and Processing Enhancements

This section describes the new and enhanced To Do features in this release, including:

- [To Do Entry Lifecycle Improvements](#)
- [To Do Entry Supports Both Creation Process and Routing Process](#)

### To Do Entry Lifecycle Improvements

Several improvements were made to the To Do Entry lifecycle to more accurately reflect the status of a To Do Entry:

- The status **Being Worked On** was renamed to **Assigned** to reflect what actually happens in that status. Previously, you could have one or more To Do Entries in the **Being Worked On** state, but it did not mean that work was being performed yet. Now this status reflects only that the work has been assigned to someone.
- A new status value of **In Progress** was added. This allows you to explicitly mark which To Do Entry you are actually working on. You can only have one To Do Entry in the **In Progress** state at a time.
- A new status value of **On Hold** was added. This allows you to pause the progress of a To Do Entry if you need to wait for some event to occur before continuing to work on a To Do. Putting a To Do in the **On Hold** status allows for a more accurate accounting of how long it takes to work on a To Do Entry.

The two new status values of **In Progress** and **On Hold** are captured in a new Substatus field (TD\_SUB\_STATUS\_FLG) on the To Do Entry. This new field can only be populated if the To Do Entry is in the **Assigned** status (the status formerly known as **Being Worked On**). This was done so that any implementation with the existing status field (ENTRY\_STATUS\_FLG) will continue to work as before.

An implementation needs to opt into using the substatus functionality by giving users that work on To Do Entries access to the new access modes. See the release readiness detail below for directions. Once an implementation has opted into the functionality, you will see these additional capabilities related to To Do Entries:

- When you perform any action that previously automatically assigned a To Do to you, it now also moves the To Do entry to **In Progress**. This happens if you click the **Work** action on To Do Entry, To Do Management, or on the **To Do Details** tab of the To Do Dashboard. Additionally, if you use To Do List and click the hyperlink in the **Message** column, this functionality applies.
- When you log into the system and have a To Do Entry that is **In Progress**, it is shown in the **Current To Do** dashboard zone.
- If you have an **In Progress** To Do and perform an action that causes a different To Do Entry to become In Progress, the previous To Do Entry is moved to the **On Hold** status.
- When you view an **Open** To Do Entry on the **To Do Entry Maintenance** page or **Current To Do** zone and you are allowed to work on the To Do, you see a button for **Start Progress**. This allows you to assign it to yourself and start work on in.
- When you view an **Assigned** To Do Entry on the **To Do Entry Maintenance** page or in the **Current To Do** zone, you also see a button for **Start Progress**.
- When you view an **In Progress** To Do Entry on the **To Do Entry Maintenance** page, you see buttons for **Hold Progress** and **Stop Work**. If you click **Stop Work**, it resets the **In Progress** state and the To Do will just be **Assigned**. These buttons are also available in the **Current To Do** zone. You can also perform any action that you can do in the **Assigned** state, including reopen, unassign, forward, and **Complete** the To Do.
- When you view an **On Hold** To Do Entry on the **To Do Entry Maintenance** page, you see buttons for **Start Progress** and **Stop Work**. You can also perform any action that you can do in the Assigned state, including reopen, unassign, forward, and **Complete** the To Do.

The To Do log has been enhanced to capture the status of the To Do Entry at the time the log is created as follows:

- A new log type **Status Updated** has been added and is used for any changes related to the new states of **In Progress** and **On Hold**. The existing log types of **Assigned**, **Forwarded** and **Sent Back** will continue to be used for those states for backward compatibility purposes.
- Going forward, log entries created will capture the status of the To Do at the time the log was created. Existing log values that predate the upgrade are not updated.
- A single status field is used and be populated with the substatus value of **In Progress** or **On Hold**, if applicable. Otherwise, it is populated with the status value of **Open**, **Assigned**, or **Completed**.

All the places where a To Do status is shown for an existing record, the system will show the substatus of **In Progress** or **On Hold**, if populated, otherwise it will show the **Status** (Open, Assigned or Complete).

The **To Do Dashboard > To Dos by Status** graph has been enhanced to also break out counts by substatus.

#### Steps To Enable

Provide the required access before using this feature.

**Tips and Considerations**

Regardless of whether an implementation has opted into the functionality, you will see that the additional status values are now available in the filter criteria for Status on the **To Do Management** and **To Do Dashboard > Details** pages. The filters for other pages, including **To Do Search**, **To Do List**, and **Supervisor To Do Assignment** have not changed to include the substatus values in the filter criteria. In addition, any page that shows a bar with counts of Assigned or Open To Do Entries have not changed to include counts by the substatus values.

**Key Resources**

See the [Improved To Do States](#) training.

**Access Requirements**

System administrators should set/grant users/grant access to the access modes HDPR (Hold Progress), SPWK (Stop Work) and STPR (Start Progress) for the CILQTDEP application service. If you choose to use this functionality, the recommendation is that this security is granted to all users that use To Do Entry (or none).

**To Do Entry Supports Both Creation Process and Routing Process**

If a To Do Type is configured with a creation process and a routing process, a To Do Entry based on that type now supports both processes. The creation process is stamped for audit purposes and the routing process is stamped so that the To Do Entry is processed the next time the routing process is run. Previously, although the To Do Type supported configuration for both types of processes, the To Do Entry table could only support a relationship to the creation batch process. The routing process functionality was not possible. To Do Entries created by a batch process may also be marked to be routed to an external system, increasing usability.

**Steps To Enable**

No steps are required to enable this feature.

**Batch Processing Enhancements**

This section describes the new and enhanced batch processing features in this release, including:

- [File Integration Type Writing Multiple Files and Flexibility in File Names](#)
- [Log Files for Batch Threads Renamed](#)
- [Support for Database Resource Management for Batch Processes](#)

**File Integration Type Writing Multiple Files and Flexibility in File Names**

Previously, the plugin-driven extract process was enhanced to allow for the Process Records algorithm to return one or more file names to write the data to. In this release, the capability is extended to File Integration Types. The Extract Process algorithm plugin spot on the file integration record now also supports returning a file name, allowing for records to be written to a file that differs based on business data, such as CIS Division or service provider. The plug-in spot supports indicating a file name for each schema instance if the use case requires some components of a work unit's information to be written to a separate file.

The ability to indicate that one or more open files should be closed is also supported by the Extract Process plug-in spot. This ensures that batch processes do not cause more than 10 files to be open at a given time for a given thread, which saves on memory allocation.

#### Steps To Enable

No steps are required to enable this feature.

### Log Files for Batch Threads Renamed

The batch log files generated for batch threads, which you can download while viewing the results of a batch run on the batch run tree, are produced using the following format:

- (Batch control).(run number).(re-run number).THD(n).(datetime).stdout | stderr

The values of the batch control, run number, re-run number, n for thread number, and datetime are substituted at runtime. The new format aligns with the format for the logs generated at the batch run level ((Batch control).(run number).(re-run number).(datetime).stdout | stderr).

Previously, the format of these file names was the following:

- (Batch control).(datetime).(pid).THD(n).stdout | stderr

#### Steps To Enable

No steps are required to enable this feature.

### Support for Database Resource Management for Batch Processes

DB Resource Manager tools may be used to prioritize resource allocation between various groups of batch processes. For example, processes like GDE, CMA, ILM etc., may be associated with a lower resource allocation priority relative to more critical batch processes. To support this capability, certain batch controls can be explicitly associated with a **Resource Group** of three pre-defined priority levels: 10 - High, 20 - Medium, 30 - Low. This definition is made using a new Batch Resource Configuration extendable lookup. The base product does not release values in this extendable lookup, allowing you to set up your own priority references.

When configured, the resource group of a batch control is added as part of the **MODULE** database session variable as follows: <batch control>, **R=<resource group>** and can be used as a correlation to a consumer group mapping in Oracle Resource Manager.

With this configuration enabled, DBAs can set up rules that parse the MODULE variable to identify the resource group for a batch process and apply prioritization rules accordingly. Since not all batch controls would be associated with a resource groups, default allocation rules should be considered.

**Note:** This enhancement does not include nor enforce the DB resource management configuration. It only allows for such tool to be leveraged by DBAs as needed. Refer to the Oracle Database Resource Manager documentation.

In addition, the batch control query portal is enhanced to filter by and display resource group information.

**Steps To Enable**

To enable this feature, complete these steps:

1. DBA configures DB Resource Manager allocation priority rules by resource group, including a default rule for batch controls not associated with a resource group.
2. Enable this functionality using the new Expose Batch Resource Group option in the General System Configuration feature configuration type.
3. Flush all caches.

## Implementation Tool Enhancements

This section describes the new and enhanced implementation tools in this release, including:

- [Business Object Portal](#)

**Business Object Portal**

The **Business Object** page has been converted to a portal, leveraging a more flexible and extendable user interface metaphor. The portal organizes information in a way that makes it easier to review and understand the configuration that controls business object related functionality.

In addition, the following implementation tasks were simplified by updates in this release:

- When adding a new business object, the schema is automatically generated, along with key UI configuration scripts as needed.
- If the new business object is a subclass of an existing business object, the schema is generated accordingly.
- Introducing a new business object algorithm: This action was available as a context sensitive zone and is now incorporated into the appropriate sections of the portal.
- Deactivating and activating a base product algorithm: This is now a simple action on the algorithms sections of the portal.
- Filtering for algorithms by system event.
- Filtering for options by option type.

**Steps To Enable**

No steps are required to enable this feature.

## Integration Enhancements

This section describes the new and enhanced integration tools in this release, including:

- [Support for Application Variables in Outbound Message Payload](#)

**Support for Application Variables in Outbound Message Payload**

Some products require that "Application ID" and "Tenant ID" values are included with certain API calls, typically as a way to identify the calling application for reporting

purposes. These values are provided to the utility at onboarding time and need to be captured in the application in relation to these API configurations.

As of this release, the Message Sender context information was enhanced to also capture the following application details:

- Application ID
- Tenant ID

The new details are not involved in the process of orchestrating and routing the call. They need to be incorporated into the payload by the application logic that composes the message using the new "Get Application Variables (F1MsgVars)" service script.

#### Steps To Enable

No steps are required to enable this feature.

## Content Migration Assistant (CMA)

This section describes the new and enhanced CMA features in this release, including:

- [Content Migration Assistant Export by Entity Tag](#)
- [Improved Support for Large Numbers of SQLs in Migration Object](#)
- [Improved Base Product Content Migration Assistant Requests](#)

### Content Migration Assistant Export by Entity Tag

You can now use entity tags to identify entities to export using Content Migration Assistant (CMA). The criteria based migration request functionality is enhanced to support a tag based export instruction as a way of exporting all entities associated with an entity tag.

This allows developers to collate their extensions in a similar way to bundling, but it harnesses the power of the Content Migration Assistant engine.

#### Steps To Enable

No steps are required to enable this feature.

### Improved Support for Large Numbers of SQLs in Migration Object

When importing an object into an environment using Content Migration Assistant (CMA), the product supports selecting one or more SQLs associated with the object and suppressing them. At the apply stage, these SQLs are not included. This is useful when your object has one or more child rows that you prefer not to include in the target environment. In this release, the steps for selecting and marking records to suppress or unsuppress have been enhanced to support objects that have a large number of child records, and therefore a large number of SQLs. Now, instead of clicking **Edit** in the **Migration Object** main display zone, the **List of SQL Statements** zone now has **Suppress** and **Unsuppress** actions. You can use the filters on this zone to narrow down the results, select the appropriate records, and click the desired action.

Additional changes were made to the **List of SQL Statements** zone to better support a large number of records:

- The zone is now configured for Pagination, showing 500 records for a page.



- Additional filter values have been added. You can now do a likable search on the SQL statement text. In addition, you can limit to the results to excluded suppressed rows or to only show the suppressed rows.

#### Steps To Enable

No steps are required to enable this feature.

### Improved Base Product Content Migration Assistant Requests

Previously, some base product migration requests were inefficiently exporting all records of an entity, including many base owned records where the maintenance object did not include fields that could possibly contain customized content. Exporting so many of these entities placed a performance burden on the import step to load, compare, and eventually not apply them.

The following migration requests were enhanced to be more efficient and only export custom-owned entities for maintenance objects that do not contain custom fields:

- F1-SystemConfig
- F1-SecurityConfig
- F1-SecurityConfigWithoutUsers
- F1-Tags
- F1-MigrationAdmin
- F1-IntegrationConfig

#### Steps To Enable

No steps are required to enable this feature.

## Web Services Enhancements

This section describes the new and enhanced web services features in this release, including:

- [Define Default Template User for User Provisioning](#)
- [Improved Handling of Null Values in REST APIs](#)
- [Improved Message Sender Context Customization](#)
- [Support Language in REST Request](#)
- [User Provisioning Using the SCIM Open Standard](#)

### Define Default Template User for User Provisioning

The F1-OIMUSR (Populate User Data from a "Template" User) algorithm was enhanced to allow a Template User to be provided as a parameter. The algorithm is used by the User business object F1-IDMUser, which is used to create users from an external source. For example, the LDAP batch process uses this business object to create a user. The algorithm to copy information from a template user allows application configuration, such as user groups, user preferences, To Do roles, and other information not supplied by the external system, to be populated on the new user. Previously, this algorithm relied on the value of the template user to be provided as part of the payload for adding the user, using a characteristic. In this release, the algorithm first checks for a template user

provided as a characteristic. If it is not found, it uses the template user provided as a parameter to the algorithm, if populated.

#### Steps To Enable

To enable this feature, complete these steps:

1. Go to **Admin > Security > User** in add mode and define the template user whose application configuration should be copied onto any new user.
2. Go to **Admin > System > Algorithm**.
3. Search for and select the algorithm F1-OIMUSR.
4. Click **Edit**, and then click the **+** in the Algorithm Parameter collection.
5. Enter an appropriate effective date and the Template User created above.

### Improved Handling of Null Values in REST APIs

Date and time elements in requests and response messages require special handling when they contain no value. Unlike a string value, no value for date, time, and date/time elements has to be represented as null and not an empty string. In the same way, a numeric or Boolean element with "no value" should be represented as a null, not an empty string. Previously, the application did not properly accept null values for date and time elements in a JSON request. The application incorrectly represented such values in a JSON response as empty strings. The application correctly handled null values for numeric and Boolean elements except for a few outlier situations that were also fixed as part of this enhancement.

In this release, the Inbound Web Service REST engine v2 is enhanced to properly accept and process null values for elements of all data types.

The following clarifies some differences around request and response processing:

- As part of a request document, any element of any data type can be sent in with a null value, whether via the nil attribute in XML or the null value in JSON.
- As part of a JSON response document, empty node elements would be removed from the response or assigned either a null or empty string based on their data type:
  - A string element would always be assigned "" an empty string. This include all types of string data types like lookup, etc. This already works this way, no change in this release.
  - A date, date/time, time element would have a null value.
  - A number, money element is consistently removed from the response. Previously, this was not the same for some outlying scenarios.
  - A Boolean element is consistently removed from the response. Previously, this was not the same for some outlying scenarios.

#### Steps To Enable

No steps are required to enable this feature.

### Improved Message Sender Context Customization

For most integrations supported by the base product, the end point URL and other details may only be provided by the utility at provisioning time. Previously, the entire

message sender definition for such integration point had to be defined by the utility along with the configuration of the external system record that references the message sender.

As of this release, partially defined message senders may be released with the base product, allowing utilities to complete the definition with the necessary context information. This also allows the base product to include a more comprehensive configuration that includes the external system record that references the message sender.

#### **Steps To Enable**

No steps are required to enable this feature.

### **Support Language in REST Request**

The REST engine considers the information populated in the Accept-Language header attribute. If a single value is provided, the system checks if the application has that language as a supported language in the application. If so, it returns translatable text in that language. The system looks for an entry in the Language table where the Locale field matches the value passed in Accept-Language.

If multiple entries are provided in the Accept-Language, the system uses HTTP content negotiation to select one of the provided values. If no supported language is found for the Accept-Language content, the system returns information in the language of the system user used to make the REST call.

#### **Steps To Enable**

No steps are required to enable this feature.

### **User Provisioning Using the SCIM Open Standard**

A new REST service, SCIM User Provisioning (F1-SCIMUser), is provided to support adding, changing, or viewing the details of a user where the API follows the SCIM standard.

The following highlights some of the mapping between the SCIM API and the application's user record:

- The user record in the application supports only first name and last name. The SCIM standard supports additional detail such as middle name, suffix, and prefix. These elements are ignored when adding or updating a user.
- The SCIM standard supports a collection of email addresses. The application only supports one email address. As such, only the first email address is used when adding or updating a user.
- A user in the application requires several application specific settings in order to be added properly. When adding a user record via the Create User operation in this new REST service, the integration supports supplying a Template User reference (in the user type element in the API). The system copies application settings from that user to the new user being provisioned.

#### **Steps To Enable**

Provide the required access before using the feature.

#### **Tips and Considerations**

The inbound REST web service provided is F1-SCIMUser. Refer to its description along with the help text on the various elements for more information on using the REST service.

You need to define a template user in order to successfully add a User record via this REST service. The template user can be provided in the `userType` element. Alternatively, you can define the Template User as a parameter to the algorithm F1-OIMUSR (Populate User Data from a "Template" User). Refer to the separate feature "Define Default Template User for User Provisioning" for more information.

**Access Requirements**

System administrators should set/grant users/grant access to the Execute access mode on the CILTUSEP application service for the web service user that calls the new REST web service.

## Miscellaneous Enhancements

This section describes the new and enhanced miscellaneous features in this release, including:

- [Adjusted Locale for English Language](#)

**Adjusted Locale for English Language**

As more integrations use the Locale as the standard method to determine a language, the product is adjusting the value defined for the default language row (ENG - English) to use the generic locale "en", instead of the more specific "en-US".

The default record's configuration is now aligned with the typical browser configuration for English.

**Steps To Enable**

No steps are required to enable this feature.

## Oracle Utilities Application Framework Deprecation Notices

This section provides information on functionality that has been removed, is no longer supported by Oracle Utilities Application Framework v4.5.0.1.2, or is planned for removal.

- [Deprecated Items](#)
- [Items Planned for Future Deprecation](#)

**Deprecated Items**

There are no deprecated functionality or system data for Oracle Utilities Application Framework v4.5.0.1.2.

**Items Planned for Future Deprecation**

This is a list of functionality / system data that Oracle plans to deprecate in a future release.

**Support for Previous User Experience**

In the current release, the product provides an option to Switch UI View. This changes the current user experience for the user for that session. Assuming the user is in the latest

user experience (referred to as Redwood), this action switches the user experience to the previous look-and-feel.

In the future, the product plans to remove support for the ability to switch that design that preceded Redwood.

### **Workflow and Notification Metadata and Database Tables**

Workflow and notification functionality was an early way to support exchanging messages with an external system (notification) and providing a configurable process for acting on incoming messages (workflow). In more recent years, the functionality for managing external messages is supported using Outbound Message and Inbound Web Service functionality. In addition, there are several features to support processing incoming messages. Service scripts can handle simple use cases. For more complicated processes, the service task or other business object driven objects are available.

The metadata and database tables related to this feature will be removed in a future release. Note that only a portion of the functionality for this feature is managed by Oracle Utilities Application Framework. Most of the functionality is supported in the Oracle Utilities Customer Care and Billing product.

### **Mobile Application Framework Metadata**

Removal of support for the Mobile Application Framework has already been announced in a previous release. However, there is metadata still included in the application related to this functionality.

The metadata will be removed in a future release.

### **Key Ring Validation Scripts, Algorithm Types, and Algorithms**

The product is removing all scripts, algorithm types, and algorithms that performed validation rules on the K1-SignatureKeyRing business object. The algorithms have been removed from the BO configuration. There are requirements to expand the use of a signature key ring beyond the current implementation for object file storage and the existing validations are not applicable to other planned use cases.

The following items will be removed in a future release.

- Algorithm
  - K1-KRDCKFS
  - K1-KRINCKFS
- Algorithm Type
  - KRDCKFS
  - K1-KRINCKFS
- Message
  - 11009 / 1402
- Plugin Script
  - K1-KRDCKFS
  - K1-KRINCKFS
- Service Script
  - K1-ChkCfgExL

## UI Metadata Related to Converted Pages

The UI metadata related to fixed pages that have been converted to portals will be removed in a future release. The navigation keys listed are related to each maintenance page. The related UI program component data will also be removed. Note that the metadata related to the search pages will not be removed at this time in case they are used on other fixed pages.

- To Do Entry Maintenance
  - toDoEntryCharGrid
  - toDoEntryDrillKeyValuesListGrd
  - toDoEntrySortKeyValuesListGrid
  - todoentrykeyvalue
  - todoentrymain
  - toDoEntryMaint
  - toDoEntryPopupAdd
  - toDoEntryPopupForward
  - toDoEntryPopupSendBack
  - Any help navigation keys
- Table Maintenance
  - metaDataTableFieldsGrid
  - metaDataTableMainPage
  - metaDataTableCFldsGrid
  - metaDataTableConstPage
  - metaDataTableMaint
  - metaDataTableRefByConstPage
  - metaDataTableFieldPage
  - Any help navigation keys
- Work Calendar Maintenance
  - workCalendarMaint
  - workCalendarMainPage
  - workCalendarHolidayGrid
  - Any help navigation keys
- Message Maintenance
  - msgMaintDetailsPage
  - msgMaintGrid
  - msgMaintPage
  - msgMaintTabMenu
  - Any help navigation keys
- Time Zone Maintenance
  - timeZoneMainPage

- timeZoneTabMenu
- Any help navigation keys
- Application Security Portal
  - f1appsecTabMenu
- Display Icon Portal
  - displayIconRefMaint

### Miscellaneous System Data

The following metadata is no longer in use and will be removed in a future release:

Object	Data	Description/Comments
Lookup Value	CHAR_ENTITY_FLG / F1SE	Characteristic Entity / Sync Request Inbound Exception
Script	F1-TDMgActSS	To Do Management - Process Actions (Deprecated) / Replaced by F1TDMgActSS
Script	F1AddDebugLg	Add Log for Monitoring Probe (Deprecated) / Replaced by a BS - F1-MONPRBLOG
Script	F1MgOImpMnt	Not in use by base functionality
Script	F1MgoSqlPks	Not in use by base functionality
Script	F1MgOImpPst	Not in use by base functionality
UI Map	F1-MigrObjectImportMaintenance	Not in use by base functionality
Zone	F1-BOMOSRCH	Not in use by base functionality
Zone	F1-CATCHSCH	Not in use by base functionality
Zone	F1-MONAVKEY	Not in use by base functionality
zone	F1-REVCONQRY	Not in use by base functionality

### XSLT Managed Content Type

Entries in the Managed Content table related to XSL should be using the XSLTC managed content type and not the XSLT managed content type. In a future release, the XSLT managed content type will no longer be supported.

**REST IWS - Original REST Servlet**

The original URL supplied for invoking IWS based REST services included the IWS Service name in its makeup. Support for this will continue for backward compatibility purposes, but it will be deprecated in a future release. You should adjust your existing integrations to use the currently supported URL.

**Append Setting from Pagination**

There are several known issues with the functionality of the "append" option in pagination. It is recommended that you do not use this pagination setting.

**Support for Master/Subordinate Servers for Web Service Catalog**

The Service Catalog Configuration (master configuration) enables you to define subordinate servers. Defining subordinate servers is no longer applicable for the Oracle Integration Cloud.

**Batch Run Statistics Portal Functionality**

The **Batch Run Statistics** portal provides additional information about batch runs, but some functionality on the portal is related to capturing additional information from an external tool. This information is stored in a Fact record. Support for capturing additional information from an external tool will be discontinued in a future release.

**F1-MAINPROC Business Object Read When Pre-processing Exists**

In the original implementation of configuration tools, the main framework maintenance BPA (F1-MainProc) did not perform a Read of the BO when a pre-processing script was linked to the BO via options. The pre-processing script was responsible for the Read.

In a subsequent release, a BO Read was added in F1-MainProc (even if a pre-processing script existed) to resolve a UI Hint issue related to child business objects. This solution introduced a problem only visible for specific scenarios and a different fix has been introduced. The new fix made the BO Read unnecessary in F1-MainProc. Because there are many pre-processing scripts that are properly performing the Read of the BO, ideally the BO Read should be removed from F1-MainProc so that multiple reads are not performed. However, there may have been pre-processing scripts introduced after the BO Read was included in F1-MainProc that were coded to not perform a BO read in the pre-processing script. Due to this situation, the BO Read is still performed as part of the processing of F1-MainProc.

When a pre-processing script exists, we plan to remove the BO Read from F1-MainProc logic. You should review your custom pre-processing scripts that are linked to your BO options to ensure that they properly perform a Read of your BO.