Oracle Utilities Work and Asset Management

Release Notes

Release 25.4

G26731-02

April 2025
(Revised June 2025)

Oracle Utilities Work and Asset Management 25.4 Release Notes

Contents

Preface

This document provides an overview of the enhancements, known issues, and other changes in Oracle Utilities Work and Asset Management v25.4. The intended audience is anyone installing or using Oracle Utilities Work and Asset Management v25.4.

Related Documents

For more information on this release, refer to the following documents:

Installation Guides

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

User Guides

- Oracle Utilities Work and Asset Management User Guides
- Oracle Utilities Operational Device Management User Guides

Supplemental Documents

- Server Administration Guide
- Security Guide

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.

Convention	Meaning
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 on the screen, or text that you enter.

Chapter 1

Oracle Utilities Work and Asset Management Release Notes

Welcome to the Oracle Utilities Work and Asset Management Release Notes.

Release Notes provides general information about this Oracle Utilities Work and Asset Management release, including new functionality/enhancements, known issues, and other important information.

Refer to the *Quick Install Guide* and *Installation Guide* for information regarding supported platforms and installation steps.

Visit My Oracle Support (http://support.oracle.com) for the most recent service packs and patches for this release to ensure you have the most current version of the product.

This guide provides general information about Oracle Utilities Work and Asset Management V25.4, including:

- About This Release
- Relationship Between v25.4 and Prior Versions
- Database Changes
- Demo Data Information
- Oracle Utilities Work and Asset Management Enhancements
- Oracle Utilities Application Framework v25.4 Release Notes
- Known Issues In This Release

About This Release

This release includes functionality updates for Oracle Utilities Work and Asset Management and Oracle Utilities Operational Device Management:

- Oracle Utilities Work and Asset Management provides functionality to handle large volumes of assets and to manage the receipt, installation, maintenance, tracking and removal of those assets. The system also manages approval processing, tracks purchasing transactions, manages inventory and resources, and tracks costs, accounting and financial transactions.
- Oracle Utilities Operational Device Management provides functionality to handle large volumes of Utilities industry devices and to manage the receipt, installation, maintenance, tracking and removal of those devices.

  Note: Oracle Utilities Operational Device Management is optimized for interoperability with Oracle Utilities Work and Asset Management, however a license for Oracle Utilities Work and Asset Management is required to take advantage of this functionality. Refer to the 25.4 *Licensing Information User Manual* for a description of licensing limitations.

The release includes the following components:

- Oracle Utilities Application Framework v25.4
- Oracle Utilities Work and Asset Management v25.4

Features introduced in this release are highlighted in the Oracle Utilities Work and Asset Management Enhancements section.

- Refer to the *Oracle Utilities Work and Asset Management Quick Install Guide* for a full list of the media pack components and application components included with this release. Also refer to the **Supported Platforms** section in that guide for an updated list of supported platforms.
- Visit My Oracle Support (http://support.oracle.com) for the most recent service packs and patches for this release to ensure you have the most current version of this product.

Relationship Between v25.4 and Prior Versions

For the complete installation procedure, refer to the *Oracle Utilities Work and Asset Management Installation Guide*.

Database Changes

This release includes database enhancements. For more information, refer to the *Oracle Utilities Work and Asset Management Database Administrator's Guide*.

Supported Integrations

The following integrations are supported in this version of Oracle Utilities Work and Asset Management 25.4.

> **Note**: Version numbers listed below are supported as of the v25.4.
>
> 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.

Oracle Utilities Product Integrations to Oracle Applications

- Oracle Utilities Work and Asset Management Connector for Enterprise Resource Planning (ERP)

  The Oracle Utilities Work and Asset Management Connector for Enterprise Resource Planning enables integration of Oracle Utilities Work and Asset Management with a generic set of business processes and data exchanges for implementations with Enterprise Resource Planning systems such as Oracle E-Business Suite, PeopleSoft, JD Edwards EnterpriseOne, Fusion Applications or Enterprise Resource Planning Cloud.

- Oracle Utilities Work and Asset Management Integration to Oracle Field Service

Oracle Utilities Product Integrations

- Oracle Utilities Work and Asset Cloud Service Integration to Oracle Utilities Customer Cloud Service
- Oracle Utilities Work and Asset Management to Oracle Utilities Analytics 2.7.0.x
- Oracle Integration Pack for Oracle Utilities Field Work V12.2
  - Oracle Utilities Mobile Workforce Management V2.3.0.3+

Additional Integrations

- GIS Integration

  The GIS Integration uses ESRI GIS software to allow users to view asset layers on a map, and to create and view work requests and work orders on the map.

- BI Publisher Reports Integration

  BI Publisher Reports allow users to generate and print reports for certain entities, such as operational data, activity reports, purchasing reports, inventory reports and so on. Refer to the Administrative User Guide for more information.

Please refer to the *Oracle Utilities Work and Asset Management Administrative User Guide* or the specific integration guides available on the Oracle Technology Network for more information.

Supported Portals on iOS

The following portals are supported when accessing the WAM application via a browser on Apple iOS devices in this release:

Crew Work-related Portals

- Work Requests
- Service Call
- Work Order
- Work Activity
- Permit
- Timesheet
- Other Direct Charges
- Construction Work Order
- Construction work Activity

Inventory-related Portals:

- Material Request
- Material Return
- Receiving Receipt
- Receiving Return
- Physical Inventory
- Reorder Review
- Reorder Mass Approval
- Stock Item
- Stock Item Detail
- Stock Transfer

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. Demo data is delivered as part of the base installation. Refer to the *Oracle Utilities Work and Asset Management Database Administrator's Guide* for more information, or contact Oracle Support.

Oracle recommends that you do not clone the demonstration environment as a basis for a new production environment. The demonstration environment typically includes transactional data that will be irrelevant to your production environment and can cause unexpected issues if it is not purged correctly. The recommended process is to start a new production environment from a new installation and migrate "clean" system data (such as business objects and algorithms) and administrative data (such as sample activity types or other administrative entities) from the demonstration and/or test or development environments as applicable.

Refer to the *Oracle Utilities Work and Asset Management Administrative User Guide* for more information or contact Oracle Support.

Oracle Utilities Work and Asset Management Enhancements

This section describes new and enhanced features in this release of Oracle Utilities Work and Asset Management.

The release includes:

- User Interface Enhancements
- Asset Management Enhancements
- Batch Processing Enhancements
- Inventory Enhancements
- Purchasing Enhancements
- Resource Management Enhancements
- Work Management Enhancements
- Integration and Web Services
- Implementation Tools

Note: The **Steps To Enable** sections provide guidelines for enabling each feature, where applicable.

User Interface Enhancements

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

- Activity Portal - Create Service Histories Against Only the Activity
- GIS Map Viewer - Asset Characteristic Filter, Clear List Shortcut, and Descriptive Filter Tooltip
- GIS Map Viewer - Enhanced User Experience and Additional Functions
- Control Ability of Employees to Approve Their Own Timesheet

Activity Portal - Create Service Histories Against Only the Activity

The **Service History Types** zone in the **Completion** tab of the **Work Activity** portal lists valid service history types and condition assessment service history types associated to the assessment class for the asset in context or planned service history types for the activity. In this release, this zone allows you to create a service history against only an activity by clicking **Add** prior to broadcasting an asset row. Previously, you needed to broadcast an asset to view the service history types and you could not create a service history unless Asset or Asset Location was populated.

Additionally, the **Asset Service History** zone is renamed to **Asset Service Histories** and the application only displays this zone after you broadcast an asset or asset location. The **Activity Service History** zone is also changed to **Activity Service Histories** and is always displayed regardless of if the activity has an asset or not. Previously, the application always displayed the **Asset Service History** zone and the **Activity Service History** zone was only displayed if the activity did not have an asset.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

If an activity does not have an asset, the existing Default Location From Asset or Activity on Service History (W1-DEFLOCASH) algorithm copies the asset location and work location to the service history. You can deactivate this algorithm by doing the following:

1. Select Admin, System, and Business Object.
2. Find the General Service History (W1-ServiceHistoryWAM) business object.
3. Add the Inactive Algorithm option type and set the following configuration:
    - Option Type: Inactive Algorithm
    - Sequence: 10
    - Option Value: W1-DEFLOCASH
4. Save the changes.
5. Find the Questionnaire Service History (W1-QuestionnaireSvcHist) business object.
6. Add the Inactive Algorithm option type and set the following configuration:
    - Option Type: Inactive Algorithm
    - Sequence: 10
    - Option Value: W1-DEFLOCASH
7. Save the changes.

GIS Map Viewer - Asset Characteristic Filter, Clear List Shortcut, and Descriptive Filter Tooltip

The GIS Map Viewer allows you to view assets and work information based on geospatial mapping. In the **Asset** tab, you can now filter assets based on asset characteristics. In the **Work** tab, the number of entries in the list are displayed together with the number of filters selected. In both these tabs, the filter tooltips show drop-down filter descriptions instead of codes. The GIS Map Viewer also provides a **Clear List** shortcut that quickly removes all selected assets from the list.

Steps to Enable

No steps are required to enable this feature.

GIS Map Viewer - Enhanced User Experience and Additional Functions

The new GIS Map Viewer brings a complete Redwood user experience, the existing Legacy Map Viewer features, and the following additional functions:

- Streamlined User Interface
- Collapsible Panels
- Common Tool Selection
- Delete Option for Saved Asset Filters
- Individually Displayed Item Details
- Export to File Options - Preferred Format and Layout

In this release, the GIS Map Viewer uses the latest ESRI ArcGIS JavaScript API and Oracle JET. Previously, the map viewer was built on the ArcGIS JavaScript version 3 API.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

Access to the new GIS Map Viewer is via the W1GISMAP application service.

The application automatically gives access to the new GIS Map Viewer to users with access to the Legacy GIS Map Viewer.

Saved asset filters are accessible in the enhanced GIS Map Viewer.

The recommended system requirements for the enhanced GIS Map Viewer are as follows:

- WebGL-enabled Browsers
- System Memory
    - Desktop Browsers: 8GB
    - Mobile Devices: 4GB

Control Ability of Employees to Approve Their Own Timesheet

A new parameter **Allow Employees To Approve Own Timesheet** is introduced in the Work Management Master Configuration. If the value is blank or No, employees cannot approve their own Timesheet. If *Yes*, employees can approve their own Timesheet.

This gives you control over whether employees are allowed to approve their own timesheets even though they are approvers on the approval profile.

Steps to Enable

To enable this feature, set the **Allow Employees To Approve Own Timesheet** parameter in the Work Management Master Configuration according to your business rules.

Asset Management Enhancements

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

- Asset Type - Auto-Generated Asset or Badge Number
- Preventive Maintenance - Cycle Now - Access Security
- Asset Status - Auto-Transition from Planned to In Service
- Asset Location Type - Asset Location Attribute Types
- Capital Plant Work - Manual Creation/Update of Fixed Assets
- Engineering Specification Attributes - Configurable by Asset Type
- "In Receipt" Tracked Asset - Bypass "In Store" Status
- Organization and Asset Location Portal - Improved Tree Views
- Asset 360

- Asset Characteristic Search and Asset Attributes - Predefined Characteristic Type
- Asset Location - Detailed Description
- Asset Type - Asset and Engineering Specification Attributes - Sequence Number
- Measurement - Reading Date/Time
- Operational Device Management Asset Portal
- Service History Comments

Asset Type - Auto-Generated Asset or Badge Number

The new **Automated Number** zone in the **Main** tab of the **Asset Type** portal enables you to configure the asset type to automatically generate an asset number and/or badge number for a new asset. For auto-generated numbers, you can assign custom or calendar prefixes and set the length of the numbering sequence. Using a calendar prefix inserts the current year into the auto-generated number and the sequence number resets to zero at the beginning of each calendar year.

These fields facilitate the configuration of an asset type's auto-generated number settings:

- Asset Number
  - Asset Number Generation
  - Asset Number Prefix
  - Asset Number Calendar Prefix
  - Asset Number Sequence Length
- Badge Number
  - Badge Number Generation
  - Badge Number Prefix
  - Badge Number Calendar Prefix
  - Badge Number Sequence Length

Steps to Enable

No steps are required to enable this feature.

Preventive Maintenance - Cycle Now - Access Security

The **Cycle Now** button in the **Maintenance Trigger** zone of the **Maintenance** tab in **Asset** portal enables any user to skip pre-configured rules for asset preventive maintenance and force the running of a preventive maintenance trigger to create a maintenance work order. The "W1-ASSET" application service for Asset MO now provides a "Maintenance Trigger Force Execution" access mode that limits the use of the **Cycle Now** button to user groups assigned with the new access mode.

This grants control to users that are only authorized to force preventive maintenance triggers of cycling assets.

Steps to Enable

No steps are required to enable this feature.

Access Requirements

System administrators should grant "Maintenance Trigger Force Execution" access to the appropriate user group(s) in the "W1-ASSET" application service.

Asset Status - Auto-Transition from Planned to In Service

The Transition Planned Asset to In Service (W1PLANDSTRN) algorithm provides customers with the capability to automatically transition the status of new non-tracked, non-inventory assets to "In Service" from "Planned". Previously, only assets created through the ESRI GIS integration were given the option to automatically transition from the "Planned" to "In Service" status.

The algorithm is available in the Planned In/Out of Service Asset Root business object and its default setting is a "No" transition (meaning assets stay in planned status). You can automatically transition the asset status from "Planned" to "In Service" using the following parameters:

- **Apply to all planned assets**: Set to "*Y*" to transition all planned assets, regardless of the Apply to planned assets created in **Construction Work Activity** and **Apply to planned assets created using the Generic Loader** settings.
- **Apply to planned assets created in Construction Work Activity**: Set to "*Y*" to automatically transition all assets created through the **Construction Work Activity** portal.
- **Apply to planned assets created using the Generic Loader**: Set to "*Y*" to transition all assets created through the Online or Batch Loader.

Steps to Enable

No steps are required to enable this feature.

Asset Location Type - Asset Location Attribute Types

The **Asset Location Attribute Types** field of the **Asset Location Types** portal enables you to store GIS-like attribute information.

As a result, you no longer need to create custom Asset Location business objects to store GIS-like attributes.

Steps to Enable

No steps are required to enable this feature.

Capital Plant Work - Manual Creation/Update of Fixed Assets

The Update Fixed Asset Information (W1UF) access mode enables you to manually create or update a fixed asset without a construction work activity or compatible unit. The Send Fixed Asset Information (W1SF) access mode allows you to send the created or updated fixed asset information to an external system. Previously, the application only supported the creation or update of fixed assets via Construction Work Activity or Received/Accepted Capital Spare Items.

Steps to Enable

System administrators should grant Update Fixed Asset Information (W1UF) and Send Fixed Asset Information (W1SF) access to the appropriate user group(s) in the application services of Asset business objects.

Engineering Specification Attributes - Configurable by Asset Type

You can now configure asset attributes by asset type on Engineering Specifications. Previously, new Engineering Specification business objects were needed and created to configure asset attributes on asset types.

You do not have to create Engineering Specification business objects to capture different asset attributes.

Steps to Enable

No steps are required to enable this feature.

"In Receipt" Tracked Asset - Bypass "In Store" Status

You can move "Rejected" or "In Repair" tracked assets to the "In Receipt" status. This bypasses the "In Store" status. Previously, when "In Receipt" tracked assets encountered failures, the application moved these assets to the "Rejected" or "In Repair" status only and the assets were returned to the vendor.

This reduces implementation costs.

Steps to Enable

No steps are required to enable this feature.

Organization and Asset Location Portal - Improved Tree Views

The tree views of the **Organization** and **Asset Location** portals now display the entire organization and location structures respectively, and the direct parent/child hierarchy. Additionally, both tree views load more efficiently in this release. Previously, the **Organization** and **Asset Location** tree views only displayed direct hierarchy, which included its child organizations and locations.

> **Note:** By default, the number of children for the auto-expansion parameter in the tree algorithm is set to 50. The tree views automatically display the organization and location children if the number of children does not exceed 50. In case the number of children exceeds 50, you must manually expand the tree views to display the children information.

Steps to Enable

No steps are required to enable this feature.

Asset 360

The **360** tab on the **Asset** portal serves as a comprehensive summary hub that provides a centralized view of all relevant information about a specific asset. By consolidating data and insights in one location, it offers a clearer understanding of the events and actions associated with that asset. This streamlined approach eliminates the need to navigate across multiple portals or click through various links to gather similar information, facilitating more efficient decision-making and management.

The following zones are available in the **360** tab:

- **Asset**: Displays common actions that can be taken for the asset, along with key asset and location information. Additionally, it provides insights related to Asset Criticality and Asset Risk.

- Asset Availability, MTBF, and MTTR information are insights displayed on this zone. Asset Availability displays the percentage the asset has been operational (up and running) during the Inservice/Installed life of the asset. These metrics for Asset Availability, MTBF, and MTTR are calculated using both downtime and failure service history data. For these calculations, both the downtime and failure service histories must be linked to the same activity and the activity must be in either a Completed or Closed status.

  Configuration is required to display the Asset Availability, MTBF, and MTTR information on the **Asset** zone.
- **Insights**: Displays visual insights for Condition Rating, Confidence Rating, Maintenance Trigger, Asset List Maintenance Trigger, and Warranty. Each insight includes a badge, and all except Condition Rating show a list of common actions.
- **Current Activities**: Displays the number of current (non-final) activities for the asset, along with up to five of these activities ordered by total risk priority (highest first) and required by/activation date (oldest first).
- **Attachments**: Displays an image of the asset along with up to eight attachments.
- **Asset Cost Breakdown by Service Class**: Displays the total lifetime cost of the asset, as well as the cost per service class.
- **Asset Type Cost Breakdown by Service Class**: Displays the total lifetime cost of the asset type, as well as the cost per service class.
- **History**: Displays the asset's activities, measurements, and service histories. Only eight records are shown at a time, with pagination enabled to view additional records. In addition, this zone displays all permits directly related to the asset and permits related to activities that involve the asset.

The **Asset 360** tab is the default tab for the **Asset** portal once an asset is selected. You are given an option to opt out of the **360** default tab and make the **Main** tab the default on a system-wide basis or at the user-level.

Steps to Enable

To enable this feature, refer to the **Asset 360 Configuration** and **Setting the Asset Portal Default Tab** sections of the *Administrative User Guide* for more information.

Asset Characteristic Search and Asset Attributes - Predefined Characteristic Type

Asset search provides the capability to select a Predefined Characteristic Type query filter from options that are sorted alphabetically by description. The **Asset Attributes** zone also uses Predefined Characteristic Type, providing you a list of attributes during editing that are sorted and displayed alphabetically by description.

This enhances the user experience by displaying Predefined Characteristic Types drop-down values by description and in alphabetical order, making the selection in Asset Characteristic search and editing in Asset Attributes easier.

Steps to Enable

No steps are required to enable this feature.

Asset Location - Detailed Description

The **Detailed Description** field (with a 4000 character limit) in the following Asset Location business objects enables you to provide a clearer and comprehensive asset location description:

- General Asset Location (W1-GeneralAssetLocation)
- Linear Asset Location (W1-LinearAssetLocation)
- Plant Asset Location (W1-PlantAssetLocation)
- Operational Device Asset Location (W1-AssetLocation)

Also, the **Asset Location** search now enables you to search records with detailed descriptions using the Description filter.

Steps to Enable

No steps are required to enable this feature.

Asset Type - Asset and Engineering Specification Attributes - Sequence Number

You can now assign sequence numbers for valid attributes on an asset type for assets and specifications for that asset type. Those attributes on assets and specifications will be displayed in the order of the sequence numbers.

This gives you control of the order in which attributes are displayed.

Steps to Enable

No steps are required to enable this feature.

Measurement - Reading Date/Time

Reading Date/Time now defaults to the current date/time to ensure Measurement records accurately reflect the date and time the measurement was taken. Previously, when a Measurement record was created, the Reading Date/Time defaulted to a blank field, requiring the date and time to be manually selected and usually defaulted to 12:00 AM. In situations where the default date and time were not revised, this made the record incorrect.

This ensures Measurement records accurately reflect the date and time when the measurement was taken.

Steps to Enable

No steps are required to enable this feature.

Operational Device Management Asset Portal

This portal is a streamlined version of the Work and Asset Management asset portal and includes only the tabs relevant to Operational Device Management assets:

- Main
- Device
- Tree View
- Asset Disposition

- Log

This improves the user experience. It focuses you on only relevant Operational Device Management-related information.

Steps to Enable

Users must be granted "Inquire" access to the Operational Device Management Asset Portal (W1ODMAST) application service to use this feature.

Tips and Considerations

The **Operational Device Management Asset** portal is secured by the Operational Device Management Asset Portal (W1ODMAST) application service. You must be granted Inquire access to view this page.

The following Operational Device Management asset business objects are impacted by this change:

- Operational Device Asset (W1-InOutSvcAsset)
- Operational Device Component (W1-InOutSvcComponent)
- Operational Device Tracked Asset (W1-TrackedAsset)
- Operational Device Tracked Component (W1-TrackedComponent)

To opt out of the **Operational Device Management Asset** portal and continue using the Work and Asset Management Asset Portal for Operational Device Management assets:

1. Navigate to the Operational Device Management business objects.
2. Add a higher sequence P**ortal Navigation Option** and set the option value to the *Asset Default Tab (w1astdfltTabMenu)* navigation option.

Service History Comments

The character limit of the S**ervice History Comments** field is now 4000, addressing the need for more detailed record-keeping and overall usability. Previously, the character limit was 254. This update aligns with the requirements for improved documentation and operational efficiency.

This provides the capability for more detailed and comprehensive record-keeping.

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:

- Generic Online/Batch Loader Attachment Location Validation

Generic Online/Batch Loader Attachment Location Validation

Currently, attachments are stored in the database along with its entire content in a CLOB field. This poses a problem for uploading and maintaining very large attachments, such as videos and so on. The Application Framework has been enhanced to store content of large files in Oracle Cloud Object Storage based on a configurable file size threshold (current default is 20MB), however the Loader can only process content in the database. A validation is put in place such that only attachments stored in the database can be referenced on an Online or Batch Loader Request Type. If your organization takes advantage of object storage and the .csv file you try to load is above the file size threshold, you need to split it into smaller files and upload those smaller files separately.

This provides validation upfront before you submit the batch job 'W1-GAUPL' and encounter errors if the actual attachment data is not stored in the database of the application because of its size.

Steps to Enable

No steps are required to enable this feature.

Inventory Enhancements

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

- Repair and Returned Tracked Assets - Average Unit Price Calculation
- Receiving Inventory (Regular Items) - Enhanced Multi-step Receive Process
- Receive All and Accept Items Links - Expanded for Non-Inventory Items Receiving
- Purchase Order Search Filter is Available in the Return Search Portal
- Physical Inventory Portal - Number of Selected and Discarded Items

Repair and Returned Tracked Assets - Average Unit Price Calculation

All items of the same stock item in a storeroom should be assigned an Average Unit Price (AUP). Unlike regular stock items, trackable stock items use asset disposition to track inventory quantity and the average unit price is captured on each asset. Repairable stock items can be assigned "Repaired Prices" when returned to the inventory. The assigned repaired price for the repaired item is used for financial transactions (like increase of inventory value) when a repaired asset is returned to a storeroom and impacts the average unit price of the stock item. Also, the AUP Contribution Amount on assets of that stock item in the storeroom gets updated to match the AUP and prevents the AUP from changing after assets are issued at a later time.

This accurately tracks inventory value for repaired and returned tracked assets.

Steps to Enable

No steps are required to enable this feature.

Receiving Inventory (Regular Items) - Enhanced Multi-step Receive Process

The **Accept on Receipt** parameter of the Receiving Inventory process instructs the application whether to receive and accept the item at same time (set to *Yes*) or receive and accept the item separately (set to *No* and a multi-step receiving process occurs). For purchase orders with several line items, multi-step receiving is tedious to complete as it involves several mouse clicks and page loads. This release provides an "Accept All Pick List" option to reduce the completion steps of multi-step processing for regular inventory items. The option includes the **Receive All and Accept Regular Inventory** and **Receive All and Accept Regular Inventory (Batch)** links, which appear in the **Additional Processes** section of the receipt. The **Receive All and Accept Regular Inventory** (previously Receive and Accept All Regular Inventory) process fully receives and accepts all the regular inventory items but excludes those that are individually not selected. The **Receive All and Accept Regular Inventory (Batch)** process is recommended for receiving large numbers of purchase orders and is similar to the first process, but the difference is that the items are submitted automatically via a batch job.

Additionally, the **Receipt** portal provides a new **Activity** tab that displays the **Purchase Order Line Activity** zone. Previously, the zone appeared in the **Main** tab of the portal.

> **Note:** The portal displays the "Accept All Pick List" option if the receipt has at least one regular inventory item that will go through the multi-step receiving process. Otherwise, the portal does not display the option and all regular inventory items are fully received and accepted.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

The application only presents the "Accept All Pick List" if the receipt has at least one regular inventory item that will go through the multi-step receiving (the corresponding Accept on Receipt parameter is set to No). Otherwise, the application does not display the UI and fully receives and accepts all regular inventory items.

If needed, you can submit the Receive All and Accept Regular Inventory batch job in debug mode (trace output enabled). To turn on the batch debug mode, complete these steps:

1. Navigate to **Feature Configuration**.
2. Search for a "Batch Debug" feature type.
3. Edit the batch debug feature. If none, add a new feature, populate **Feature Name** and **Description** then set **Feature Type** to *Batch Debug*.
4. Add a **Receive All and Accept Regular Inventory** option type and set its value to *Y*.
5. Save the changes.

To turn off the batch debug mode:

1. Search and edit the batch debug feature.
2. Set the **Receive All and Accept Regular Inventory** option type to *N*.

Access Requirements

System administrators should grant user groups with the Execute access to the W1RCACAL application service in order to run the W1RCACAL batch control, which handles the receive and accept batch processing.

Receive All and Accept Items Links - Expanded for Non-Inventory Items Receiving

The **Receive All and Accept Items** (online and batch) links in the **Additional Processes** section of the **Receipt** portal can now process non-inventory items, such as direct purchase and expense at receipt. The **Accept on Receipt** parameter of the

Receiving Inventory process instructs the application whether to receive and accept inventory and non-inventory items at same time (set to Yes) or receive and accept the items separately (set to No and a multi-step receiving process occurs). The **Accept All Pick List** option that reduces the completion steps of multi-step processing for regular inventory items now also applies to non-inventory items. Previously, only regular inventory items were processed by the **Receive All and Accept Items** links.

Steps to Enable

No steps are required to enable this feature.

Purchase Order Search Filter is Available in the Return Search Portal

The Purchase Order search filter in the **Return** search portal has been improved to utilize the PO header search instead of the PO line search. This upgrade allows users to search for returns associated with the entire PO, eliminating the need to examine one PO line at a time.

Additionally, the Return search option has been added to the PO context menu, reducing clicks needed to access the **Return** search portal.

Steps to Enable

No steps are required to enable this feature.

Physical Inventory Portal - Number of Selected and Discarded Items

The application now displays in the **Physical Inventory Header** zone the number of items selected by the system and the number of discarded items in the **Items Summary** zone. Previously, you could specify various criteria on a Physical Inventory Count Header and the system would select the stock items accordingly. You could also manually discard the items from being included in the actual count.

This provides high-level statistics information about a physical inventory.

Steps to Enable

No steps are required to enable this feature.

Purchasing Enhancements

This section describes the new and enhanced purchasing-related features in this release, including:

- Blanket Contract Used Amount - Additional Calculation Rules
- Unit Price - Extended Decimal Places
- Notes and Standard Notes are Copied Between Documents
- Notes and Standard Notes are Copied From Documents Created from a Blanket Contract
- Notes and Standard Notes are Copied to Revisions for Purchase Orders and Blanket Contracts
- Credit Memo - Freight and Extra Costs Proration

- Purchase Order - Revisions

Blanket Contract Used Amount - Additional Calculation Rules

The calculation rules for the Blanket Contract Used Amount now consider scenarios of unfulfilled orders or items received/accepted exceeding the original number of orders. The calculation rules take into account whether the blanket contract consists of a Blanket Purchase Agreement (contract with items) or Contract Purchase Agreement (contract without line items). For a blanket purchase agreement, the Blanket Contract Used Amount calculation rules only include purchase order line items that reference any of the blanket contract's line items. For a contract purchase agreement, the calculation rules include all of the purchase order's line items that reference the blanket contract. After determining the purchase order line items, these rules are applied to calculate the PO Line Contributed Amount (POLCA), which is summed up as the Blanket Contract Used Amount:

- If the purchase order line item's status is "Issued" and is fully received, then POLCA = (PO Line Quantity * PO Line Unit Price) - Total Returned for PO Line's Credit Amount
- If the status is "Issued", the purchase order line item is fully received, and there are more items received than order then POLCA = (Total Accept Quantity * PO Line Unit Price) - Total Returned for PO Line's Credit Amount
- If the status is "Completed", then POLCA = Sum of All Normal and Credit for Quantity Adjustment Invoice Lines for the PO Line

Previously, the calculation rules for the Blanket Contract Used Amount were as follows:

- Total Amount of All Issued Purchase Orders Against the Blanket Contract - Total Returned for Credit Amount Against the Purchase Orders

However, if the purchase order was completed but all the order was not fulfilled, the calculation rules did not adjust the Blanket Contract Used Amount to reflect the unfulfilled orders.

Steps to Enable

No steps are required to enable this feature.

Unit Price - Extended Decimal Places

This release extends the decimal limit of the **Unit Price** field to seven places for purchase orders, purchase requisitions, and blanket contracts. Previously, the limit was two or three decimal places depending on the currency used.

This captures a more accurate unit price value.

Steps to Enable

No steps are required to enable this feature.

Notes and Standard Notes are Copied Between Documents

When you create a Purchase Order or a Blanket Contract from a Purchase Requisition, notes and standard notes from the Purchase Requisition header and lines are copied onto the header and lines, respectively, of the Purchase Order or Blanket Contract.

This makes creating Purchase Orders or Blanket Contracts more efficient.

Steps to Enable

No steps are required to enable this feature.

Notes and Standard Notes are Copied From Documents Created from a Blanket Contract

When you create a Purchase Requisition or a Purchase Order from a Blanket Contract, notes and standard notes from the Blanket Contract header and lines are copied onto the header and lines, respectively, of the Purchase Requisition or Purchase Order.

This makes creating Purchase Requisitions or Purchase Orders from Blanket Contracts more efficient.

Steps to Enable

No steps are required to enable this feature.

Notes and Standard Notes are Copied to Revisions for Purchase Orders and Blanket Contracts

When you create a Purchase Order revision or a Blanket Contract revision, the notes and standard notes from the previous revision's header and lines are copied onto the header and lines, respectively, of the new revision.

This makes creating Purchase Order revisions and Blanket Contract revisions more efficient and avoids audit issues.

Steps to Enable

No steps are required to enable this feature.

Credit Memo - Freight and Extra Costs Proration

Easily back out all the financial impact of the original invoice by creating a credit memo and specifying an amount for freight and extra cost on a credit memo invoice header. You can also choose to prorate the freight and extra cost to credit memo lines.

This allows you to credit back freight and extra cost when creating a credit memo.

Steps to Enable

No steps are required to enable this feature.

Purchase Order - Revisions

Creating a new purchase order revision automatically carries over the attachments from the originating revision to the new revision.

This makes purchase order revisioning easier and more accurate.

Steps to Enable

No steps are required to enable this feature.

Resource Management Enhancements

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

- Timekeeper Portal - Employee List Sorted by Last Name Then First Name
- Work Planning and Crew-shift Schedule Queries - Materialized View Dependency Removed
- Timekeeper Search Restricted by Owning Organization
- Activity Resource Requirement - Expense Code - Application Security
- Construction Work Activity - Compatible Unit Deletion

Timekeeper Portal - Employee List Sorted by Last Name Then First Name

The **Employee** zone of the **Timekeeper** portal now sorts and displays the **Employee** list by last name then by first name. Previously, the zone sorted records by Employee ID.

This improves the user experience.

Steps to Enable

No steps are required to enable this feature.

Work Planning and Crew-shift Schedule Queries - Materialized View Dependency Removed

The W1_PARENT_ORG_MT_VW materialized view is regularly refreshed in both staging and production environments using a DBMS scheduler batch job. However, this refresh process, which completely refreshes the data, is causing performance delays. To mitigate this issue, all crew shift schedules and work planning search queries that use the materialized view have been redesigned and no longer rely on this materialized view.

Rework work planning and crew shift schedule search queries to bypass the materialized view improves performance and reducing resource consumption.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

Due to the redesign of the work planning and crew-shift schedule queries, the W1_PARENT_ORG_MT_VW materialized view is no longer needed and has been removed. Customers should review their custom code and remove any references to the W1_PARENT_ORG_MT_VW materialized view. Specific base package zones that have been impacted by this change include the following:

- Activity Information (W1-WPACTQ1)
- Activity Information (W1-SCHDLRQ4)
- Labor Requirement Information (W1-SCHDLRQ6)
- Previously Scheduled Unfinished Work (W1-SCHDLRQ2)
- Location Information (W1-SCHDLRQ5)
- Schedule (W1-SCHDLRQ1)
- Work Order Information (W1-SCHDLRQ3)

Timekeeper Search Restricted by Owning Organization

The all-in-one **Timekeeper** portal has been separated into a **Search** portal and a **Maintenance** portal. The **Owning Organization** field has also been added to the Timekeeper record. When the **Owning Organization** field on a Timekeeper record is specified, only users with that Owning Organization can search for, thus view and update that Timekeeper record.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

New **Timekeeper** search portal along with a new application service 'W1TMKPRQ' is introduced. All users with access to the existing all-in-one portal for Timekeeper are automatically given access to the **Timekeeper** search portal through this application service.

Activity Resource Requirement - Expense Code - Application Security

On the Activity Resource Requirement's **Quick Add** and **Activity Resource** maintenance, you can modify the **Expense Code** value. However, when the resource type's **Default Values to Activity** flag is set to "*Yes*", the **Expense Code** should not be changed from the resource type's value. In this release, each of the Activity Resource Requirement business object's Application Services and the WAM_SERVICES user group includes the **Override Expense Code** access mode, preventing the Expense Code to be change to the resource type's value when the **Default Values to Activity** flag is set to "*Yes*".

Steps to Enable

Provide the required access before using the feature.

Access Requirements

System administrators should grant "W1OE- Override Expense Code" access to the appropriate user group(s) in the following application services:

- Equipment for Activity BO (W1-EQUIPMENTACTBOAS)
- Labor for Activity BO (W1-LABORACTBOAS)
- Material for Activity BO (W1-MATERIALACTBOAS)
- Miscellaneous Resource for Activity BO (W1-OTHERACTBOAS)

Construction Work Activity - Compatible Unit Deletion

You can now delete compatible units when a construction work activity is at an "Approved", "Active", "In Progress", "Sent", or "Sent In Progress" status. Planned assets existing under the deleted compatible unit will be deleted. Also, when the deleted compatible unit is the only contributor to an Activity Resource Requirement, the application cancels that activity resource requirement.

Previously, compatible units could only be deleted when the construction work activity was at a "Planning" status. Also, after the construction work activity had been approved and the compatible unit was not needed anymore or no work was carried out for the compatible unit, you could update the Actual/Completed Quantity to zero for the deleted compatible unit.

Steps to Enable

No steps are required to enable this feature.

Work Management Enhancements

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

- Construction Work Activity - Outbound Configurations
- Construction Work Activity and Construction Work Activity Type - Planned Service History Types
- Construction Work Order - Add Activities from Template Construction Work Order
- Construction Work Activity Reconciliation - Customer-contributed Assets
- Template Construction Work Activities - Planned Service History Types, Duration, and Unit of Time
- Construction Work Activity - Same Crew Applied to Dependent Activities
- Construction Work Activity and Template Construction Work Activity - Backlog Groups
- Work Location - Service Area
- Construction Work Activity - Mobile Interim Completion

Construction Work Activity - Outbound Configurations

The Maintain Work Order Activity (W1-WOACTAMSG) and Cancel Work Order Activity (W1-WOACTFMSG) outbound message types enable you to route construction work activities to an external system for scheduling and execution.

By setting configurations at each construction work activity type level, a construction work activity can be routed to an external system for scheduling and execution.

Steps to Enable

To enable this feature, complete these steps:

1. Add an external system.
2. Add the Maintain Work Order Activity (W1-WOACTAMSG) and Cancel Work Order Activity (W1-WOACTFMSG) outbound message types and corresponding message sender.
3. Update the Outbound Activity Information of the appropriate activity type.
    - Use the external system setup in step 1.
    - Use Maintain Work Order Activity (W1-WOACTAMSG) for Add and Update usage.
    - Use Cancel Work Order Activity (W1-WOACTFMSG) for Cancel and Complete usage.

Tips and Considerations

System administrators should grant access to the Construction Work Activity BO application service to any user that routes construction work activities to external systems.

Construction Work Activity and Construction Work Activity Type - Planned Service History Types

The **Construction Work Activity** portal enables you to maintain a construction work activity record. The new **Planned Service History Type** zone in the **Main** tab allows you to add a mandatory or optional planned service history type to the record. The **Activity Type** portal allows you to maintain activity types, which represent a broad range of activities like maintenance, repairs ,and inspections. The **Activity Type** zone in its **Main** tab enables you to define the main attributes of a planned service history. In this release, the application copies all planned service history types from the activity type to the created construction work activity record. If the activity is routed to an external system, the activity outbound details include the planned service history types.

Steps to Enable

No steps are required to enable this feature.

Construction Work Order - Add Activities from Template Construction Work Order

You can now select template construction work activities from a template construction work order and add these work activities to an existing construction work order. You can perform this action by using the **Add Activities from Template Construction Work Order** option in the **Activity Information** zone of the **Construction Work Order** portal. Previously, a construction work order was only created from a complete copy of a template construction work order through the **Create Construction Work Order** button of the **Template Construction Work Order** portal.

Steps to Enable

No steps are required to enable this feature.

Construction Work Activity Reconciliation - Customer-contributed Assets

This release enables the application to assign the estimated cost of a Compatible Unit as the default value of customer-contributed assets during the creation of a work activity reconciliation. Previously, you can only manually enter a customer-contributed asset value at the end of the construction work activity.

This provides default customer-contributed asset values at the end of construction work activities.

Steps to Enable

No steps are required to enable this feature.

Template Construction Work Activities - Planned Service History Types, Duration, and Unit of Time

A template construction work activity now includes a Planned Service History Type, Duration, and Unit of Time. You can mark the planned service history type as "Optional" or "Required".

These align the elements of the template construction work activities with the regular template and work activities.

Steps to Enable

No steps are required to enable this feature.

Construction Work Activity - Same Crew Applied to Dependent Activities

The **Activity Dependency** zone of the **Construction Work Activity** portal lists the active construction work activities that are dependent on the current construction work activity record. This zone provides the new resource option, **Same (W1SM)**, which indicates that the crew or shift assigned to the activity must be the same as the crew or shift working on the dependent activity. Previously, the resource options provided by the zone were as follows and the crew or shift working on the activity had to be different from the dependent activity:

- **Any (W1AN)**: No restriction on which crew or shift can perform the work.
- **Separate (W1SP)**: The crew or shift assigned to the activity must be different from the crew or shift working on the dependent activity.
- **Separate from All (W1SA)**: The crew or shift performing the job must be different from the crew or shift working on any activity in the entire dependency chain.

Steps to Enable

No steps are required to enable this feature.

Construction Work Activity and Template Construction Work Activity - Backlog Groups

The **Backlog Group** fields in the **Construction Work Activity** and **Template Construction Work Activity** portals enable you to add backlog group information to construction activities and templates. Additionally, a construction work activity created using a template with a defined backlog group automatically inherits that group. Previously, backlog group information can only be added to a regular work order and work order template.

This provides consistency between the creation of regular and construction work activities.

Steps to Enable

No steps are required to enable this feature.

Work Location - Service Area

The **Work Location** zone now includes a **Service Area** field, enabling you to define a logical boundary for your organization's service territory.

This enables you to assign the appropriate crew or shift to a work location.

Steps to Enable

No steps are required to enable this feature.

Construction Work Activity - Mobile Interim Completion

The application can now process interim completion information sent by Oracle Field Service or an external system. The application keeps the construction work activity in its current "In Progress" state and processes the interim completion of other activities like asset installation/removal, service histories and measurements creation, and construction location update. When the application resends the activity to the crew, the activity details reflect all the work and interim completion for the activity. Previously, the mobile construction work activity completion service assumed a completed work activity when Oracle Field Service or the external system sent the activity information to the application.

Steps to Enable

No steps are required to enable this feature.

Integration and Web Services

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

- Oracle Utilities Work and Asset Management-Oracle Fusion Cloud Project Management Integration
- GIS Feature Classes Synchronization - Filter Statement Builder
- ESRI ArcGIS Field Maps - Oracle Field Service Integration
- Construction Work Activity Completion from External System
- Mobile Activity Completion API - Capture Asset Identifier and Asset Attribute Updates
- Display Historical Service Histories, Measurements, and Activities on Mobile Changes
- Mobile Storeroom Inventory - Added Asset Type
- Activity Assets and Truck Items
- Admin Sync Inbound Web Service - Resource Types Status
- Work and Asset Management to Geographic Information System Integration - File Based Synchronization Process
- Get Asset Details Inbound Web Service - Additional Retrieval Filters
- Material Issue API
- Oracle Field Service Accelerator - Limits on Available Resources
- Fixed Asset Extract Data Area - Additional Account Segment and Project-related Fields
- Work Activity API - Additional Asset and Crew Information
- Work Activity API - User-defined Fields

- Asset Attributes - Viewable in Oracle Field Service
- Pass Backlog Group Information to an External System
- Questionnaire Details and Failure Information - Exclude from Outbound Activity Message
- Installing a Non-Issued Asset for Construction Work
- Secured Discard Button Enables Manual Discard of Outbound Sync Requests
- Stock Item Detail Demand Extract Batch Control - Demand Forecasting

Oracle Utilities Work and Asset Management-Oracle Fusion Cloud Project Management Integration

The integration between Oracle Utilities Work and Asset Management and Oracle Fusion Cloud Project Management enables you to:

- Synchronize projects between applications.
- Define projects in Oracle Fusion Cloud Project Management and push them to Oracle Utilities Work and Asset Management.
- Get construction or maintenance project updates from Oracle Fusion Cloud Project Management and send these Oracle Utilities Work and Asset Management.
- Push work activities from Oracle Utilities Work and Asset Management to Oracle Fusion Cloud Project Management as project tasks.
- Receive activity updates from Oracle Utilities Work and Asset Management as project tasks in Oracle Fusion Cloud Project Management.

Steps to Enable

To enable this feature, refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Assets Configuration Guide* for more information.

GIS Feature Classes Synchronization - Filter Statement Builder

The synchronization of GIS feature classes to Oracle Utilities Work and Asset Management could be defined through the Filter Statement Builder or the default "Skip" behavior. Previously, all GIS feature classes were synchronized to Oracle Utilities Work and Asset Management except those marked as "SKIP". With the Filter Statement Builder, you can synchronize GIS feature classes whose GIS field-value combination match that of the WAM Sync Mapping extendable lookup.

This provides flexibility in configuring GIS Field and GIS Value with various comparison operators and data types, which enables the generation and submission of a filter statement to retrieve a subset of records from GIS tables.

Steps to Enable

To enable this feature, complete these steps:

1. Navigate to the Esri WAM Integration master configuration.
2. Set the Inbound Sync Data Filter Option parameter to Filter Statement Builder.
3. Navigate to the GIS to WAM Extendable Lookup.

4. Populate the Filter Statement Builder section to define the feature classes to include in the GIS integration.
5. Review the computed filter statement for accuracy.
6. Using the most recent GIS JAR file, republish the ExtractDeltaChanges GP Service in the GIS Server to use the Filter Statement Builder.

Tips and Considerations

This feature is not supported with the "Work and Asset Management to Geographic Information System Integration - File Based Synchronization Process" feature described elsewhere in these release notes.

ESRI ArcGIS Field Maps - Oracle Field Service Integration

The ESRI ArcGIS Field Maps-Oracle Field Service integration extends the capabilities of the Oracle Field Service mobile solution by bridging the following key GIS functionality from ArcGIS Field Maps:

- Navigation
  - Asset Search
  - Visualize Assets
  - View Asset Properties
  - Display Crew Location
  - Distance Measuring
  - Markup or Map Notes
  - Parameterized Deep-linking Between Oracle Field Service Mobile and ArcGIS Field Map Applications for Key Use Cases
- Work Orders
  - Work Order or Request Creation from Field Maps (single asset)
  - Work Order or Request Creation from Oracle Field Service via Map Selection (single asset)
- Others
  - Offline Mode Support
  - ArcGIS Online Support
  - ArcGIS Enterprise Support

  Note: The integration has support for both iOS and Android devices.

Additionally, Oracle Integration Cloud Service facilitates the integration, utility-specific workflows are accessible from both ESRI ArcGIS Field Maps and Oracle Field Service, and data synchronization between the ArcGIS ESRI geodatabase and Oracle Work and Asset Management provides asset information.

Steps to Enable

To enable this feature, refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Field Service Configuration Guide* for more information.

Construction Work Activity Completion from External System

In this release, the Mobile Activity Completion (W1–MblActCom) API accepts construction work activity completion information such as asset installation, asset removal, service histories creation, measurements creation, and construction location details updates from an external system. The construction work activity is automatically completed once Oracle Utilities Work and Asset Management records all the completion information. In addition, a complete integration solution is now available for construction work activities - Oracle Utilities Work and Asset Management initiates construction work activity, it sends all the necessary construction location and compatible unit information along with the required actions to the external system, W1–MblActCom sends fieldwork information completed in the external system to Oracle Utilities Work and Asset Management automatically records the fieldwork information and completes the activity. Previously, all construction work activity tasks performed in an external system were manually entered in Oracle Utilities Work and Asset Management.

Steps to Enable

To create completion events from the Mobile Activity Completion API, add the following completion event types to the activity's activity type:

- Remove Tracked Asset (W1-RemoveTrackedAsset)
- Remove Non-Tracked Asset (W1-RemoveNonTrackedAsset)
- Install Tracked Asset (W1-InstallTrackedAsset)
- Install Non Tracked Asset (W1-InstallNonTrackedAsset)
- Create Any Service History (W1-CrAnyServiceHistComplEvtTyp)
- Create Operational Reading (W1-CreateOperationalRead)
- Update Construction Location (W1-UpdateConstructionLocation)

Access Requirements

System administrators should set/grant users/grant access to the Execute Completion Events and Completion Error access modes to process completion events from an external system.

Mobile Activity Completion API - Capture Asset Identifier and Asset Attribute Updates

The Mobile Activity Completion (W1–MblActCom) inbound web service now accepts additional updates for asset identifiers (badge number, asset number, and serial number) and asset attributes.

This provides additional updates for asset identifiers and asset attributes.

Steps to Enable

No steps are required to enable this feature.

Display Historical Service Histories, Measurements, and Activities on Mobile Changes

The existing Get Asset Details (W1GAstDtlBNo) inbound web service has been enhanced to provide callers with the following options:

- No Service History, Measurements, and Activity History. This is the default behavior when callers don't explicitly specify when calling the service. This was the service's behavior prior to this change.
- Only Service History, Measurements, and Activity History without the other existing asset details.
- Service History, Measurements, and Activity History with the other existing asset details.
- When callers want to retrieve Service History, Measurements, and Activity History, they can specify many filters, for example, number of months' worth of data, Service Category, Service History Type, and Measurement Type.
- When retrieving Service History, callers can choose to retrieve all Questions and Answers if a service history is a questionnaire, as part of this call or not. If they choose no, this service returns an indicator for each retrieved Service History whether there are Questions and Answers and then the caller can choose to call the Get Question and Answer IWS below for a given Service History if needed.

A new Get Question and Answer (W1GetQstnAns) inbound web service has been created which returns the questions and answers for a specific Service History.

Steps to Enable

No steps are required to enable this feature.

Mobile Storeroom Inventory - Added Asset Type

The Mobile Storeroom Inventory (W1-MOBILESTOREROOMINVENTORY) inbound web service now includes the asset type for each asset in the inventory. This enables field workers to select the correct asset by matching the asset type on the compatible unit with the asset needed for construction work.

This helps field workers select the right asset by matching the asset type with the one needed for construction work.

Steps to Enable

No steps are required to enable this feature.

Activity Assets and Truck Items

The **Activity Assets** and **Truck Items** pages have been added to Oracle Field Service Accelerator for Oracle Utilities Work and Asset Management. These pages can be used instead of the standard **Assets** and **Equipment** pages.

The **Activity Assets** page displays the locations and assets, including components, related to the activity:

- The **On-Site** tab lists the locations with no assets, the installed assets that have not been removed by this activity, and the assets installed by this activity.
- The **Issued** tab lists the assets issued for the activity that have not been installed.
- The **Removed** tab lists the assets that have been removed by this activity.

The **Truck Item** page displays the assets, including components, and items related to the trucks that are included in the activity:

- The **Assets** tab lists the assets in the resource's inventory that have not been installed.
- The **Items** tab lists the item in the resource's inventory that has not been used.
- The **Used** tab lists the items in the resource's inventory that has been used.

Asset or item actions can be performed directly from a list entry. This removes the necessity of navigating first to the **Asset** or **Equipment Details** pages before performing these action. The actions available for a location, asset, or item in the Activity Assets or Truck Items pages depend on the location, asset, or item's current state.

Steps to Enable

To enable this feature, refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Field Service Configuration Guide* for more information.

Admin Sync Inbound Web Service - Resource Types Status

The status of the Craft, Equipment, and Miscellaneous resource types are now included in the Admin Sync inbound web service.

This notifies the external system of any previously synchronized resource types that have been deactivated.

Steps to Enable

No steps are required to enable this feature.

Work and Asset Management to Geographic Information System Integration - File Based Synchronization Process

The new file-based synchronization process works with any Geographic Information System (GIS) vendor to load Geographic Information System data into Oracle Utilities Work and Asset Management. This process requires the data to be in GeoJSON newline-delimited format and uses fewer batches to create or update asset and asset locations in Work and Asset Management. GIS File Upload (W1GISUPL) batch control has been introduced to create composite sync requests from the GeoJSON newline-delimited file. Asset and asset location are either created or updated from the composite sync requests. Compared to the Legacy Geographic Information System Integration, this new process requires fewer batches to complete the synchronization.

Additionally, this release includes a W1-GISIntegrationConfiguration admin sync API. This API provides the Geographic Information System to Oracle Utilities Work and Asset Management mapping information needed for file-based integration with external systems.

Steps to Enable

To enable this feature, refer to the *GIS File-Based and Legacy GIS Documentation* for more information.

Tips and Considerations

The GIS File Upload batch control is secured by the GIS File Upload (W1GISUPL) application service.

Access Requirements

System administrators should grant Execute access to the GIS File Upload (W1GISUPL) application service to any user that will run the batch control.

Get Asset Details Inbound Web Service - Additional Retrieval Filters

The Get Asset Details (W1GAstDtlBNo) inbound web service includes the following options:

- Asset identification support using the GIS Identifier
- Skip Validation flag (Y/N) to specify whether to skip asset installation validations
- Number of Service History, Measurements, and Work History filters (in addition to other filters) to retrieve service history, measurements, and activity history

Also, the existing External Mobile Control Data (W1-ExtMobileControlData) inbound web service now retrieves Measurement Types and Service History Types.

Steps to Enable

No steps are required to enable this feature.

Material Issue API

The Material Issue API facilitates the communication of material issues from Oracle Fusion Supply Chain Management to Oracle Utilities Work and Asset Management. Once the material issue is created in Oracle Utilities Work and Asset Management:

- On-demand and reservation quantities are reduced by the issued quantity if the material request is an activity resource requirement. Additionally, if the material request is fully issued, then the status of the activity resource requirement is also updated to Fulfilled.
- On-demand and reservation quantities are cleared regardless of full or partial fulfillment if the material request is a standalone (not for an activity).

  Note: There can only be one material issue per request line. If the material is partially issued, a new material request will be required.

Oracle Fusion Supply Chain Management will update the inventory quantity and average unit price of the stock item detail through the Add Inventory Adjustment API.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

- The following algorithms were added to the Material Issue Line Integration (W1-MaterialIssueLineInteg) business object to support the described behavior:
  - Create Stock Transaction for Issue Line (W1-CSKTXISLN): Responsible for reducing the on-demand and reserved quantities.
  - Determine and Transition Activity Material Requirement (W1-DETTRNAMR): Responsible for updating the status of the activity resource requirement.
- If the described behavior is not desired, follow these steps to deactivate the algorithms:

1. Navigate to **Lifecycle** tab of the Material Issue Line Integration BO.
2. Broadcast the **Issued** status.
3. Click the **Edit** hyperlink in the **Status Details** zone.

4. In the **Options** section, add a new option for **Inactive Algorithm**, assign a unique sequence number, and set the **Option Value** to the algorithm that needs to be inactivated.
5. Repeat the steps above if deactivating a second algorithm.

Oracle Field Service Accelerator - Limits on Available Resources

The Admin Sync integration process sets the crafts, equipment, and other resources used in the Oracle Field Service accelerator for Oracle Utilities Work and Asset Management to active or inactive based on the state of the corresponding resource type in Oracle Utilities Work and Asset Management.

Timesheets, equipment usage, and other usage entry in the Oracle Field Service Accelerator for Oracle Utilities Work and Asset Management limits the crafts, equipment, and other resources available for selection to only those that are active.

Steps to Enable

No steps are required to enable this feature.

Fixed Asset Extract Data Area - Additional Account Segment and Project-related Fields

Rules and processes were implemented to support a productized integration of fixed asset information to Oracle Assets. Additional fields (for example, account segments and project related fields) are now sent to Oracle Assets.

These provide additional support for fixed assets integration with Oracle Assets.

Steps to Enable

To enable this feature, refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Assets Configuration Guide* for more information.

Work Activity API - Additional Asset and Crew Information

The enhanced Work Activity API enables you to pass additional asset information, such as asset attributes, asset numbers, and serial numbers to an external system. With this information, crews can add or update asset attributes and (if permitted) badge numbers, asset numbers, and/or serial numbers. If a crew is specified on the activity, the API passes the information to the external system as the preferred crew and the external system may use or override the preferred crew when scheduling the activity.

Steps to Enable

No steps are required to enable this feature.

Work Activity API - User-defined Fields

The following user-defined fields were added to the Work Activity API to enable you to send custom information to an external system:

- activityUDF1 - activityUDF10
- assetUDF1 - assetUDF10
- locationUDF1 - locationUDF10

Note: Custom algorithms and corresponding scripts may be required to populate these fields.

This reduces implementation and support costs.

Steps to Enable

To enable this feature, complete these steps.

1. Navigate to the Work Order Activity Active Outbound Message (W1-WOActivityActiveOutboundMsg) business object.
2. Go to the **Algorithm** tab and select the **Create Algorithm** link to create a custom algorithm to populate the additional data to be sent to an external system.
3. Set **System Event** to *Pre-processing.*
4. Enter a 12-character code in **Algorithm**, for example CM-POPADDFLV.
5. Populate the **Description** and **Detailed Description** fields.
6. Save the changes.
7. Review the schema to determine the user-defined fields to populate.

Tips and Considerations

Refer to the sample custom algorithm in the Master Demo environment.

1. Navigate to the Work Order Activity Active Outbound Message (W1-WOActivityActiveOutboundMsg) business object.
2. Go to the **Algorithm** tab.
3. Review the details of **Algorithm**: CMPOPADDFIEL (Populate Additional Fields).

Asset Attributes - Viewable in Oracle Field Service

In this release, the Oracle Utilities Work and Asset Management-Oracle Field Service integration enables you to review in Oracle Field Service the asset attributes of a work activity created in Oracle Utilities Work and Asset Management.

This extends the work activity information available in Oracle Field Service.

Steps to Enable

To enable this feature, refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Field Service Configuration Guide* for more information.

Pass Backlog Group Information to an External System

You can now configure your application to pass the backlog group information of a work activity to an external system. Previously, work activity was assigned to an admin bucket on the external system based on the activity's service area. In some cases, the admin bucket was more similar to the activity's backlog group than the service area that was most likely defined geographically.

This provides external systems with the flexibility to configure where to assign the backlog group information.

Steps to Enable

No steps are required to enable this feature.

Questionnaire Details and Failure Information - Exclude from Outbound Activity Message

The **Exclude Questionnaire Details** and **Exclude Failure Information** parameters in the **Integration Parameters** section of **Work Management Master Configuration** provide the option to send the outbound activity message, questionnaire details, and failure information separately. Previously, the application passed all the questions and answers, and failure information for the asset to the external system via the activity outbound message.

Sending the message and information separately prevents integrations from failing due to large message sizes.

Steps to Enable

To enable this feature, complete these steps:

1. Go to the **Integration Parameters** section of the Work Management Master Configuration.
2. Set the **Exclude Questionnaire Details** parameter to *Yes*.
3. Set the **Exclude Failure Information** parameter to *Yes*.

Installing a Non-Issued Asset for Construction Work

When recording the installation of a tracked asset in Oracle Field Service as part of a construction work activity, the asset to be installed can be identified by either of the following:

- Selecting an issued asset
- Selecting an asset from a truck
- Entering or scanning an asset's badge number

This provides more flexibility around how assets are installed for construction work activities.

Steps to Enable

To enable this feature, refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Field Service Configuration Guide* for more information.

Secured Discard Button Enables Manual Discard of Outbound Sync Requests

A 'Manually Discarded' status, which has its own access mode 'W1MD', has been added to the following outbound sync request business objects:

- Activity Material Resource Outbound Integration (W1-ActMatResrcOutboundSyncReq)
- Invoice Outbound Integration (W1-InvoiceIntegOutbound)
- Material Requisition Outbound Integration (W1-MaterialReqIntegOutbound)
- Purchase Requisition Outbound Integration (W1-PurchaseReqIntegOutbound)
- Receipt Outbound Integration (W1-ReceiptOutboundSyncRequest)
- Return Line Outbound Integration (W1-ReturnLineOutboundSyncReq)
- Vendor Location Outbound Integration (W1-VendorLocIntegOutbound)

This gives the ability to manually cancel an outbound sync request when it is not needed anymore, for example, the corresponding update has been manually made in the target system.

Steps to Enable

System administrators should set/grant users/grant access to the new access mode 'W1MD' to application services of the mentioned outbound sync request business objects.

Stock Item Detail Demand Extract Batch Control - Demand Forecasting

To support demand forecasting and replenishment planning within supply chain management, the Stock Item Detail Demand Extract (W1SIDDEX) batch control relays material demand information in Oracle Utilities Work and Asset Management to Oracle Fusion Supply Chain Management.

This batch control creates an extract file containing all Stock Item Details with planned demand and Required By Dates in the future. Oracle Fusion Supply Chain Management uses this information for effective forecasting and replenishment planning. Refer to the Enterprise Resource Planning Integration Master Configuration Demand Forecasting settings for Lead Time (Days), High Demand, and the Additional Demand Calculation setting that define demand quantity calculation. Stock Item Details with an ABC Class of A, B, or C will also be included in the extract, regardless of the Master Configuration settings.

In addition, the Manage Stock Item Detail API has been enhanced to accept ABC Class and Lead Time (Days) information from an external system. This information is used when generating the extract file that is sent to Oracle Fusion Supply Chain Management.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

The Stock Item Detail Demand Extract batch control is secured by the Stock Item Detail Demand Extract (W1SIDDEX) application service. Users must be granted Execute access to run this batch control.

Access Requirements

System administrators should grant Execute access to the Stock Item Detail Demand Extract (W1SIDDEX) application service to any user that will run the batch control.

Implementation Tools

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

- ESRI-Work and Asset Connector Configuration File - Non-Admin Users

ESRI-Work and Asset Connector Configuration File - Non-Admin Users

In previous releases, enabling Oracle Utilities Work and Asset to connect to the ESRI Geodatabase and webservices the configuration file deployed in GIS must have the owner of the DEFAULT version in the ESRI Geodatabase and an Admin user of ArcGIS Server. As of this release, the configuration file can be configured with any ERSI Geodatabase user having access to the required feature classes. In addition, the ArcGIS Server user need not be an Admin user to access ArcGIS Server services.

This allows the use of non-admin users for GIS-Work and Asset integrations and supports implementations with policies that do not grant owner or admin users access rights to regular business processes.

Steps to Enable

To enable this optional feature for a Geodatabase user:

1. Configure the Source Version Owner in Esri WAM Integration Master Configuration to be same as the owner of the DEFAULT version in the ESRI Geodatabase.
2. If you are already using GIS-Work and Asset Integration and completed the initial sync process, along with the above create a new private version from the DEFAULT version in the ESRI Geodatabase using the same user as in the configuration file. The name of the version should match the WAM Sync Version in the Esri WAM Integration Master Configuration.

Oracle Utilities Application Framework v25.4 Release Notes

This section describes enhancements, system data details and deprecation notices in Oracle Utilities Application Framework v25.4 including:

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

Data Privacy and Security

This section describes the new and enhanced data privacy and security features in this release, including:

UI Masking for Numbers

The system is enhanced to support masking numeric values on the user interface. This is useful if your implementation has certain quantities or amounts that are sensitive and should only be available unmasked to certain users.

The system provides a new masking algorithm type (F1-MASKNBR) for number masking. The following functionality is provided by this algorithm type:

- It uses the number 9 as its masking character.
- Like the existing string masking algorithm type, this new algorithm type includes configuration for an application service, security type, and authorization level allowing you to configure security for users that are allowed to see the data unmasked.
- For users that do not have the security to see data unmasked, the algorithm type returns a static number of 9s to mask both the digits themselves and the number of digits. See the algorithm type description for more information.

Masking for alphanumeric data, such as credit card numbers, bank account numbers, and personal identification numbers (for example, social security number) was already supported.

This does not impact any existing extensions.

Steps To Enable

To enable this feature, refer to the **User Interface Masking** section of the *Administrative User Guide* for more information.

Tips and Considerations

The Data Masking plug-in spot was also enhanced to receive the **Field Name** as optional input to the algorithm.

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
- Ability to Override Labels in Business Object Configuration
- Terminology Change: "Sidebar" Replacing "Dashboard"
- Easier Access to Release Notes
- Master Configuration Improvements
- Override a Row Header Using UI Hints

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.

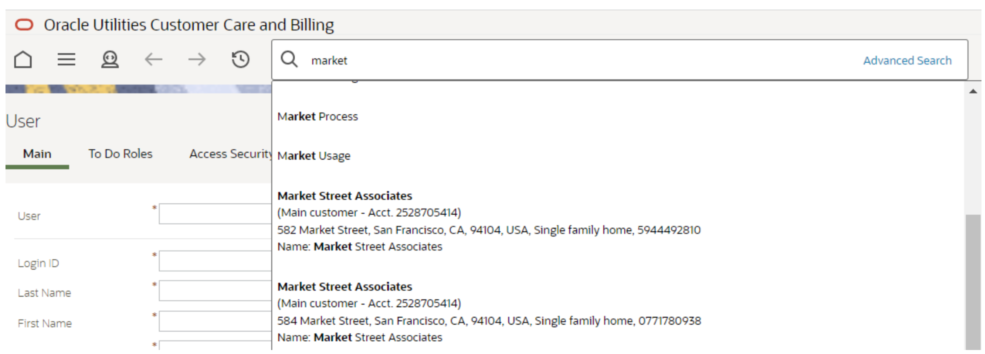
Steps To Enable

No steps are required to enable this feature.

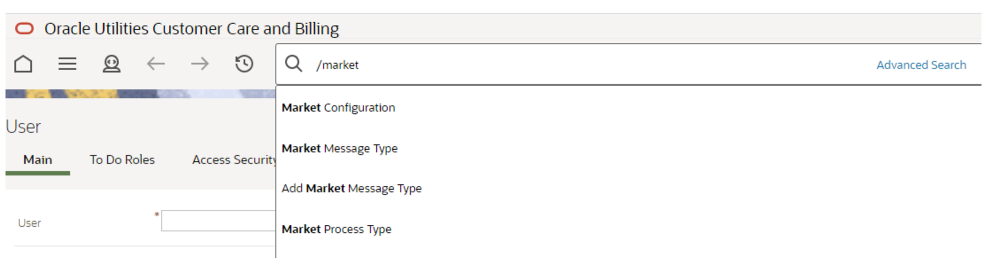
Enter Menu Name in Search Without Slash

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

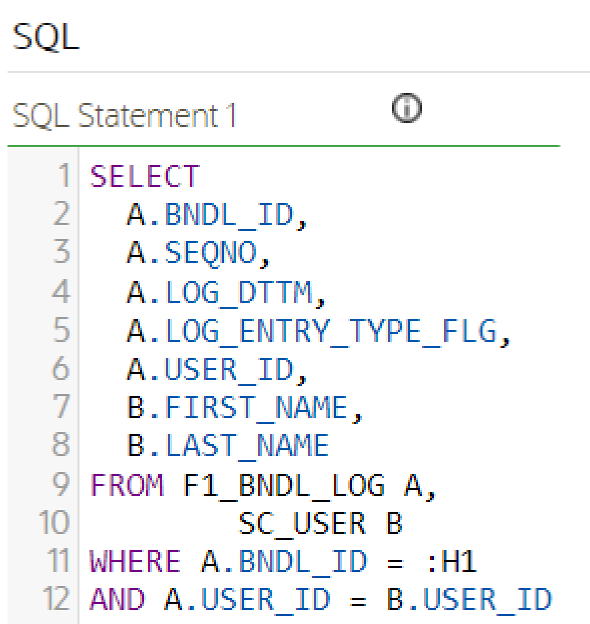
The batch analytics views no longer derive data directly from the various batch run related tables. Instead, the views now reference the snapshot tables, which have been designed to simplify the view SQL and to take advantage of specific indices that are not available in the source data.

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.



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

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.

Ability to Override Labels in Business Object Configuration

The following language related to a business object status may now be overridden by your implementation:

- Status description. This is the text visible when displaying the current status of a record that is governed by a business object.
- Next Status Action Label for the business object status' next status. This is the text visible on an action button that you may use to transition a record to the next status.

For example, you could change the status "Canceled" for a given business object to use the term "Discarded". You could do this by navigating to the lifecycle definition for that business object and providing an override description for the "Canceled" state. In addition, you can find the states that transition to Canceled and override the Action Label from "Cancel" to "Discard".

The description of any product-delivered business object Status Reason can now also be overridden by your implementation.

> **Note**: There are places where a status or a status reason description is captured as an audit of a point in time, such as in a log record. If you change the description of a status on a business object or the description of a status reason, the change will not cascade to any place that has captured the description previously.

This does not impact any existing extensions. The user interface may change if you choose to override descriptions.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

The product delivers two new views:

- F1_BUS_OBJ_STATUS_VW: This view is built from the data in F1_BUS_OBJ_STATUS_L, but it sets the value of the DESCR field to the new override description if populated (otherwise to the description).

- F1_BUS_OBJ_STATUS_RSN_VW: This view is built from the data in F1_BUS_OBJ_STATUS_RSN_L, but it sets the value of the DESCR field to the new override description if populated (otherwise to the description).

If you have any custom zones that retrieve the DESCR field from F1_BUS_OBJ_STATUS_L or from F1_BUS_OBJ_STATUS_RSN_L and you plan to override any business object status description or a status reason description, you should update your custom zone to use the corresponding view instead.

Terminology Change: "Sidebar" Replacing "Dashboard"

The vertical area that stays anchored in the application as a user moves through the system is now referred to as a "Sidebar" instead of a "Dashboard." This change is reflected in documentation, metadata descriptions, and configuration on the User page related to the area (including the Sidebar Width, the Sidebar Location and the Sidebar State). This does not impact any extensions.

This allows the "Sidebar" to be distinguished from other "Dashboards" used to describe portals that display high-level views of a specific subject area. For example, the **Batch Day Dashboard** and the **To Do Dashboard**.

Steps To Enable

No steps are required to enable this feature.

Easier Access to Release Notes

The **help** drop down menu was enhanced to include a Release Notes entry. For cloud implementations, the link brings you to the **Cloud Readiness/What's New** portal for the appropriate product and version. For an on-premise implementation, the link brings you to the **Release Notes** page for the appropriate product and version.

You now have a link to quickly access the information about the new features for the current version of the product.

This does not impact any existing extensions.

Steps To Enable

System administrators should set/grant users/grant access to the F1-RELNOTE application service, Inquire access mode.

Master Configuration Improvements

The master configuration functionality is enhanced to support multiple records for the same business object. You can use an optional new primary Part Name field to uniquely identify the record. Note that the master configuration business object needs to be designed to support multiple parts as indicated by a designated business object option. By default, the part name is not populated for the main record, which allows additional parts to have a unique value as needed.

Due to a growing number of master configuration records, the master configuration UI has become a standard maintenance portal with a separate query portal. This allows for a better user experience when searching for records and allows different business objects to have their own portals as needed.

Additionally, the master configuration maintenance object is enhanced to support the following new features:

- An optional configuration class that may be used at design time to highlight the broader purpose of certain configurations for reporting purposes.
- A Standard characteristics table for extension purposes.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

Upgrade scripts ensure that users with Read access to the existing application service will have access to the new application service associated with the new portal. The table below lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
Master Configuration Query Portal	F1MSTQRY	F1MSTCFG

Any business object that supports an **Edit** action should include a standard **Record Actions** section as part of its display map. Prior to this release, if a business object did not include such a section, it could still be edited via the old portal. The new standardized maintenance portal requires the section to exist. You should correct these custom business objects accordingly. Until these custom business objects are fixed, you may include the Master Configuration Actions (F1MFGACT) zone to the **Master Configuration** maintenance portal.

Override a Row Header Using UI Hints

A new Row Header attribute has been added to the schema definition to allow one or more elements to be explicitly marked as row headers. Previously, the system automatically assigned the attribute scope="row" to the PK field for a list or to the first non-suppressed element. This was not always the element that best identified the row. For example, a sequence number would have been less meaningful than the description of the next element in the list, such as a parameter name.

> **Note:** This attribute is only applicable to elements in a list.

This improves the experience for users using a screen reader.

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
- Duration Information Added to To Do Portal and Information String

- Related To Do Support Improvements
- Improved Display on Filters on To Do Dashboard Portal
- Standardize Providing Comments on Various To Do Dialogues

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.

Duration Information Added to To Do Portal and Information String

The system now includes the following calculated duration information on the **To Do Entry** page:

- For a non-complete To Do, the Total Duration from its creation until now.
- For a completed To Do Entry, the Total Duration from its creation until its completion.
- For a To Do Entry that had ever been in the In Progress state, the Time In Progress. If it is currently in the In Progress state, the end duration time is the current date/time.

In addition, the base delivered Information string for a To Do Entry has been updated to include the age for a non-complete To Do and the duration for a completed To Do.

If your implementation uses a To Do information algorithm to override the base delivered information, you will not see any change to your To Do information. This change does not impact any extensions.

When you see the calculated duration information, it helps you understand at a glance how long a To Do entry took to work on and how long before it was completed.

Steps To Enable

No steps are required to enable this feature.

Related To Do Support Improvements

The zone that displays related To Do entries on the **To Do Entry** maintenance portal has been enhanced to support actions on the related To Do entries. In addition, the current To Do being maintained is included in the results so that you can perform actions on all To Do entries.

The **Related To Do Entries** zone supports all the actions available on the **To Do Management** portal. You can do mass assignment, mass updates to priority, mass addition of a log entry, and mass completion. In addition, you have access to the **Work** button to push all the related To Do entries into your Worklist. The actions are only available if a user is allowed to work all the related To Do entries.

On the **To Do Management** zone and the **To Do Details** zone on the **To Do Dashboard** portal, the link for the Related To Dos message now brings you to the **To Do Entry** maintenance portal. Previously, you were brought to the **To Do Search** page where you could do actions only on the To Do entries related to the one in the results.

This does not impact any extensions.

The ability to action one or more related To Dos on the **To Do Entry** maintenance portal provides improved support for managing multiple records.

Steps To Enable

No steps are required to enable this feature.

Improved Display on Filters on To Do Dashboard Portal

Prior to this release, the same filters impacting all charts on the **To Do Dashboard** portal were displayed redundantly within each chart zone. As of this release the display of these filters, and the ability to reset them, has been moved to a central zone at the top of the portal.

Displaying filters in a central zone as opposed to being embedded in each chart zone adds clarity about the content being displayed and improves the usability of the portal.

Steps To Enable

No steps are required to enable this feature.

Standardize Providing Comments on Various To Do Dialogues

The following dialogues has been enhanced to be consistent with respect to prompting for comments and adding a user log entry when updating or completing one or more to do entries:

- To Do Entry
  - The **Edit** action includes the ability to add a user log entry. That saves a user from having to click the Log tab and then click **Add User Log Entry**.
  - If there are related To Dos, the **Complete** action on the related To Do entries zone is enhanced to prompt for a user log entry. If there is only one To Do included in the selection, the prompt also includes comments, showing the current value of the comments. The **Update** action on this zone already prompted for a user log entry and is enhanced to also include comments if only one To Do Entry was chosen.
- To Do Management
  - The **Complete** action has been enhanced to prompt for a user log entry. If there is only one To Do included in the selection, the prompt also includes comments, showing the current value of the comments.
  - The **Update** action already prompted for a user log entry and is enhanced to also include comments if only one To Do Entry was chosen.
- Current To Do sidebar zone
  - The **Complete** action has been enhanced to prompt for comments and user log entry.
  - The **Complete All** action (applicable when there are related To Do Entries) has been enhanced to prompt for a user log entry.

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
- Batch Job Submission Portal
- Batch Email Includes Environment Information
- Improved Batch Submission
- Batch Level of Service Web Service
- Parameter Validation Algorithm on Batch Control
- Batch Control Options
- Batch Control Portal
- Improved Display of Batch Thread Level Information
- Batch Level of Service API Includes Supporting Details
- Batch Submission by Batch Group
- Batch Thread Strategy by Actual Keys
- JSON Format Support for Plugin-driven Extract
- Large File Upload Improvements

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 plug-in 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.

Batch Job Submission Portal

The **Batch Job Submission** page has been converted to a portal, leveraging a more flexible user interface metaphor. The portal organizes information in a way that makes it easier to review and enter key details, such as batch job parameters.

In addition, the following user interactions were changed in the portal:

- The **Add** dialog now requires the batch control to be entered via a popup map.
- The **Duplicate and Queue** action is renamed to **Duplicate**.
- A new action of **Rerun** has been introduced. This action has the same behavior as **Duplicate** with the exception that it populates the batch rerun number with the batch number in context. This replaces the current dialog whereby a user must manually enter the batch number to be rerun in the batch rerun number field.
- The action buttons now only appear if the user has "execute" access for the batch control in context and has security access to the "queue" action for the batch job submission application service.
- New searches have been introduced for both the batch control entry, on the add popup, and the batch user on the add, duplicate, and rerun input pages. For batch controls, the results are restricted to batch controls to which the user has access. For users, results are restricted to users who have access to the batch control in context.
- The batch number is now displayed as a link to the batch run tree. This replaces the context menu.
- Several fields have been rearranged to increase the amount of space available for the batch parameters. This includes:
    - Moving the submission method to the **Record Information** section.
    - Moving the override and debugging parameters to a collapsed **Additional Run Details** section under **Record Information**. Note that this applies to input windows as well.
    - Suppressing the submission user field if the batch user and submission user are the same.
    - Removing the detailed description column from the batch parameters grid and replacing it with a widget that can be clicked to show the detailed description if needed.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

A new business object (BO) for Batch Job Submission and a new Determine BO algorithm linked to the Maintenance Object were introduced. The base BO includes all the user interface behavior designed for the new portal. If your implementation has introduced your own CM business object and CM Determine BO algorithm, you should review your business object's configuration and merge it into the base business object.

Upgrade scripts ensure that users with Read access to the existing application service will have access to the new application service associated with the new portal. The table below lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
Batch Job Submission Portal	F1BCHJOB	CILZRBPP

Note that any existing bookmarks for this page will take you to the previous version of the page. You need to take the following actions to move the bookmark to the new page:

1. Click the bookmark. Take note of the Batch Job.
2. Navigate to the **Batch Job Submission** portal page via the menu.
3. Search for and select the Batch Job you noted from your bookmark. This takes you to the new page.
4. Delete the existing bookmark from the **Bookmark** dashboard zone.
5. Click the **Bookmark** page action button to add a bookmark for this record for the new page.

Batch Email Includes Environment Information

The email sent when a batch job is complete now includes the domain name, if configured for the environment, directly in the email subject.

For example:

Batch Job <ID> Ended <Status> - <Domain Name>

Batch Job F1-MGDIM Ended SUCCESSFULLY - Acceptance Test 1

In a previous release, support for the domain name was added and the batch email was updated to include the domain name in the body of the email. If you were running the same batch job in multiple environments, you needed to open each email to see which environment the message referred to.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

The domain name is defined in the **Messages** tab of the **Installation Options - Framework** page using the *Domain Name* message type.

Improved Batch Submission

The following improvements were made to the **Batch Job Submission** portal:

- Security for changes to the batch user:
    - There are two users associated with submitting a batch process: the user who submits the request and the batch user who controls permissions and auditing during the actual execution of the job. It is not uncommon for implementations to set up generic users with the required batch execution

permissions, in which case the batch user and submission user may differ. Before this release, users submitting jobs online had the ability to set the batch user ID to any user. Allowing the batch user to be overridden may cause auditing issues. A new User Override (F1UO) access mode is added to the Batch Job Submission application service (CILZRBPP). Only users who are granted this access mode can override the batch user ID when submitting a batch job.

- Preserving the original user details:
    - If the submission user has override privileges, they have the ability to retain the original batch user details when duplicating or rerunning a batch job. If the Run as original user checkbox is selected, the batch user, language, and email address from the original batch run will be copied to the new batch job. If not, the user details are defaulted from the submission user.
- Simplified user dialog:
    - The user interface for submitting a batch job has been simplified to a single form without the intermediate prompt for the batch control.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

Upgrade scripts ensure that users with Add access to the existing Batch Job Submission (CILZRBPP) application service will have access to the new User Override (F1UO) access mode.

You should review user groups that are not allowed to override the batch user at batch job submission and remove their access to the User Override (F1UO) access mode.

Batch Level of Service Web Service

After you configure Batch Level Of Service on the appropriate Batch Controls, you can use this API to track the Batch Level Of Service for monitoring purposes.

The API supports two operations:

- Returns the Batch Level of Service for a batch control. You can use this to return the full Batch Level of Service information for any batch control.
- Returns the overall Batch Level of Service for each batch control that is currently running that has a Batch Level Of Service configured. You can use this to monitor critical running processes using Batch Level Of Service.

This allows the monitoring tools to use Batch Level Of Service as a monitoring metric.

Steps To Enable

System administrators should set/grant users/grant access to the access mode F1EX for the CILTBTCP application service.

Tips and Considerations

This API is only applicable if the Batch Level Of Service is configured.

Parameter Validation Algorithm on Batch Control

Many plugin-driven batch processes include parameters specific to that process. This plugin spot now provides the ability to detect any parameter errors at the batch run level, before any further processing. Previously, there was no way to validate those parameters prior to invoking the select or process records algorithms.

This is a single algorithm plugin spot. For multiple algorithms, the one with the highest sequence is used. The assumption is that algorithms for this spot will use standard error message reporting.

> **Note:** The plugin spot is only available to batch processes using the plugin-driven extract, generic, or upload process templates.

Batch Control Options

In this release users can define options on a Batch Control. These work like options on other objects such as business objects and portals. These options allow the product and your implementation to mark batch controls with additional information.

Options on Batch Control allow the product and implementations to link additional information to a batch control for special processing or for reporting purposes.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

The product provides a business service (F1-RetrieveBatchOption) to retrieve the options for a given Batch Control and option type. When calling the business service you indicate whether you expect a single option value or if there can be multiple option values.

Batch Control Portal

The **Batch Control** 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 the batch control's configuration and includes the following key features:

- Include key information in the Main section and move less important details to designated sections.
- Support description inheritance from an optional reference to a batch template.
- The display and maintenance of batch parameters is enhanced as follows:
  - Follows the concise summary / details user experience introduced on the Batch Job Submission portal.
  - Distinguish between general parameters supported by the batch framework and those implemented by the batch control program.
  - Distinguish between general parameters that are applicable to all batch controls and those that may be depend on certain functionality supported by the batch.
- The display and maintenance of Algorithms follow the user experience introduced on the Business Object portal.

- Level of service information is not always calculated when a record is displayed. Instead it is available on demand using a designated button.
- Display additional information
  - Selection algorithm if any
  - Process record algorithm if any
  - Upload algorithm if any
- A more comprehensive list of references to the batch control.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

A new business object for Batch Control and a new Determine BO algorithm linked to the Maintenance Object were introduced. The base business object includes all the user interface behavior designed for the new portal. If your implementation has introduced your own CM business object and CM Determine BO algorithm, you should review your business object's configuration and align it with the base business object.

Upgrade scripts ensure that users with Read access to the existing application service will have access to the new application service associated with the new portal. The table below lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
Batch Control Portal	F1BTCTRL	CILTBTCP

Improved Display of Batch Thread Level Information

The business service that returns the level of service information for a specific batch control (F1-BatchLevelOfService) is now aligned with the logic of the Health Check business service (F1-HealthCheck). When multiple Level of Service algorithms are plugged in on the batch control, the overall Level of Service code is populated as follows:

In addition, the **Threads** tab has been enhanced to support a Thread Summary action that summarizes instance information per thread.

Steps To Enable

No steps are required to enable this feature.

Batch Level of Service API Includes Supporting Details

The **Batch Run** portal has been enhanced to reflect the Accumulate All Instances indication set on the batch control when displaying information at the batch run thread level.

- If any algorithm returns Error, that value is returned.
- Otherwise, if any return a Warning, that value is returned.
- Otherwise, Normal is returned.

The **Reason** is set to "*See Results for Details*". In addition, the results returned by each algorithm is returned so that the caller can review the details.

This business service is called by the F1-BatchLevelOfService REST inbound web service. Users of this API will now see the additional details.

When calling the Batch Level of Service API, you now can see the supporting details when there are multiple level of service algorithms. In addition, the summarized level of detail output surfaces the most important information.

Steps To Enable

No steps are required to enable this feature.

Batch Submission by Batch Group

If multiple batch jobs are submitted for the same batch control, only one job runs at a time; the other jobs wait in the queue. There are some use cases where a batch is submitted from an online transaction to defer heavy processing to batch. If multiple users are performing the same action for different records, the jobs are queued up.

In this release, there is the concept of a Batch Group where multiple batch controls may get created for the same purpose and get associated, via an option, to a **Batch Group**. The existing F1SubmitJob "Submit Batch Job" script was enhanced to submit a job for the requested batch control or any of the batch controls associated with it using the **Batch Group** option. If the requested batch control is associated with a batch group, then the batch control with a low number of in progress batch jobs is submitted.

Note that associating a batch control with a batch group should be done with caution. You should ensure that all batch controls in the group can run concurrently without interfering each other.

As part of this enhancement, the **Additional Information** option of the **Batch Control Query** portal was also enhanced to support a search by batch control options.

When applicable, pool-based batch submission supports a more efficient way of delegating user-centric tasks to be performed via batch processes that can run in parallel.

Steps To Enable

You need to update the logic that submits the batch job to call F1SubmitJob passing the batch group.

Batch Thread Strategy by Actual Keys

Typically, system generated keys are assigned in such a way that they are evenly distributed across batch threads. This is known as the "Thread Iteration (THDS)" strategy where each thread is assigned a low to high key range that is based solely on the size of the primary key field. There are situations where keys do not evenly distribute across threads, resulting in uneven thread completion times. For example, conversion entities in the staging schema have legacy keys, which are typically not evenly assigned. This impacts the Object Validation and XML resolution batch processes that thread by legacy keys.

In this release, a new variation of the thread distribution strategy 'KEYS" was introduced where the low and high IDs for the thread are calculated based on actual keys. The range is calculated based on the total number of records in the table divided by the requested number of threads, such that each thread processes approximately the same number of records.

The new strategy is available to plug-in driven and standard monitor batch processes. These batch programs support a new **Batch Strategy** batch parameter that can be used to override the default strategy. Note that the new strategy can only be used when processing is over a table with a single system generated prime key.

Steps To Enable

To enable this feature when submitting a monitor batch or a plug-in driven batch, populate the Batch Strategy parameter with the value KEYS.

JSON Format Support for Plugin-driven Extract

The plugin-driven extract batch job was enhanced to support output formats related to JSON:

In this release, a new variation of the thread distribution strategy 'KEYS" was introduced where the low and high IDs for the thread are calculated based on actual keys. The range is calculated based on the total number of records in the table divided by the requested number of threads, such that each thread processes approximately the same number of records.

- JSON Document: You can configure this format to produce either a JSON object, which contains an array of the output records, or simply an array of output records. Whether you extract an object or an array is determined by whether or not you suppress the object Grouping name.
- JSON Lines: You can configure this format to produce a series of JSON objects. In this format, each output record is a JSON object.

Steps To Enable

To enable this feature, refer to the **Extract Record Processing** topic in the **Background Processes** chapter of the *Framework Administrative User Guide*. Several sections in that topic highlight considerations for using JSON and JSONL format.

Large File Upload Improvements

Previously, uploading a file using the plugin-driven upload batch process assumed that the content of the entire file was processed as a single unit of work. With this approach, an upload of a large file has often hit various resource limitations and timed out.

As of this release, the following features were introduced to better support large file uploads:

- A new batch control is provided for splitting a large file into multiple smaller files. Refer to batch control F1FSPLIT for more information.
- The existing **File Upload** batch algorithm entity was enhanced to support algorithms designed to process records in smaller units of work than the entire file. Note that the algorithm can still be designed to process all the records in a file as a single unit of work as before.

Steps To Enable

If you have large files to upload, choose one of the new features to better process the file.

To use the batch job that takes a large file and splits it to smaller files, complete these steps:

1. Create a batch control using the batch template File Split Template (F1FSPLIT).

2. Include this batch in the scheduler prior to the existing upload process you have for uploading the file. The file name parameter for this should be configured with an appropriate GLOB syntax to handle multiple files.

No coding changes are required for this option.

To use the feature where the algorithm can handle chunks of work, coding changes are needed. Refer to the section **The File Upload Algorithm** in the **Uploading Records** topic in the **Background Processes** chapter of the *Framework Administrative User Guide*. With this option the additional batch process to split the file is not needed.

Implementation Tool Enhancements

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

- Business Object Portal
- Additional Terms Added to SQL Allowlist
- Business Object Portal Improvements
- Extended Tree Node Broadcasting Capabilities
- Extensions Dashboard Improvements
- Maintenance of Lookup Values Improvements
- Algorithm Entity Information Portal
- Client Folder Reorganization
- Generate API Specification Files for Publication
- Improved Open API Specification
- Improved Portal and Business Object Option Configuration
- Business Service Portal
- Groovy Support for Custom Lookup Values
- Improvements to the Generate API Specifications Batch
- Maintenance Object Portal
- Script Portal
- Support Changes to a Widely Referenced Schema in Batch
- Visibility Script for Zone Header Actions
- Ability to Restrict Behavior for the Live Production Environment
- Custom Cascading Style Sheet Support Managed Content Definition
- Email Sender Support Defining 'From' Address
- Personal Identifiable Information Redaction in Logs
- Products Use Metrics
- Use Export Filename as Worklist Description
- Data Area Portal
- Data Correction Self-service - Support for Orphan Record Deletion

- Feature Configuration Portal
- UI Map Portal
- Allowlist for Sending Files as Email Attachments

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.

Additional Terms Added to SQL Allowlist

The following terms were added to the SQL Allowlist:

- CHR
- COALESCE
- LAG
- NEXT_DAY
- REGEXP_INSTR
- REGEXP_REPLACE
- REGEXP_SUBSTR
- REVERSE
- RPAD
- RTRIM
- TO_NUMBER
- XMLQUERY

Note that the terms were also added to the allowlist in previous releases via patches. This does not impact any extensions.

Additional terms included in SQL allowlist provides implementations with more capabilities when writing SQL statements in data explorers.

Steps To Enable

No steps are required to enable this feature.

Business Object Portal Improvements

Business object option types and algorithms system events are now documented in designated extendable lookups, **Option Configuration** for option types and **Algorithm Entity Type** for system events. It is noted whether they support single or multiple values. This configuration is for documentation purposes only. Previously, there was no indication as to whether a business object's option type or algorithm system event implemented a single value or supported multiple values.

Using this information, the **Business Object** portal uses an icon to highlight whether a single value option type or algorithm system event record has been overridden by a higher sequence record. The situation may occur when the business object's option or system event configuration is extended by other products or customers. In the same way, an icon is used to highlight that a business object algorithm has been inactivated. The use of these icons makes it easier to focus on configuration records that are in effect and active.

The detailed description of the option types are presented in a more user friendly and searchable way. Also, as of this release, you can maintain reasons for a specific status directly on the **Lifecycle** tab where you review and maintain all other status-related configurations.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

If you have introduced custom business object-related option types, it is recommended that you also define them in the Option Configuration extendable lookup to indicate whether the option type assumes a single value or multiple values. By default, the **Business Object** portal displays an option type that is not defined in the extendable as if it supports a single value.

In the same way, if you have introduced custom business object related system events, it is recommended that you also define them in the Algorithm Entity Type extendable lookup to indicate whether the system event assumes a single algorithm or multiple algorithms. By default, the **Business Object** portal displays a system event that is not defined in the extendable as if it supports multiple algorithms.

Extended Tree Node Broadcasting Capabilities

The Populate Node and Override Information tree node algorithms can now optionally set the broadcast fields to use. When this information is not provided, the default primary key field names are used. Previously, when a user clicked on the broadcast icon on a tree node, the broadcasted field names were hardcoded to the node entity's primary key field names. While this was appropriate for most entities, there were use cases where the broadcasted field names should have differed from key names.

In addition, these tree node algorithms can now also determine that for a specific node the broadcast icon is not applicable and therefore should not be displayed. The tree node definition must explicitly allow broadcasting for the icon to appear and the algorithm can only set it to not appear as needed for a specific node.

This does not impact any extensions.

This allows for better support of complex tree node broadcasting requirements and provides more flexible interaction with trees.

Steps To Enable

No steps are required to enable this feature.

Extensions Dashboard Improvements

The **Extensions Dashboard** portal was enhanced to show all revisions made to an extension entity in descending order in a new **Revision Control** zone. A **Configuration Migration** zone was also added to also list all Content Migration Assistant migration objects that applied changes to an extension entity. These zones appear only when an extension entity is selected.

A new **Review** tab was added to the **Extensions Dashboard** portal to highlight rare duplicate configuration issues that may arise after an upgrade. Utilities can use this information to adjust their configuration.

This does not impact any extensions.

The new user experience allows utilities and partners to improve the way they track and manage their extensions, which helps to reduce implementation costs.

Steps To Enable

No steps are required to enable this feature.

Maintenance of Lookup Values Improvements

Lookup values can be easily filtered by various criteria and a smaller set of records can be selected for update. This helps handle lookup fields, like algorithm entity, that have too many values to manage as a single list. This does not impact any extensions.

This improved user experience helps to reduce implementation costs.

Steps To Enable

No steps are required to enable this feature.

Algorithm Entity Information Portal

A new **Algorithm Entity** query and display portal is available. You can use the query portal to look for a specific algorithm entity (also referred to as a plug-in spot). In case you want to research more than one plug-in spot, the results include a worklist icon to put results in a worklist.

Once you select an entry, you are brought to a display portal where you can review information about the algorithm entity. You can use the View Plug-in Spot API link to see the hard parameters passed into algorithms for this plug-in spot. You can read the detailed description, if provided, to understand more information about how or when algorithms are called and their responsibility.

If there are any algorithm types for the plug-in spot, they are listed in a separate zone. If applicable, you can drill into the algorithm type or its script. It includes the parameters and the number of algorithms for the algorithm type.

This does not impact any extensions.

Steps To Enable

System administrators should set/grant users/grant access to the following application services:

- F1ALGENQ - Algorithm Entity Query Portal
- F1ALGENT - Algorithm Entity Portal

Client Folder Reorganization

The new folder structure does the following:

- The JavaScript files are being located in more "functional" folders, so they are easier to find, fix, and test.
- These "functional" folders are easier to bundle. Oracle Utilities Application Framework bundles JavaScript files to help performance.
- Oracle Utilities Application Framework includes some external "library" JavaScript, for example, OJet and JQuery. The library files have been relocated to make it easier to identify they are library files.

Reorganizing the folder structure makes it easier for you to locate folders, which results in faster development and bug fixes. In the future, this structure will make it easier to adopt other common development tools.

> **Note:** This enhancement only impact extensions using custom UI Maps or old style custom JSP based pages that hardcode library locations. These pages must refer to the new locations to operate as before.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

All the Oracle Utilities Application Framework references have been updated as necessary. If a UI Map has been developed that manually references a library file, it will need to be updated.

- Use the Oracle Utilities Application Framework-provided UI Map include - F1-OJETLIBS or F1-OJETLIBSR (Recommended).
- Update your UI Map to refer to the new library location. Since the library folder structure still contains the version number, you need to update it for each release.

Generate API Specification Files for Publication

Prior to this release, the publication process of product APIs involved a manual online step of downloading the OpenAPI Specification file for each web service and adjusting its content for external publication.

A new batch process, F1-APIEX, is now provided to simplify this task and generate a publication-ready specification file for each web service included in a web service category. This batch process is only applicable to anyone responsible for extracting API documentation.

This does not impact any extensions.

Steps To Enable

System administrators should set/grant users/grant access to the F1-APIEX application service.

Improved Open API Specification

The following details are included in the Open API specification for a web service:

- Request and response examples. These were available as options for a web service operation, but they are only incorporated into the open API specification as part of this release.
- Help text description for URL and query parameters.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Improved Portal and Business Object Option Configuration

It is simpler for you to set up **Portal and Business Object** options where an option's value is restricted to a set of valid values. A user can chose from a drop-down list of valid values.

The Option Configuration extendable lookup is enhanced to support a reference to a lookup field that represents the valid values for the lookup. When specified, the corresponding options maintenance UI provides a drop-down list with the corresponding lookup values and the display UI shows the corresponding lookup value description.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Business Service Portal

The **Business Service** page has been converted to a portal, leveraging a more flexible and extendable user interface metaphor. The portal organization makes it easier to review the business service's configuration and includes the following key features:

- The schema is generated upon creation of the business service. If the service is based on a data explorer zone, the schema is generated based on the zone configuration, thus streamlining and making it easier to introduce a new data explorer service.
- Navigation to the related zone for data explorer services.
- A more comprehensive list of references to the business service and its schema.

- A less cluttered sidebar by moving all business service tips and schema generation functionality to the new portal.
- Ability to test the service.

  Note: This requires security access to application service Test a Service (F1SCRTEST) in addition to the ability to add a script which is the existing alternative way for testing any service

There is no impact to existing extensions with this enhancement.

Steps To Enable

To enable implementers that already have security rights to create scripts to also test their scripts using the new Test action, provide them with access to application service Test a Service (F1SCRTEST).

Tips and Considerations

A new business object (BO) for Business Service and a new Determine BO algorithm linked to the Maintenance Object were introduced. The base BO includes all the user interface behavior designed for the new portal. If your implementation has introduced your own CM business object and CM Determine BO algorithm, you should review your business object's configuration and align it with the base business object.

Upgrade scripts ensure that users with Read access to the existing application service will have access to the new application service associated with the new portal. The table lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
Business Service Portal	F1BUSSVC	FWLTBSVP

Groovy Support for Custom Lookup Values

A new LookupHelper.getLookupInstance Java method is provided, which allows programmers to instantiate a lookup object for use in subsequent Groovy code. For example:

```
Lookup customLookup =
LookupHelper.getLookupInstance("ALG_ENTITY_FLG", "CMAL");
```

Previously, the product did not support a good method for instantiating a lookup object in a Groovy script when there was no Java class generated for the lookup.

You can instantiate a lookup object in Groovy when referring to a custom lookup value rather than using a variable.

Steps To Enable

No steps are required to enable this feature.

Improvements to the Generate API Specifications Batch

The F1-APIEX batch process no longer requires a web service category. This makes it easier to generate a complete list of specification files for all web services that are ready for publication. When a web service category is specified, the batch processing is restricted as before to those web services included in the specified category.

In addition, the definition of being ready for publication is extended to also include custom web services that are active.

Steps To Enable

No steps are required to enable this feature.

Maintenance Object Portal

The **Maintenance Object** page has been converted to a portal, leveraging a more flexible and extendable user interface metaphor. The portal organization makes it easier to review the maintenance object's configuration and includes the following key features:

- The maintenance object's hierarchical table structure is visualized as a tree. Table information is also provided as a list with worklist capability.
- The display and maintenance of Options and Algorithms follow the user experience introduced on the **Business Object** portal.
- The **Relationship** tab describes the data model relationship between this maintenance object and others.
- Additional details like the maintenance object's application service, its primary table's classification, and related portals are displayed.
- A comprehensive list of references to the maintenance object is provided.
- A less cluttered sidebar by removing the zone that shows business object information to a designated tab on the new portal.

There is no impact to existing extensions with this enhancement.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

A new business object (BO) for Maintenance Object and a new Determine BO algorithm linked to the Maintenance Object were introduced. The base BO includes all the user interface behavior designed for the new portal. If your implementation has introduced your own CM business object and CM Determine BO algorithm, you should review your business object's configuration and align it with the base business object.

Upgrade scripts ensure that users with Read access to the existing application service will have access to the new application service associated with the new portal. The table lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
Maintenance Object Portal	F1MO	CILEMOBP

Script Portal

The **Script** page has been converted to a portal, leveraging a more flexible and extendable user interface metaphor. The portal organization makes it easier to review the script's configuration and includes the following key features:

- Navigation to the algorithm entity portal for plug-in scripts.

- A more comprehensive list of references to the script and its schema.
- A less cluttered sidebar by moving all script tips to the new portal.
- Ability to view the script as text for a BPA script.
- Ability to view the display and input UI for a script that includes UI hints. This is similar to the actions available for a business object.
- Ability to test a BPA or a Service Script.

  Note: This requires security access to application service "Test a Service (F1SCRTEST)" in addition to the ability to add a script w(hich is the existing alternative way for testing any service). This should typically be enabled in development and testing environments.

In addition, the script query portal is enhanced with a new **Additional Information** option that supports searching for scripts by schema information. There is no impact to existing extensions with this enhancement.

Steps To Enable

To enable implementers that already have security rights to create scripts to also test their scripts using the new Test action, provide them with access to application service Test a Service (F1SCRTEST).

Tips and Considerations

A new business object (BO) for Script and a new Determine BO algorithm linked to the Maintenance Object were introduced. The base BO includes all the user interface behavior designed for the new portal. If your implementation has introduced your own CM business object and CM Determine BO algorithm, you should review your business object's configuration and align it with the base business object.

Upgrade scripts ensure that users with Read access to the existing application service will have access to the new application service associated with the new portal. The table lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
Script Portal	F1SCRIPT	CILZSCRP

Support Changes to a Widely Referenced Schema in Batch

Making changes to a schema requires the application to ensure the changes do not violate any schema that references it. The validation process is complex and may time out when the number of references is high. A new batch utility, Update Object Schema (F1-SCMUP), is provided to perform this type of change as a batch process, which allows for higher time limits. The user submitting the change in batch should have the same security permissions needed to perform it online. In addition, submitting the batch requires access to the Update Object Schema (F1-SCHEMAUPD) batch application service.

Supporting a batch utility to make a change to a highly referenced schema assists rare implementation tasks that cannot be completed online.

Steps To Enable

System administrators should set/grant users/grant access to the Update Object Schema (F1-SCHEMAUP) application service.

Visibility Script for Zone Header Actions

New mnemonics have been added to the Zone Action parameters in base delivered zone types. The mnemonics allow you to reference a visibility script that can check a condition and return an indication of whether or not to show the action. The mnemonics are:

- vss='scriptName'
- vinput=[...] (values to be passed to the script)
- voutput=booleanValue

The following is an example of the zone configuration for a base delivered zone that shows links to view a service script's schema. The visibility script checks the type of script being displayed and returns an output Boolean of 'true' only if the script is a service script.

```
type=LINK action=SCRIPT bpa='F1ScrStepAct' label=SVC_SCR_DA_LBL
context=[mode='VIEW_SCR_SCHEMA' scriptcd=SCR_CD] vss='F1ScrActVis'
vinput=[scriptcd=SCR_CD scriptAction='VIEW_SCR_SCHEMA']
voutput=showAction
```

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

In a future release, the product will introduce mnemonics to check a user's security access before displaying a zone header action. This information would get cached as a user's security access does not change during their session. It is recommended to wait for that feature and not to create visibility scripts for checking security. You should use the visibility script to check for conditions that could change based on the data being displayed.

Ability to Restrict Behavior for the Live Production Environment

In this release a property is introduced (isLiveProduction) to indicate that the environment is the live production environment. By default this value is set to “false”.

An example of functionality that uses this property to determine behavior is Extensions Dashboard Improvements.

This property enables the base product and implementations to implement tighter restrictions or different default behavior for a live production environment as compared to other environments.

Steps To Enable

To enable this feature, contact your Customer Success Manager to confirm your live production environment to ensure that the property value will be set correctly.

Custom Cascading Style Sheet Support Managed Content Definition

The product allows implementations to define a custom style sheet using a Feature Configuration option. In previous releases, the system only supported defining a *.CSS file and referring to the file location in the option. In this release, the feature option now also allows you to refer to a Managed Content entry.

Implementing a custom style sheet using managed content allows for implementations to override the cascading style sheet (CSS) using metadata rather than using a CSS file.

Steps To Enable

To enable this feature, complete these steps:

1. Create a Managed Content entry using the **CSS Definitions** managed content type and use this entry to define your custom style sheet definition.
2. Go to the Feature Configuration for the **Custom Look and Feel** feature type. You may need to create one if it does not exist. Use the Style Sheet option to reference the managed content entry.

Email Sender Support Defining ‘From’ Address

When an email is initiated from within the system using the business service F1-EmailService, the 'from' email address is a parameter that may be populated by the calling program. In this release, the Message Sender has been enhanced to support defining the "from" email address when defining an Email sender using the context type "SMTP From Address". If the call to the business service refers to a sender directly or relies on the default sender (defined on the Message Option) and the 'from' context type is populated, this value is used. Otherwise the value passed into the business service is used.

Note that your specific application may already have some configuration for determining the "From" email address of a given email use case, for example in Feature Configuration. If those values satisfy your implementation's use cases, then no changes are needed.

Steps To Enable

To enable this feature, complete these steps:

1. Navigate to **Message Sender** and find your email sender.
2. In the **Context** tab, add a Context Type for SMTP From Address and populate the desired value.

Personal Identifiable Information Redaction in Logs

In a previous release, the system introduced redaction rules. Implementations use these rules to identify fields that may contain Personal Identifiable Information for their customer data. In this release, the redaction rules are now used to apply to data being written to debug log files.

By default the redaction rules are applied. In a production environment, this setting cannot be turned off. However, in a non-production environment, the setting can be turned off using a Feature Configuration.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

The system uses a property to identify whether an environment is a live production environment or not. For cloud customers, this is set by the development operations team when a customer indicates they are live. For on-premises clients, you should set this property when you are live. Refer to the *Framework Administrative User* Guide for more information.

If you are in a non-production environment and the data getting written to the logs is not real customer information and you would like to turn off the log redaction, you may turn it off by adding a feature option:

1. Go to **Admin Menu** > **General** > **Feature Configuration**.
2. Look for an existing Feature Configuration record for the feature type 'General System Configuration'. If one exists, select it. If one does not exist, use the **Add** button in the page action area to add an entry for this feature type.
3. Add an entry in the option type collection for the Option Type "Turn Off Log Redaction" and enter a value of "Y".

Note that only users with the Administrator access mode (F1SU) for the Feature Configuration application service (CILTWSDP) may add this entry.

Products Use Metrics

In this release, the product delivers two maintenance objects: Product Metric Type and Product Metric Snapshot. The product uses algorithms related to these objects to calculate and capture product use metrics.

In previous releases, the product used entries in the Statistics Control and Statistics Snapshot objects to capture product use metrics, causing these tables to include a mixture of statistics related to your implementation's business processes as well as product use metrics.

Implementations do not need to manage or review the information in the new objects. The **Product Use Metrics** dashboard zones have been updated to display information captured in the Product Metric Snapshot table per the new functionality.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

If your implementation has statistic control entries related to product metrics, they will remain. The **Product Use Metric** dashboard will no longer use this information with the introduction of the Product Metric Snapshot. Consider marking the records as inactive.

Standard user interface components with associated security are provided for the new objects, but implementations do not need to manage or review the information.

Use Export Filename as Worklist Description

The **Migration Data Set Export Query** portal has been enhanced to use the data set's file name as the worklist description.

Using the export file name as a more meaningful worklist description makes it easier to work with CMA export data sets.

Steps To Enable

No steps are required to enable this feature.

Data Area Portal

The **Data Area** 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 the data area's configuration and includes the following key features:

- Better use of the Main tab space to display information concisely. For example, showing the schema in text format for a quick review similar to the business object portal.
- The list of data areas that extend this data area are readily available on the **Main** tab instead of hidden in the **Schema** tab.
- More comprehensive list of references to the data area and its schema.
- View the display and input UI for a data area that includes UI hints. This is similar to the actions available for a script.
- Uncluttering of the sidebar by moving data area tips to the new portal.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

A new business object (BO) for Data Area and a new Determine BO algorithm linked to the Maintenance Object were introduced. The base BO includes all the user interface behavior designed for the new portal. If your implementation has introduced your own CM business object and CM Determine BO algorithm, you should review your business object's configuration and align it with the base business object.

Upgrade scripts ensure that users with Read access to the existing application service will have access to the new application service associated with the new portal. The table below lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
Data Area Portal	F1DTAR	FWLTDARP

Note that any existing bookmarks for this page will take you to the previous version of the page. You need to take the following actions to move the bookmark to the new page:

1. Click the bookmark. Take note of the Data Area.
2. Navigate to the **Data Area** portal via the menu.
3. Search for and select the Data Area you noted from your bookmark.
4. Delete the existing bookmark from the **Bookmark** dashboard zone.
5. Click the **Bookmark** page action button to add a bookmark for this record for the new page.

Data Correction Self-service - Support for Orphan Record Deletion

The new Data Correction Request Root, Orphan Record Deletion, and Orphan Record Deletion Type business objects can be used together to create a request to process orphan records. In addition, there are new Backup Table Cleanup and Backup Table Cleanup Type business objects to deal with the backup tables created by the deletion request. The following points highlight features supported by these new objects:

- The Orphan Record Deletion Type defines the parameters for the deletion request, including whether to verify record counts before performing deletion and whether a backup cleanup request should be created.
- The Data Correction Request Root and Orphan Record Deletion business objects define the steps in the deletion process, including:
  - Capturing the table with orphan records, and the number of records affected.
  - Generating the SQL to perform deletion directly in the database.
  - Sending the data correction request to another user for approval.
  - Submitting a batch process to perform the deletion in background.
  - Trapping errors and allowing for the request to be cancelled or restarted if the errors are fixed.
  - Creating a new request to clean up backup tables added during the deletion processing.

Steps To Enable

Provide the required access before using the feature.

Tips and Considerations

To enable users to create requests for orphan record deletion, you must give them add access to the application service for the new Data Correction Request Root business object (F1-DATACORRECTIONRBO).

Upgrade scripts ensure that users with Read access to the existing request type all-in-one portal will have access to the new application service associated with the new query portal. The table below lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
Request Type Portal	F1REQTYQ	F1REQTYP

Access Requirements

System administrators should grant access to the F1-DATACORRECTIONRBO application service for any user that is going to create requests for orphan data correction.

Feature Configuration Portal

The **Feature Configuration** 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 the UI map's configuration and includes the following key features:

- Better use of the **Main** tab space to display information concisely.
- A standard approach for maintaining options, as used by similar entities like business object.
- External message configuration may be relevant to very few feature types. As such, the new portal includes this information only when applicable.
- Ability to enforce a single configuration record for a feature type in a configurable way that does not require Java code changes.

A new **Feature Type Configuration** extendable lookup was introduced to control whether one or more configurations are allowed for a feature type. It also controls whether external messages configuration is applicable for the feature type. By default, if an extendable lookup record does not exist for a feature type, it is assumed to allow a single configuration and not support external messages configuration.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

A new business object (BO) for UI Map and a new Determine BO algorithm linked to the Maintenance Object were introduced. The base BO includes all the user interface behavior designed for the new portal. If your implementation has introduced your own CM business object and CM Determine BO algorithm, you should review your business object's configuration and align it with the base business object.

Upgrade scripts ensure that users with Read access to the existing application service will have access to the new application service associated with the new portal. The table below lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
Feature Configuration Portal	F1FCFG	CILTWDSP

Note that any existing bookmarks for this page will take you to the previous version of the page. You need to take the following actions to move the bookmark to the new page:

1. Click the bookmark. Take note of the Feature Configuration.
2. Navigate to the **Feature Configuration** portal via the menu.
3. Search for and select the Feature Configuration you noted from your bookmark.
4. Delete the existing bookmark from the **Bookmark** dashboard zone.
5. Click the **Bookmark** page action button to add a bookmark for this record for the new page.

UI Map Portal

The **UI Map** 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 the UI map's configuration and includes the following key features:

- Better use of the **Main** tab space to display information concisely. For example, have the HTML editor more easily accessible.
- A more comprehensive list of references to the UI Map and its schema.
- Uncluttering of the sidebar by moving UI Map tips to the new portal.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

A new business object (BO) for UI Map and a new Determine BO algorithm linked to the Maintenance Object were introduced. The base BO includes all the user interface behavior designed for the new portal. If your implementation has introduced your own CM business object and CM Determine BO algorithm, you should review your business object's configuration and align it with the base business object.

Upgrade scripts ensure that users with Read access to the existing application service will have access to the new application service associated with the new portal. The table below lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
UI Map Portal	F1UIMAP	FWLTUIMP

Note that any existing bookmarks for this page will take you to the previous version of the page. You need to take the following actions to move the bookmark to the new page:

1. Click the bookmark. Take note of the UI Map.
2. Navigate to the **UI Map** portal via the menu.
3. Search for and select the UI Map you noted from your bookmark.
4. Delete the existing bookmark from the **Bookmark** dashboard zone.
5. Click the **Bookmark** page action button to add a bookmark for this record for the new page.

Allowlist for Sending Files as Email Attachments

The F1-EmailService business service supports the ability to indicate information to be sent in the email as an attachment. The service supports referencing a record in the Attachment object. In addition, for on premises clients only, it supports referencing a file path and file name directly. In this release, the file paths referenced in this direct method must be 'registered' in the File Storage extendable lookup.

Note that the validation to check against the file storage extendable lookup is delivered in this release. If your implementation uses the technique of referencing a file path and file name when calling F1-EmailService, you will need to configure appropriate entries before proceeding. The system supports defining a "parent'" directory in the file storage extendable lookup. When invoking F1-EmailService, providing a directory within the registered "parent" directory is supported. For example, if you register the path `D:\systemFiles\`, at runtime when invoking F1-EmailService, you can provide a file in the path `D:\systemFiles\CMA`.

The allowlist for file paths ensures that the files included in an email are stored in an approved location.

Steps To Enable

To continue using the technique of sending emails with files from a specified file path, complete these steps:

1. Navigate to **Extendable Lookup**a.
2. Search and select the F1-FileStorage business object.
3. Use the **Add** button to add an entry for a given file path.
4. Define an appropriate **Value** and **Description**.
5. In the **File Adapter** drop-down, choose *Native File Storage*.
6. In the **File Path**, define a valid file path that may be referenced when sending an attachment. Parent directories may be defined here. At run time, references to child directories within the directory listed here are considered supported.
7. Repeat the step for any unique parent directory that your implementation uses for indicating files to attach when calling F1-EmailService.

Integration Enhancements

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

- Support for Application Variables in Outbound Message Payload
- Object Storage Region Configuration Improvements
- URL Navigation to a Portal Using Its Navigation Option

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.

Object Storage Region Configuration Improvements

The definition of valid cloud object storage regions are now configured using an extendable lookup rather than a lookup. Defining the regions in an extendable lookup allows us to support defining both the region key and the region identifier. Previously, using a lookup to define the region supported only defining the region key. Product code was required to map the region identifier, requiring code change any time a new region was defined.

The product provides base delivered values for all the regions that are provisioned for cloud services. You can define a region for cloud object storage that is not provided by the base produce using the region value in the extendable lookup.

For backward compatibility for upgrading implementations, all regions previously provided in the lookup that are not in the list of those that the product is supplying are provided in the extendable lookup with a "CM" (customer modification) owner.

This does not impact any extensions.

As Oracle Cloud expands the regions it offers, this change allows the services to react to these new regions quickly without changes to the product code.

Steps To Enable

No steps are required to enable this feature.

URL Navigation to a Portal Using Its Navigation Option

Previously, the application supported a URL navigation to portal only via the portal's internal navigation key as the **Location URL** parameter. While a page's internal navigation key could change due to internal design implementations, its navigation option remained unchanged. As a result, it was better to share a page's navigation option with an external system than the internal navigation key.

In this release, a new URL parameter **LocationNavOpt** was introduced to support URL navigation to a portal using its navigation option.

Supporting URL navigation to a portal using its navigation option makes such UI integration flows more resilient to portal internal navigation key changes.

Steps To Enable

To enable this feature, integrations must be updated to use the new **LocationNavOpt** URL parameter with the desired navigation option code when launching the application.

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
- Configuration Deletion Portal
- Improved Migration Related Searches
- Content Migration Assistant Web Service
- Correction Allowed for Pending Import Data Set Record
- Import Data Set Cancellation
- Improved Handling of Environment Specific Entities Imported by CMA
- Migration Data Export - New Status When No Records Selected

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.

Configuration Deletion Portal

You can identify and delete configuration entities that were previously imported via Content Migration Assistant (CMA) and are no longer needed using the new **Configuration Deletion** portal.

The new portal assists a system administrator in reviewing and deleting configuration data as follows:

- The administrator selects a set of CMA import data sets that represents a complete imported configuration. This can be done via an external reference name and up to five data set IDs.
- A summary list of maintenance objects included in the reference set is presented along with the number of applied or unchanged entities for each.
- Selecting a maintenance object presents all entities for that type that exist in the current environment but are not included in the reference set. These are the entities the administrator may select for deletion.

This does not impact any extensions.

Steps To Enable

System administrators should set/grant users/grant access to the F1CFGDEL-Configuration Deletion Portal application service.

Improved Migration Related Searches

A new query option, **Included Entities**, is available in the **Migration Plan Query** portal. You can use this option to find migration plans that include other entities. In addition, you can now search for import data sets based on their bulk mode option, which is also presented in the query results.

The ability to search for migration related entities by various criteria helps you review the CMA migration configuration.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Content Migration Assistant Web Service

A new API is available, via a REST Service, to allow tools to create and monitor export and import requests for the Content Migration Assistant. The API supports several operations:

- Create a Migration Data Export Request by specifying the key elements in the JSON payload. This returns the Migration Set Identifier created.
- Return the state of a Migration Data Export Request using the Migration Set Identifier as the key.
- Create a Migration Data Import Request by specifying the key elements in the JSON payload. This returns the Migration Set Identifier created.

- Return the state of a Migration Data Import Request using the Migration Set Identifier as the key.

Steps To Enable

System administrators should set/grant users/grant access to the access mode F1EX for the application service F1MIGRDS.

Correction Allowed for Pending Import Data Set Record

An **Edit** action is now supported for minor corrections. The action is available while the record is still in pending status and the monitor batch process has not begun. Previously, an import data set that was added incorrectly had to be canceled.

Supporting an edit action on pending import data set records makes it easy to handle minor corrections and improves the user experience.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

The action requires standard change access rights to the migration data set import business object's application service (F1MIGRDIMP).

Import Data Set Cancellation

Previously, the canceled import data set status represented a request to cancel the dataset and a final status where all objects and transactions were already canceled. This caused a performance issue for the migration object apply batches as they needed to cancel (instead of apply), objects that belonged to a canceled dataset. This included the many data sets that were already fully canceled.

This release supports a distinction between a data set "pending cancel" status, that is a requested to be canceled, and the final "cancelled" status to which the data set transitions to when all its transactions and objects are canceled. With this new approach, you initially set the data set to pending cancel status and the data set is finally cancelled the next time the import data set monitor batch process runs after all the transactions and objects are canceled.

In addition, the import data set lifecycle now allows cancellation from any non-finalized status.

A new **Non-Final Data Sets** query option was added to the **Migration Dataset Import Query**, which considers only non-finalized records and allows for the cancellation of multiple data sets.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

The first batch run of the Migration Data Set Import Monitor (F1-MGDIM) batch process may take longer as it transitions all cancelled data sets to the final cancelled status.

Improved Handling of Environment Specific Entities Imported by CMA

The File Storage extendable lookup captures environment-specific information, which makes it easy to surpass file storage settings using CMA. The same issue exists with specific master configuration entities that may contain environment-specific values. These records may be initially imported from another environment, but they are typically adjusted manually to reflect current environment settings and should not be updated again by an import. In this release, a mechanism is introduced to prevent an unintentional update of such records by a CMA import. The mechanism allows for these records to be added by an import without being updated.

The mechanism works as follows:

- A new Environment Specific Business Object option may be used to mark records as containing environment specific information. The option type is available for Extendable Lookup and Master Configuration business objects, but you can configure it to be valid for other maintenance objects.
- A new migration plan pre-compare algorithm is provided that prevents an update of an entity if its business object is configured with this option. The algorithm is added to the Extendable Lookup and Master Configuration default migration plans, and you can add it to other migration plans as needed.

The File Storage extendable lookup business object is marked as containing environment-specific information using the new option. It should not be updated even if imported unintentionally from another environment.

In addition, the following changes were made to keep such entities in environment specific related migration requests:

- The wholesale **General System Options** migration request excludes extendable lookup and master configuration records if their business object indicates they contain environment-specific information.
- The wholesale **Framework Integration Configuration** migration request includes only extendable lookup and master configuration records if their business object indicate they contain environment-specific information.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

- If your implementation has other extendable lookup or master configuration business objects that must not be updated by CMA you may associate them with the new option.
- If this functionality is needed for other maintenance objects, add the new option type as valid for these maintenance objects and adjust their default migration plan accordingly.
- You may also want to review your custom migration requests to exclude these business objects as needed.

Migration Data Export - New Status When No Records Selected

In this release, a new "No Records" status value has been introduced for the Migration Data Set Export to handle the condition where no records were found by the migration request instructions. This allows you to quickly distinguish between a data set that has an error that needs to be investigated and situations where there were simply no records that satisfied the selection criteria.

The condition of no records found by the migration request instructions when exporting now uses a special status, allowing you to distinguish this condition from errors that need to be investigated.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

If your implementation has any downstream steps that are looking at the status of the Migration Data Set Export to do subsequent steps, you may need to review that logic and confirm whether any steps need to be adjusted based on this new status value.

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
- User Import with Content Migration Assistant

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.

User Import with Content Migration Assistant

The user record includes a user hash for security reasons. This hash value is calculated using a cryptography key in a given environment. When using Content Migration

Assistant to import users from another environment, the process now includes a step to recalculate the user hash value using the target environment's cryptography key.

This update means implementations can import users from one environment to another without getting an error related to the user hash.

Steps To Enable

No steps are required to enable this feature.

User Interface Experience

This section describes the new and enhanced user interfaces in this release, including:

- Support for Application Variables in Outbound Message Payload
- Focused User Access Checks for Business Object Maintenance Flows
- Standardize Bundle Portals
- Access Zone Tips via Zone Portal
- Batch Jobs Summary Zone Sorted by Start Date/Time
- Conditional Expansion of a Tree Node
- Improved Display of Overridden Labels
- Improved Process Flow Cancellation Experience
- Improved Process Flow Query
- Non-applicable Zone Header Actions Hidden on Batch Run Portal
- Process Flow Characteristics
- Sidebar Reorganization
- Worklist Sidebar Zone Hidden When Empty
- Application Toolbar Consolidation
- Determine Insight Group by Action Method
- Improved Sort Order of Insights
- New Base Display Icon Images
- Schema Time Zone Support for Date/Time Elements Stored in Legal Time
- Switch Language Zone Only Visible When Applicable
- Compact View of User Interface
- Consistent User Interface Label Justification
- File Integration Record Portal
- Option to Suppress an Explicit Map Zone's Header
- Option to Suppress the Page Title Area
- Option to Suppress Tabs on a Page

Batch Run Portal

The **Batch Run Tree** 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 for you to review and analyze performance and exception information for a batch run.

The following are the main new features supported by the portal:

- High level information and overall thread status are provided in the **Main** tab.
- Improved user experience in reviewing thread information (even for a high number of threads), which includes filtering, sorting, broadcasting of detailed information about a thread, and more. The previous tree presentation of threads, instances and error messages was not easy to navigate and review.
- Ability to review error messages across threads.
- Better way to review To Do entries created by the batch process.
- Display of file names created by the batch process.
- Display thread related analytical information.
- Display historical statistics from the last 20 runs.
- Use new actions to set and reset the Do Not Restart indication only when when the current batch run is in error and is the latest run.

In addition, a standard **Batch Run Query** portal is also provided to support search functionality.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

There is a new business object for Batch Run and a new Determine business object algorithm linked to the Maintenance Object. The base business object includes all the user interface behavior designed for the new portal. If your implementation has introduced your own CM business object and CM Determine BO algorithm, you should review your business object's configuration and merge it into the base business object.

Upgrade scripts ensure that users with Read access to the existing application service will have access to the new application service associated with the new portal. The table lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
Batch Run Portal	F1BTCCHTH	CILTBTRP
Batch Run Query Portal	F1BTRQ	CILTBTRP

Focused User Access Checks for Business Object Maintenance Flows

When a business object based entity is displayed and maintained online, the logic that prepares the data in these flows reside in designated scripts associated with the record's business object. These scripts may be designed to read other entities and call other services in addition to the main entity being processed. A common example is that a transactional object may invoke the related "type" object to get information.

User access in these specific online maintenance flows are now enhanced to focus on the main entity being processed. In the example of the transactional object invoking the related "type" object to get information, the user is not required to have access to the "type" object. Prior to this release, every one of these additional object reads and service calls were also checked for user access (in addition to the main entity being processed). This situation required that the user was granted access to secondary entities, like admin "type" objects and internal services, which inadvertently also enabled access via the main menu.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Standardize Bundle Portals

The **Bundle Export** and **Bundle Import** search portals supported a broadcast action to view the details of a bundle that deviated from standards. This is replaced by standard work list capability, which allows you to quickly review the details of each bundle from the search results.

Standardizing the export and import bundle query portals allows for a more consistent user experience across all search portals.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Access Zone Tips via Zone Portal

The **Zone Tips** sidebar zone was removed from the sidebar. You can now access these tips from the **Zone** portal. Most of the tips point to topics that are already grouped together and easily accessible from the standard online help documentation for the **Zone** portal. The allowed list of SQL functions may be viewed from a new zone header action added to the data explorer SQLs zone.

Accessing zone tips via the **Zone** portal is better integrated with specific portal content, eliminates redundancy with existing standard help information, and assists with uncluttering the sidebar of unnecessary content.

Steps To Enable

No steps are required to enable this feature.

Batch Jobs Summary Zone Sorted by Start Date/Time

The **Batch Jobs Summary** zone is now sorted by Start Date/Time, and this zone sort sequence was amended to allow pagination to preserve the start time sort sequences.

Previously, the **Batch Jobs Summary** zone was sorted by batch code, run number, and rerun number and column sorting was lost when navigating to the next and previous pages.

Sorting by start date/time allows for paging through the batch jobs in start time order, which is the preferred order for the majority of users.

Steps To Enable

No steps are required to enable this feature.

Conditional Expansion of a Tree Node

The Populate Node algorithm entity now allows business rules to set an indication of whether a tree node should be initially expanded or not. When populated, the indication overrides the setting on the tree node definition. Previously, a tree node could be defined to be initially expanded or not as part of the tree configuration. There are cases where the node should be conditionally expanded based on business rules. For example, to prevent the initial expansion when the number of child nodes exceeds a certain threshold.

Supporting a more flexible method for presenting a tree structure where some nodes are expanded and some not based on business rules allows for a better user experience.

Steps To Enable

No steps are required to enable this feature.

Improved Display of Overridden Labels

Entities that support override labels typically display both the original and overridden values, except when these labels are maintained as a list. For example, on the Lookup portal, values and their labels are displayed as a list for which the override value (if it exists) is presented instead of the original label. Previously, you had to edit the record to view the original value, and there was no visual cue as to which label was overridden.

Now a list-based display of overridable labels is standardized to show the original and overridden values so that you do not have to edit a record to see the full content.

Steps To Enable

No steps are required to enable this feature.

Improved Process Flow Cancellation Experience

When you cancel a process flow, you navigate back to the previous page you were working on. Previously, canceling a process flow resulted in a blank process flow page.

This allows for a more intuitive and efficient user experience.

Steps To Enable

No steps are required to enable this feature.

Improved Process Flow Query

By default, the process flow query now displays the current user's in-progress process flows. The user may further bookmark the query as a quicker way to get to these flows. The new **My Process Flows** query option also supports the ability to delete multiple flows as needed. You can no longer delete another user's process flow.

Previously, the process flow query portal may have been accessed from different parts of the menu by different products. As of this release, it is included in the **Tools** submenu consistently across all products.

Steps To Enable

No steps are required to enable this feature.

Non-applicable Zone Header Actions Hidden on Batch Run Portal

The **Download Zone** header action links on the **Threads** zone of the **Batch Run** portal are now shown only if the corresponding file exists and the user has security access to download the file.

In addition, the **Close** header action link is only shown when more than one batch job request was submitted for the batch run. When a single batch job exists, its parameters are displayed by default and there is no need to close the zone.

Steps To Enable

No steps are required to enable this feature.

Process Flow Characteristics

The control data area structure shared by all process flow scripts now includes a list of characteristics. Process flow scripts may populate the list as needed, and the list is saved along with the process flow record by the base product's process flow manager.

Allowing process flow business rules to capture additional details about a flow makes it easier to locate flows in progress that you may want to resume.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

If your implementation uses a custom process flow manager script, you may need to adjust it to handle characteristics in order to take advantage of this functionality. Refer to the base product's process flow manager script for more information.

Sidebar Reorganization

The sidebar content is organized into **Main**, **Favorites**, and **Tools** sidebars. These are accessible using an icon bar at the bottom of the sidebar.

A portal of type sidebar is introduced for the **Main**, **Favorites**, and **Tools** sidebar. **Sidebar** zones that represent the user's favorite options are displayed as part of the **Favorites** sidebar portal and those classified as tools are displayed in the **Tools** sidebar portal. The remaining zones are displayed as part of the **Main** sidebar portal and are considered key information.

This enhancement allows context sensitive zones to be directly linked to these sidebar portals and displayed relative to other zones on the portals. These context-sensitive zones can now be managed for user preference like any other zone.

This is the default configuration for new customers, but it is an opt-in feature for upgrading customers.

When enabled, it is recommended that you review you custom sidebar zones. When applicable, move the zones to the favorites or tools sidebar portals to unclutter the main sidebar and keep the focus on only key information.

In addition, the **To Do Summary** zone is no longer available by default on the sidebar for new installations. The **To Do Management** and **To Do Dashboard** portals, introduced in prior releases, provide better tools to manage and review this information, so there is no need to include it on the sidebar by default as well. If you wish to still use this sidebar zone, you can add it as needed. Note that the zone is retained as a custom zone for existing customers.

Steps To Enable

To enable this feature, complete these steps:

1. Go to the Sidebar Configuration Extendable Lookup.
2. Set the CI_DASHBOARD record to inactive.
3. Set the other records to active.
4. Flush the cache.

Worklist Sidebar Zone Hidden When Empty

As part of an effort to unclutter the sidebar, this zone is now hidden when it is empty. Previously, the **Worklist** sidebar zone was always present when enabled regardless of whether it contained a list to manage or not.

This update reduces unnecessary content in the sidebar and improves the user experience.

Steps To Enable

No steps are required to enable this feature.

Application Toolbar Consolidation

The application toolbar area has been streamlined to one line to allow for more space for the main display area.

Several changes have been made to the application toolbar.

- There is now a single **Menu** icon. **Main Menu** and **Admin Menu** are line items in the new consolidated menu dropdown. Note that the shortcut key previously used to open the Admin Menu (Ctrl+Alt+A) has been deprecated.

  Note that to open submenus, you need to click the line of the name of the submenu. Previously, hovering your mouse on the submenu line expected the selection.
- In addition if you have any Favorite Links, Favorite Scripts, Favorite Searches or Bookmarks configured, they are also menu items in this new consolidated menu. The sidebar zones for these are still supported.
- Navigation history is no longer a separate button. Now, if you want to see a list of your previous navigation, you simply click and hold the 'back' arrow button. The same functionality works for the 'forward' arrow button. Clicking and holding show you navigation that you had performed and have since 'gone back' from. Note that the shortcut key that used to open the History (Ctrl+Alt+H) has been deprecated.

- The badge with the environment's domain name (if populated) is now displayed directly after the product name.
- The button to toggle the sidebar to collapse / expand was previously an arrow icon on the vertical border between the sidebar and the main display area. This has been replaced by an icon in the header, adjacent to the 'help' menu icon. The icon visible depends on whether your sidebar is configured on the left or the right side of your display. Note that the shortcut key "Alt + J" is still configured for this feature.
- The **Home** icon button is now on the right side, adjacent to the toggle sidebar.
- In an environment where links to **Control Central** and **Account Information** are configured in the toolbar, these are now icons rather than link text and they are positioned before the **Advanced Search** widget.
- Finally, the toolbar is now responsive when zooming in or when resizing the browser window. As the width of the browser gets smaller, the following will occur:
    - The application name is shortened and an ellipsis is added.
    - The environment badge, if visible, is removed.
    - The application name is removed.
    - The home icon is removed.
    - Finally, the search widget is removed.

Steps To Enable

No steps are required to enable this feature.

Determine Insight Group by Action Method

An insight class defines the UI context for which insight information should be provided. Prior to this release, the types of insights included in that context were defined by a single insight group associated with that insight class. There are situations where the list of insight types may vary based on some configuration criteria like CIS division for example. As of this release, action method rules may be used to determine the insight class to use when multiple are defined for an insight class.

Allowing multiple insight groups for an insight class and determining the appropriate one to use by action method rules supports more flexible insight configurations.

Steps To Enable

No steps are required to enable this feature.

Improved Sort Order of Insights

Prior to this release, insights were sorted alphabetically by insight type code. In this release, insights are sorted by their severity category when applicable, followed by the relative sequence of the insight type within the insight group definition and only then by the insight type code.

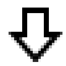
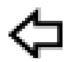
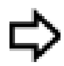
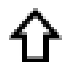
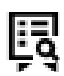
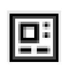
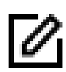
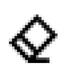
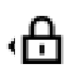
Sorting insights by severity and a configurable display order allows for a better user experience.

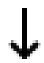
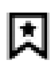
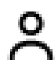
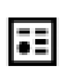
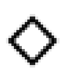
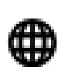
Steps To Enable

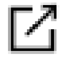
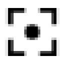
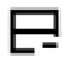
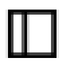
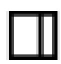
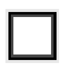
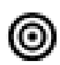
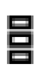
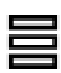
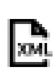
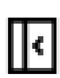
No steps are required to enable this feature.

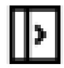
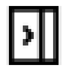
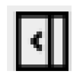
New Base Display Icon Images

The following additional SVG icons are provided for use in contextual insights, trees, and other user interface features that support SVG icons.

Icon	ID	Description
	F1ARWORD	Arrow - Open - Down
	F1ARWOL	Arrow - Open - Left
	F1ARWOR	Arrow - Open - Right
	F1ARWOU	Arrow - Open - Up
	F1CISRCH	Search - Content Item
	F1CLFT	Chevron - Left
	F1DETINFO	Information - Detail
	F1EDITBOX	Edit - Box
	F1ERASER	Eraser
	F1LOCKC	Lock - Closed
	F1LOCKO	Lock - Open
	F1MENUO	Menu - Overflow

	F1RESET	Reset
	F1RESETDD	Reset - Dirty Data
	F1RESETF	Reset - Filters
	F1SLASH	Slash - Forwards
	F1ADOWN	Arrow - Down
	F1APPRLIST	Approved List
	F1AUP	Arrow - Up
	F1BCK2MAP	Back To Map
	F1BKMARK	Bookmark
	F1CONT	Contact
	F1CONTG	Contact Group
	F1CONTGA	Contact Group - Add
	F1DATADOC	Data Document
	F1DIAMOND	Diamond
	F1DOMAIN	Domain

	F1NEWWIN	Open in New Window
	F1PAUSEC	Pause - Circled
	F1PEN	Pen
	F1RECNTR	Re-center
	F1ROWRMV	Row - Remove
	F1SBARL	Sidebar - Left
	F1SBARR	Sidebar - Right
	F1SQUARE	Square
	F1TARGET	Target
	F1TOOLSHW	Tools - Hammer and Wrench
	F1TOOLSW	Tools - Wrench
	F1VBOXNRW	Vertical Box - Narrow
	F1VBOXWIDE	Vertical Box - Wide
	F1XMLSCH	XML Schema
	F1SBARLC	Sidebar - Left- Collapse

	F1SBARLE	Sidebar - Left - Expand
	F1SBARRC	Sidebar - Right - Collapse
	F1SBARRE	Sidebar -Right - Expand

Additional icons enhance the user experience for displayed information. These have no impact on existing customizations.

Steps To Enable

No steps are required to enable this feature.

Schema Time Zone Support for Date/Time Elements Stored in Legal Time

Schema based UI already supports an implicit time zone and daylight-saving conversion to and from the element's storage and display time zones when the element is stored in standard time. As part of this capability, the element's time zone name is also presented along with its value on a display map for clarity.

Many date/time fields are historically stored in legal time and therefore could not have benefited from this functionality. As of this release, this functionality is also supported for elements stored in legal time.

New schema attributes legalTime= and legalTimeRef= has been introduced to explicitly identify date/time elements as stored in legal time and specify their storage time zone.

The schema based user interface engine has been enhanced to properly display and maintain such elements based on their time zone schema definition. Similar to existing functionality for elements stored in standard time.

Similarly, inbound and outbound message functionality has been enhanced to support time zone conversion for elements explicitly marked as stored in legal time. Similar to existing functionality for elements stored in standard time.

> **Note:** Existing elements that do not explicitly define their storage time zone are not impacted.

Steps To Enable

No steps are required to enable this feature.

Switch Language Zone Only Visible When Applicable

In this release, the **Switch Language** zone in the sidebar is now only displayed if your implementation has more than one language enabled.

In previous releases, this zone was always visible to any user that had the appropriate security for it, even if your implementation only had one language enabled.

Steps To Enable

No steps are required to enable this feature.

Compact View of User Interface

There is now a system-wide option to turn on a compact view of the user interface. This option reduces the amount of whitespace on the rendered pages.

Enabling the compact view for all users in your implementation allows for more information to be displayed without scrolling.

Steps To Enable

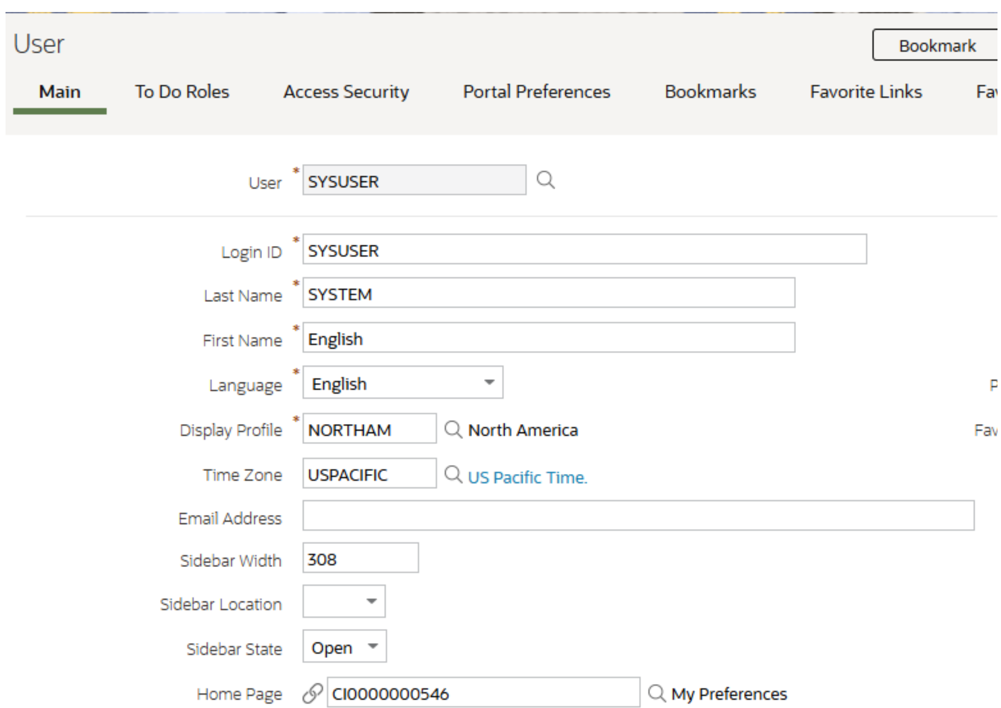
To enable this feature, complete these steps:

1. Navigate to **Admin > General > Feature Configuration**.
2. Search for a feature configuration entry for the **Custom Look and Feel** feature type. If one does not exist, use the **Add** action to add a feature configuration of this type.
3. Edit the record and add an entry in the options collection for the Option Type **"UI View"**. Populate the value as '*Compact*'.

Consistent User Interface Label Justification

All user interfaces are now showing labels as right justified as specified in the Redwood user interface standards. Previously, there was an inconsistency on which side user interface elements were justified.

In addition, the spacing of the labels has been increased to reduce the instances of label wrapping.



Steps To Enable

No steps are required to enable this feature.

File Integration Record Portal

The **File Integration Type** portal lists all the record types included in the configuration along with key details about each record type. Previously, the only way to review the entire record type definition was to edit it, which did not support navigation to various settings like data area and algorithms.

For this release, a standard **File Integration Record** portal is provided for reviewing and maintaining a record type definition. The portal also supports a list view of all record types included in the same File Integration Type configuration. The list of record types on the **File Integration Type** portal was enhanced to support navigation to the new portal.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

Upgrade scripts ensure that users with Read access to the **File Integration Type** portal will have access to the new application service associated with the new **File Integration Record** portal. The table below lists the existing and new application services.

Object	New Application Service	Access Added to any User Groups with this Application Service / Read Access
File Integration Record Portal	F1FLINRC	F1FLINTP (File Integration Type Portal)

Option to Suppress an Explicit Map Zone’s Header

By default, an explicit map zone includes a header area that includes the zone title, a zone menu (with the action to Print the zone), and a collapse/expand icon.

If there is a portal where this information is not needed, the system provides a new configuration to suppress the header. This is only recommended if there is one zone on the portal so the header title and collapsed option are not needed.

Suppressing an explicit map zone's header area allows you to have more vertical space when the page only has one zone and the standard actions on the zone header are not relevant.

Steps To Enable

To suppress a map zone header, complete these steps:

1. Navigate to the explicit map zone whose header you want to suppress via **Admin > System > Zone**.
2. In the **General Parameters** section, click **Edit All** and find the **Zone Header Visibility** parameter. Alternatively, you can select the **Show All** checkbox in the header, find the **Zone Header Visibility** parameter, and click the **Edit** (Pencil) icon.
3. Enter '*false*' in the **Parameter Value** field and click **Save**.
4. Flush the cache.

Option to Suppress the Page Title Area

You can configure a portal to indicate that the page title should be hidden. You can do this by setting a portal option with type Page Title Visibility and an option value of 'false'. Be aware of the following:

- The page actions displayed in the same row as the page title are also suppressed. As such, page designers should only use this option if the actions in that area are not needed, including **Bookmark**, **Clear**, and **Refresh**.
- This type of option is only applicable to "Standalone" portals, which is related to the **Main** tab of a page. It is not applicable to other types of portal (for example a tab page portal).
- If the page has other portals associated with it (tab page portals), the page title and page actions are also suppressed for those tabs if a user clicks on any of those tabs.

Configuration to suppress the page title and page actions allows for portal-based pages to utilize more vertical space if the title and the page actions are not needed.

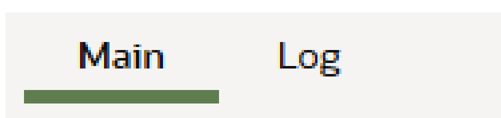
Steps To Enable

To suppress a map zone header, complete these steps:

1. Navigate to the standalone portal that defines the **Main** tab for the portal page.
2. Click the **Edit** hyperlink in the **Options** zone.
3. Add a row and choose the **Page Title Visibility** option type.
4. Enter an option value of '*false*' and click **Save**.
5. Flush the cache.

Option to Suppress Tabs on a Page

You can configure a portal-based page to indicate that a tab should never appear. This is an example of the **Tab Menu Area** where tabs appear on the **To Do Entry** page.



You would only want to hide the tab menu if the page has one tab (the **Main** tab), and you would like to suppress the whole **Tab Menu Area** and provide more vertical space. You can use the **Tab Menu/Tab Visibility** option type with a value of 'false' to make this change.

Additionally, you can define a service script that checks a condition and only display the tab if the conditions are met. For example, on the **Business Object** page, the **Hierarchy** tab is only applicable if the business object being viewed is part of a hierarchy. You can use the syntax `ss='serviceScriptName' input=[ ] output=booleanValue` to configure this option. Similar to zone visibility configuration, the input supports one or more name value pairs: `input=[ELEMENT_NAME=ELEMENT_REF ELEMENT_NAME=ELEMENT_REF]`, where ELEMENT_NAME is the target XPath in the service script to populate and ELEMENT_REF is either a hard-coded value surrounded by single quotes or any portal or global context field. For example, a script to check if a business object has any hierarchy may have the option type populated as follows: `ss='CM-CheckHierarchy' input=[bo=BUS_OBJ_CD] output=shouldShowTab`.

When a tab portal is configured with a visibility option, the **Tabs** zone on the related **Main** (standalone) portal will indicate that the tab is conditional.

Tabs

	Sequence	Tab Page	Portal	Conditional
1	2	Schema	Business Object Schema	☐
2	3	Algorithms	Business Object Algorithms	☐
3	4	Options	Business Object Options	☐
4	5	Lifecycle	Business Object Lifecycle	☐
5	6	Lifecycle View	Business Object Lifecycle View	☐
6	7	Hierarchy	Business Object Hierarchy	☑
7	8	References	Business Object References	☐

Steps To Enable

See the feature description above for details.

Miscellaneous Enhancements

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

- Adjusted Locale for English Language
- Improved Explorer Zone SQL Maintenance
- Portal and Zone Roles
- Upload Large Attachments to Object Storage
- Maintenance Portal Configuration Improvements
- Option Configuration Visibility on Lookup Portal
- New Platform
- Sharing Attachments as Links
- Support for External URL-based Attachments
- Groovy Update to 3.0.17

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.

Improved Explorer Zone SQL Maintenance

Copy and delete actions are available in the SQLs zone when maintaining a data explorer zone. These actions are only allowed in an environment that owns the zone.

This makes it easier to configure queries.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Portal and Zone Roles

An explicit definition of the functional role associated with portal and zones is provided.

Assigning the functional role of portal and zones in metadata allows for a more streamlined conversion to corresponding Redwood templates and other role-related configuration enhancements in the future.

This does not impact any extensions.

Steps To Enable

No steps are required to enable this feature.

Upload Large Attachments to Object Storage

By default, an attachment is uploaded and stored in the database along with its entire content. Prior to this release, the process of uploading very large content like videos etc. was often limited by memory constraints. In addition, storing large content in the database is costly.

As of this release, the upload process has been enhanced to support an optional configurable threshold above which content is stored in Oracle Cloud Infrastructure Object Storage and a link to the file is kept on the attachment record.

To enable this functionality, define the object storage attachment location and threshold size in the General System Configuration feature configuration. In addition, you may also use the same feature configuration to set a maximum aggregate size for concurrent attachment uploads for performance reasons.

This feature is an opt in. If such configuration is provided then large attachments are stored in Object Storage, else they are stored in the database subject to existing resource limitations if any.

The following are known limitations with storing content in Object Storage:

- The responsibility for data recovery of attachment content shifts to the customer as part of their Object Storage files management.
- Custom logic if any that relies on attachment content to exist in the database will not work for attachments stored in Object Storage.

Steps To Enable

To enable this feature, complete these steps:

1. Add the **Attachment Location** option to the General System Configuration feature configuration.
2. Set the **Attachment Threshold Size** option on the same feature configuration.

3. Optionally, set the **Maximum Attachment Aggregate Size** option on the same feature configuration.

Maintenance Portal Configuration Improvements

Previously, introducing a new maintenance portal would require manual effort to generate a corresponding maintenance zone, a maintenance script, and an **Add** portal action. In this release, these artifacts can be generated along with the new maintenance portal.

Generating more of the artifacts needed to support a maintenance portal saves implementation time and increases product quality.

Steps To Enable

No steps are required to enable this feature.

Option Configuration Visibility on Lookup Portal

The **Lookup** portal is enhanced to simplify the review of lookup fields that represent standard options by providing a navigation for each lookup value to its corresponding Option Configuration extendable lookup record.

This improves usability by providing a navigation to additional option configuration information for applicable lookup fields.

Steps To Enable

No steps are required to enable this feature.

New Platform

A new platform ensures you are current with the latest technologies and compliant with support and industry standards.

The following changes to the platform were implemented:

- As per previous releases, the latest versions of Google Chrome, Microsoft Edge, and Mozilla Firefox are supported. It is recommended you use the relevant corporate editions of these products.
- The products now support the latest releases of Java 17. Java 8 is not supported in this release. You must upgrade all your Java extensions and related site-specific third-party libraries to Java 17 for this release. Libraries supplied by Oracle in the installation are pre-certified, but any additional libraries must be appropriate for Java 17. Refer to the Oracle JDK Migration Guide for more information on utilities to use and to learn about the process.
- Oracle Database 19c and Oracle Database 23ai are now supported for customers. Refer to the Oracle documentation for details of the upgrade process.
- Oracle Linux 8.x and Oracle Linux 9.x are now supported to house the product tiers. In this release, Oracle Solaris and IBM AIX are not supported as Oracle WebLogic no longer supports those platforms.

Platform changes are necessary to keep the products and service current and compliant with support and industry standards.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

Refer to the installation documentation available for your product and the *Certification Matrix for Oracle Utilities Products* (Doc Id: 1454143.1) available from My Oracle Support for additional information.

Sharing Attachments as Links

Previously, including large attachments in emails was rejected due to content size or caused performance issues. This release supports the ability to share attachments as links instead of sharing their content.

A new **Maximum Email Attachment Size** feature option was added to the General System Configuration feature type to give you the flexibility of restricting the size of actual attachment content embedded in emails. When populated, attachments with their content stored in the database that exceed the size limit are provided as links when attached to emails.

Attachments that are not stored in the database, such as those stored in object storage or their content is referenced via an external URL, are shared only as links when attached to emails.

Steps To Enable

No steps are required to enable this feature.

Support for External URL-based Attachments

Documents residing in an external system can be made available as attachments using a new External URL business object. When adding an attachment, the user can specify a file name (as before) or a URL to a document in an external system.

This allows users to internally reference such attachments as needed to support their business requirements.

Steps To Enable

No steps are required to enable this feature.

Groovy Update to 3.0.17

Groovy was upgraded from 3.0.7 to 3.0.17.

The Groovy upgrade was necessary for Java 17 compatibility.

Steps To Enable

No steps are required to enable this feature.

Tips and Considerations

Groovy has updated its compile time type interface validation system and added some restrictions. Some scripts and/or code may need to be updated to fix issues encountered at the compilation stage. It is strongly advised to run Compile All Groovy Scripts (F1-CAGVY) and remediate any compilation errors before the upgrade so that existing compilation errors are not attributed to this groovy upgrade.

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 v25.4, or is planned for removal.

- Deprecated Items
- Items Planned for Future Deprecation

Deprecated Items

This is a list of functionality / system data that Oracle already removed from the Oracle Utilities Application Framework.

- Legacy User Experience (OPE)
- Batch Run Statistics Portal/Sidebar Zone
- Ability to Switch to the Previous User Experience
- Message Legacy Page Metadata
- Display Icon Legacy Page Metadata

Legacy User Experience (OPE)

Removed the OPE engine and as an alternative to the Redwood user experience.

Batch Run Statistics Portal/Sidebar Zone

With the introduction of the new **Batch Run** portal, **Batch Day Dashboard** and **Batch Analytics**, the usefulness of the **Batch Run Statistics** zone is limited and was removed from Oracle Utilities Application Framework.

The **Batch Run Statistics** portal provided 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.

The **Batch Run Statistics** portal was accessible from the original **Batch Job Submission** fixed page. Most functionality in the **Batch Run Statistics** portal is now visible in the **Batch Run** portal. There were additional functionality on the **Batch Run Statistics** portal related to capturing additional information from an external tool. This information is not supported in a future release.

Ability to Switch to the Previous User Experience

Previously, the product supported the ability to switch from the Opattern Enterprise user experience to the Redwood user experience. Going forward, only the Redwood user experience is supported.

Message Legacy Page Metadata

Replaced by portal-based user interface.

Display Icon Legacy Page Metadata

Replaced by portal-based user interface.

Items Planned for Future Deprecation

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

- Ability to Log In with SYSUSER
- Support for Zone Header Map
- Support for Cube Viewer
- Support for Guiding Business Process Assistant (BPA) Scripts
- Support for Switch UI View
- Workflow and Notification Metadata and Database Tables
- Mobile Application Framework Metadata and Java Packages
- Key Ring Validation Scripts, Algorithm Types, and Algorithms
- UI Metadata Related to Converted Pages
- Miscellaneous System Data
- XSLT Managed Content Type
- REST IWS - Original REST Servlet
- Append Setting from Pagination
- Support for Master/Subordinate Servers for Web Service Catalog
- Legacy User Experience (OPE)
- F1-MAINPROC Business Object Read When Pre-processing Exists

Ability to Log In with SYSUSER

The system provides a user out of the box: SYSUSER. In an upcoming release, the product is going to limit the ability to log in using SYSUSER. Implementations should plan to review all their processes and identify ones where SYSUSER is used for system authentication and authorization and instead define a proper user for the process.

In addition, other system delivered users provided as template users will limit login access in an upcoming release.

Support for Zone Header Map

Currently all base delivered zone types support a parameter called Zone Header Map, which can be used to override the zone's header area. The reasons for using this may be to have more control over Actions in the header and to be able to suppress the header.

In a future release, we are no longer going to support defining a zone header map. Implementations should review any zones that are currently defining a custom zone header map. If the map is used to implement actions, use the existing zone action parameters to implement this functionality. If the map is used to suppress the header, an upcoming release will provide zone configuration to achieve this functionality.

Support for Cube Viewer

In the future, the product plans to remove support for the Cube Viewer. Note that this includes support for the F1-COLOR characteristic type that is only used by Cube Viewer. The product uses the F1-Color extendable lookup going forward.

Support for Guiding Business Process Assistant (BPA) Scripts

In the current release, the product supports guiding BPA scripts that surf on top of one or more application pages and interact with these pages in parallel to script execution. This approach is considered legacy functionality and as such limited to fixed pages. It does not work with portal pages. In the future, the product plans to remove support for such scripts.

Support for Switch UI View

In a future release, the F1UIVIEW application service related to the function to switch the user interface to an older user experience will be removed.

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 and Java Packages

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 and Java packages will be removed in a future release. CM Java code that references services or methods in the ../mobile/.. package should be reviewed.

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.

- Script
    - scriptMaintenanceMainPage
    - scriptMaintenanceStepPage
    - scriptMaintenanceStepAccordion
    - scriptStepSendFieldsGrid
    - scriptStepPromptsGrid
    - scriptStepReceiveFieldsGrid
    - scriptMaintenanceCopyStepPopup
    - scriptDataArea
    - scriptDataAreaGrid
    - scriptSchemaPage
    - scriptMaintenanceEligPage
    - scriptMaintenanceEligCritGrid
    - scriptTree
    - scriptMaintenanceTabMenu
- Maintenance Object
    - maintenanceObjectAlgorithmsGrid
    - maintenanceObjectAlgorithmsPage
    - maintenanceObjectGrid
    - maintenanceObjectTabMenu
    - maintenanceObjectOptionsGrid
    - maintenanceObjectMainPage
- Business Service
    - businessServiceMainPage
    - businessServiceSchemaPage
    - businessServiceTabMenu
- Batch Run Portal
    - batchRunTreeMaint

    - batchRunTree
    - batchRunTreePage
    - batchRunMaintPage
    - batchRunTabMenu
- Batch Submission Portal
    - batchSubmitMainPage
    - batchSubmitTabMenu
    - batchJobParmGrid
- Business Object Portal
    - businessObjectAccordionPage
    - businessObjectAccordionPrtPage
    - businessObjectAlgorithmsGrid
    - businessObjectAlgorithmsPage
    - businessObjectLifecyclePage
    - businessObjectMainPage
    - businessObjectOptTypeGrid
    - businessObjectSchemaPage
    - businessObjectStatAlgGrid
    - businessObjectStatTRRuleGrid
    - businessObjectStatusOptionGrid
    - businessObjectSummaryOptTree
    - businessObjectSummaryPage
    - businessObjectSummaryUseTree
    - businessObjectTabMenu
- Lookup Portal
    - ctLookUpMaintListGrid
    - ctLookUpMaintMainPage
    - Any help navigation keys
- Algorithm Portal
    - algorithmMainGrid
    - algorithmMainPage
    - algorithmTab
    - Any help navigation keys
- User Group Portal
    - userGroupMainPage
    - userGroupProfileGrid
    - userGroupProfilePage
    - userGroupTabMenu

    - userGroupTabMenu2
    - userGroupUserGrid
    - userGroupUserPage
    - Any help navigation keys
- 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	F1MgOlmpMnt	Not in use by base functionality
Script	F1MgoSqlPks	Not in use by base functionality
Script	F1MgOlmpPst	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.

Legacy User Experience (OPE)

As part of the Oracle policy to move all user experiences to Redwood, the legacy user experience known as OPE (OPower Enterprise) will be disabled and replaced with Redwood from Oracle Utilities Application Framework 24.2.0.0.0 (24B) and above. As part of that change, the following will be implemented:

- The Redwood experience will be the only experience available for all customers.
- The user experience settings and switch between user experiences will be nullified.
- The existing legacy rendering engine will be removed from the product.

This change prepares the products for the implementation of the new Oracle rendering engine, which will be transparent to customers, which is optimized for the Redwood user experience to help deliver innovative and intuitive user experiences for our customers that are consistent across Oracle's portfolio of products.

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.

Known Issues In This Release

This section provides details for known issues in this release.

Oracle Utilities Work and Asset Management Known Issues

The following are known issues in this version of Oracle Utilities Work and Asset Management at the time of release:

Name	Reference Number	Description	Workaround (if applicable)
Operational Device Management Asset portal	38016903	The **Asset** portal used with Operational Device Management was replaced with the **Operational Device Management Asset** portal, secured by the Operational Device Management Asset Portal (W1ODMAST) application service. This application service was not automatically added to all user groups where access existed to the old **Asset** portal. To workaround the issue, please add the Operational Device Management Asset Portal (W1ODMAST) application service to any appropriate user groups until a fix can be provided to automatically grant this access.	To access the **Operational Device Management Asset** portal, add the Operational Device Management Asset Portal (W1ODMAST) application service to the appropriate user groups.

Oracle Utilities Application Framework Known Issues

The following are the known issues in this version of Oracle Utilities Application Framework which may affect Oracle Utilities Work and Asset Management at the time of release:

Name	Reference Number	Description	Workaround (if applicable)
Cleanup Request Type search not working properly on Orphan Deletion Type	37628011	When editing an Orphan Deletion Type request type or when adding one after viewing an existing record, if you try to search for a Cleanup Request Type, it is defaulting the value to the Request Type in context. This is likely not the correct one.	You can work around this by finding the Cleanup Request Type code and copying it into your clipboard, and then pasting that value into the input field rather than trying to use the search. Alternatively, for an add scenario, you can leave the page and then use the menu to add the request type (without viewing an existing value first).

Name	Reference Number	Description	Workaround (if applicable)
JSON Lines extract with concatenation is incorrectly creating '*.tmp' files.	37610732	JSON Lines is a newly supported extract format. The format does not produce a proper JSON Document, but rather a list of JSON documents. It means that the whole document does not need to be surrounded with any characters like {} or []. (Unlike the JSON format, where the final document is a proper JSON object or array). Because of this, when requesting concatenation for a multi-threaded process, the individual threads and the final concatenated file can all have the *.jsnl extension. The code was released with the incorrect logic of using a *.tmp extension for the individual threads. That logic was needed for the JSON format, but not the JSON Lines format. It will be fixed to use the *.jsnl extension for individual threads.	There is no work around needed, but implementations should not be planning any downstream logic that expects the individual thread files for JSON Lines output to have a "*.tmp" extension.
Unable to convert W3C schema to XML	37580078	The issue can occur while calling the toXML() method of com.splwg.base.messaging.impl.json.JSONToXMLJettisonConverter class while running batches.	As a workaround, copy the 'woodstox-core-6.4.0.jar' and 'stax2-api-4.2.1.jar' jars from weblogic installation directory (<wls-dir>/ oracle_common/modules) and add them to standalone/lib and tpw/lib folder and restart the ThreadPoolWorker.
Drop ILM Partition Support For All MOs	37653601	Allow Drop Partition Approval Request Creation If Previous One Is Rejected	Approver user should not perform any rejections. If the Drop Partition Approval Request was created in error, have the Requester user cancel it.