

# **Oracle Utilities Customer Care and Billing**

Release Notes

Release 2.7.0.3

**F21755-01**

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Oracle Utilities Customer Care and Billing Release Notes, Release 2.7.0.3

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# Preface

Welcome to the Oracle Utilities Customer Care and Billing Release Notes.

These release notes provide an overview of the new functionality, enhancements, known issues, and other important information in this release.

## Audience

This document is intended for anyone installing or using Oracle Utilities Customer Care and Billing.

## Related Documents

For more information, refer to these Oracle documents:

### **Installation Guides and Release Notes**

- *Oracle Utilities Customer Care and Billing Release Notes*
- *Oracle Utilities Customer Care and Billing Quick Install Guide*
- *Oracle Utilities Customer Care and Billing Installation Guide*
- *Oracle Utilities Customer Care and Billing Database Administrator's Guide*
- *Oracle Utilities Customer Care and Billing Optional Products Installation Guide*
- *Oracle Utilities Customer Care and Billing Licensing Information User Manual*

### **Administrative and Business User Guides**

- *Oracle Utilities Customer Care and Billing Administrative User Guide*
- *Oracle Utilities Customer Care and Billing Business User Guide*

### **Supplemental Documents**

- *Oracle Utilities Customer Care and Billing Server Administration Guide*
- *Oracle Utilities Customer Care and Billing Security Guide*

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## Conventions

The following text conventions are used in this document:

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

## Acronyms

The following acronyms and terms are used in this document:

Acronym	Definition
CCB	Oracle Utilities Customer Care and Billing
OUAF	Oracle Utilities Application Framework

# Chapter 1

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## Release Notes

This document provides general information about Oracle Utilities Customer Care and Billing V2.7.0.3, including:

- [Release Overview](#)
- [Database Changes](#)
- [Enhancements in Oracle Utilities Customer Care and Billing](#)
- [Known Issues in This Release](#)
- [Deprecation Notices](#)
- [Supported Integrations](#)
- [Demo Data Information](#)
- [Oracle Utilities Application Framework v4.4.0.1 Release Notes](#)
- [Oracle Utilities Application Framework v4.4.0.2.0 Release Notes](#)

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

## Release Overview

This section provides an overview of this Oracle Utilities Customer Care and Billing release. The release includes the following components:

- Oracle Utilities Customer Care and Billing V2.7.0.3
- Oracle Utilities Application Framework V4.4.0.2

Please visit My Oracle Support (<http://support.oracle.com>) and Oracle Software Delivery Cloud (<http://edelivery.oracle.com/>) for the most recent service packs and patches for Oracle Utilities Customer Care and Billing V2.7.0.3 to ensure you have the most current version of this product.

## Supported Platforms

Refer to the **Supported Platforms** section in the *Oracle Utilities Customer Care and Billing Installation Guide* included in this release for an updated list of supported platforms.

## Supported Upgrades

This version of Oracle Utilities Customer Care and Billing has been tested with the following “one-step” upgrade paths:

- From Oracle Utilities Customer Care and Billing V2.7.0.1.0 to V2.7.0.3.0
- From Oracle Utilities Customer Care and Billing V2.6.0.1.0 to V2.7.0.3.0

Refer to the *Oracle Utilities Customer Care and Billing Database Administrator's Guide* for further details on the above and also other upgrade paths from other versions of Oracle Utilities Customer Care and Billing.

## Database Changes

The database enhancements for V2.7.0.3 are fully documented in *Oracle Utilities Customer Care and Billing Database Administrator's Guide*.

This section highlights some specific information to note related to database changes.

## Upgrades to Oracle Utilities Customer Care and Billing Database

The Oracle Utilities Customer Care and Billing upgrade process involves changes in the database (new tables, new columns, new indexes, column format changes etc). The changes to the database are documented in the *Oracle Utilities Customer Care and Billing Release Notes* and *Oracle Utilities Customer Care and Billing Database Administrator's Guide* for each release.

The table below lists previous releases of Oracle Utilities Customer Care and Billing along with their corresponding patch number in Oracle Software Delivery Cloud. Use the patch number to download documentation for an older release of Oracle Utilities



Customer Care and Billing. This information is useful to customers who wish to understand the extent of database changes between different releases of the product.

<b>Oracle Utilities Customer Care and Billing Version</b>	<b>Oracle Software Delivery Cloud Patch Number</b>
2.3.1	20100078
2.4.0.1	16978448
2.4.0.2	17589574
2.4.0.3	19075773
2.5.0.1	19407590
2.5.0.2	23629545
2.6.0.0	25942322
2.6.0.1	27426326
2.7.0.0	28566281
2.7.0.1	29237366

# Enhancements in Oracle Utilities Customer Care and Billing

This section describes new and enhanced features in this release of Oracle Utilities Customer Care and Billing.

The release includes:

- [Configurable Letter Print Extracts](#)
- [Letter-Oriented Customer Contact Enhancement](#)
- [Enhanced Pay Plan Processing to Optionally Consider Payments Across Different Debt Classes](#)
- [Enhanced Payment Arrangement Search Results Grid with Service Agreement Related Dates](#)
- [Tracking Written Off Debt](#)
- [User Experience](#)
- [Payment Arrangement Request](#)
- [Deregulated Markets](#)
- [DataConnect](#)
- [Migration Plan Changes](#)

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

## Configurable Letter Print Extracts

Customer contacts that trigger letters reference a customer contact type that, in turn, references a letter template.

The LTRPRT (Letter Extract) background process (batch control) uses the extract algorithm on a letter template and is responsible for extracting information to be merged onto letters. These algorithms create the "flat file records" that are passed to a letter print software.

In this release, a new *C1-LTPEX (Letter Print Extract)* batch control is provided that produces letter extract files based on the letter extract records configured on letter templates. Each letter template may be configured with a different set of record types. Some record types have configuration options such as which characteristic types to extract or how to identify the object to extract. The layout associated with a record type can be viewed on the **Letter Template Extract Record List** zone on the letter template portal.

Refer to the **Printing Letters** section in the Oracle Utilities Customer Care and Billing *Business User Guide* for more information.

## Letter-Oriented Customer Contact Enhancement

In this release, letter-oriented customer contacts have been enhanced to include a **Print Letter** checkbox if a letter has not yet been printed. This checkbox enables an implementation to indicate whether a letter should be printed or not (e.g., if there was an

error discovered in initially attempting to print a specific letter or printing should be postponed).

In addition to the above, the **Reprint Letter** checkbox is only displayed if a letter for a customer contact has already been printed.

## Enhanced Pay Plan Processing to Optionally Consider Payments Across Different Debt Classes

Pay Plans are created and belong to a specific Pay Plan Type. A Pay Plan Type defines the Debt Class whose debt is insulated by the pay plan for the pay plan's related account's service agreements.

The *PPM (Pay Plan Monitor)* background process (batch control) is responsible for monitoring all active pay plans. It looks for payments made by the pay plan's payor and distributed against the service agreements (SAs) for the pay plan's account in the same debt class as the pay plan's debt class. It uses these payments to logically offset the pay plan's scheduled payments and determines if a pay plan has been kept, broken or remains active. There are situations where a combination of multiple debt classes, third-party pay plans, and payment distribution priority can result in pay plans being marked as broken inadvertently.

In this release, the *Pay Plan Monitor (PPM)* background process (batch control) has been enhanced to include batch parameters to instruct the logic to ignore the debt class where payments were applied while querying payments to determine if scheduled payments were satisfied.

The algorithm plugged in on the *Override Arrears Due to Pay Plan* system event, if configured, on a debt class temporarily overrides a customer's arrears using a pay plan's scheduled payments when the system looks at an account's debt from a credit & collections perspective.

In this release, the base package supplied *PP OVRD ARS (Pay Plan Override Arrears)* algorithm type has also been enhanced to allow an implementation to specify whether or not to ignore debt classes when querying payments for a pay plan. The purpose of this is to prevent collections from being initiated for a service agreement when payment has been made as per a pay plan's schedule but the payment has been distributed to a service agreement or service agreements in a different debt class to the pay plan's debt class.

## Enhanced Payment Arrangement Search Results Grid with Service Agreement Related Dates

In this release, the Payment Arrangement Search page has been enhanced to include the service agreement's Start Date and End Date (if applicable) to the sort order of payment arrangements in the results grid.

## Tracking Written Off Debt

In Oracle Utilities Customer Care and Billing, debt is written off by transferring uncollectable debt from a service agreement to one or more write off service agreements linked to the same account.

In previous releases, the adjustment created to write off debt by transferring funds from a service agreement with uncollectable debt to a write off service agreement did not capture the original source of debt (i.e., the distribution code). This made it hard to analyse the debt being written off for analytical and reporting purposes.

In this release, the write off processing has been enhanced to optionally capture the original source of debt on the adjustment used to transfer funds to a write off service agreement.

Refer to the **SA Type – Detail** section in the Oracle Utilities Customer Care and Billing *Administrative User Guide* for more information on enabling the logic to capture the original source of debt.

## User Experience

### **Multi-Language Support When Viewing a Letter Record's Layout**

On the Letter Template interface, you can define and view the letter records that will be extracted by the C1-LTPEX letter extract batch process for a letter template. You can also dynamically view a letter record's layout structure and content. This includes fields, formats, and other information. In order to accommodate implementations that support multiple languages, the description of the fields in a letter record are now displayed in your preferred language.

#### **Steps To Enable**

No steps are required to enable this feature.

## Payment Arrangement Request

A payment arrangement is an agreement with a customer to pay off severely overdue debt in installments. Bills sent to customers with payment arrangements contain charges for their current services and their payment arrangement installment amount. In a previous release, the Payment Arrangement Request was introduced and can be used by your implementation to manage the process of starting a payment arrangement. Aside from capturing the agreed upon terms of the payment arrangement (such as the service agreements and debts to include, number of installments, and installment amount), it can also manage any applicable prerequisites for starting the payment arrangement (such as down payments and approvals).

### **Auto-Canceling Abandoned Payment Arrangement Requests**

You can use a new Cancel Inactive PA (Payment Arrangement) Requests (C1-ACPAR) batch control background process that cancels eligible inactive payment arrangement requests and, if applicable, deletes a non-finalized process flow associated with a payment arrangement request that you are canceling. When trying to locate a particular payment request, this makes it easier for you to quickly identify and avoid confusion about payment arrangement requests that need to be progressed as aged or abandoned.

On batch controls related to Cancel Inactive PA (Payment Arrangement) Requests (C1-ACPAR), you can specify:

- The elapsed duration (age) from the payment arrangement request's last status change for it to be considered inactive.
- Optional: A payment arrangement request related business object to limit the payment arrangement requests to be considered eligible for cancellation.
- Optional: A specific business object lifecycle state(s) to limit the payment arrangement requests to be considered eligible for cancellation.

### Steps To Enable

You can refer to the "Detailed Descriptions" on the Cancel Inactive PA (Payment Arrangement) Requests (C1-ACPAR) batch control for configuring related batch controls.

## Deregulated Markets

### Create and Manage Products and Contracts

New consumer products and consumer contracts-related objects provide basic functionality to support capabilities to create and manage the products you offer to your customers and the resulting contracts for capturing the relationship between you and your end customer.

Consumer contracts record customer relationships. These relationships can encompass multiple services, sites, and accounts. For example, a consumer contract can be for a customer's gas and electricity supply at a single site or for a customer's water supply at multiple sites. A consumer contract can relate to one or more consumer product versions. The consumer product version linked to a consumer contract is the version of the required consumer product that is applicable for that consumer contract. This could, for example, be the consumer product version that is effective for the date the consumer contract was agreed. A consumer product version records values that are common to all consumer contracts related to that consumer product version.

Consumer products record attributes and rules that are used for consumer contracts. A consumer product can, for example, record attributes for:

- The duration of a fixed-priced period
- The amount of a contractual change, such as an exit fee
- Prices

You can use these attributes when setting up a new consumer contract or changing an existing contract. A consumer product version also records rules (for example, eligibility criteria and consumer contract rules) that are applied to set up a new consumer contract or change an existing consumer contract. These rules can, for example, create service agreements or stop service agreements.

Basic functionality is supplied for each new maintenance object. Individual implementations and future releases may extend this functionality through business objects designed for specific business processes.

### Steps To Enable

You can refer to the **Defining Consumer Contracts** section in the Oracle Utilities Customer Care and Billing *Administrative User Guide* for more information.

## Additional Market Transaction Management Capabilities

When you need to fulfill specific market processes in a deregulated market, you can use market messages to exchange information between market participants. In a previous release, the following objects were provided:

- **Inbound Market Message:** Used to capture the instance of a market message you receive from an external source.
- **Outbound Market Message:** Used to capture the instance of a market message that will initiate a message you want to send to an external source.

In this release, both the Inbound Market Message and Outbound Market Message objects have been enhanced with additional child objects with the ability to receive and send:

- Market usage details
- Market charge details
- Market payment details

Basic functionality is supplied for each enhanced maintenance object. Individual implementations and future releases may extend this functionality through business objects designed for specific-market business processes.

### Steps To Enable

You can refer to the **Market Transaction Management** section in the Oracle Utilities Customer Care and Billing *Administrative User Guide* for more information.

## DataConnect

### New Customer Data and Billing Data Extract Files

The DataConnect extract capability allows you to extract critical information from Oracle Utilities Customer Care and Billing. You can use these extracts to accelerate the processing of providing data from Oracle Utilities Customer Care and Billing to other on-premise applications and cloud solutions, or to provide data to third-party vendors.

In this release, the following additional DataConnect file extracts are provided:

- **Customer Data:** This extract file, based on tab-delimited format, can be used to communicate incremental changes in related service agreement/account/person records when specific data is changed in one or more of these related records. This may also be used to provide data from Oracle Utilities Customer Care and Billing for the initial load of customer data into other utility applications and cloud solutions. Examples of data provided in this extract file include:
  - Service Agreement related information, such as status, start and end date(s), service type information, rate related information, and linked service point information.
  - Account related information, such as customer class, bill cycle, and mailing address information.
  - Person related information, such as name, phone numbers, and email address.

- **Billing Data:** This extract file is similar to the billing data extract file in previous releases, which was in a comma-separated values (CSV) format.

### Steps To Enable

You can refer to the **Defining DataConnect Options** section in the *Oracle Utilities Customer Care and Billing Administrative User Guide* for more information.

## Migration Plan Changes

In a previous release, migration plans described as “self-contained” were released. These migration plans included additional instructions to framework objects (such as algorithms and characteristic). In this release, the changed made to the self-contained migration plans was added to the regular migration plan. Since the two plans are now the same, the self-contained, redundant migration plans will be deprecated in a future release. At that time, any reference to them by any migration request or other migration plan will be updated to point to the regular migration plan.

Additional migration plans that did not have self-contained counterparts were updated to include instructions for algorithms.

Here are additional migration plan changes:

- C1-CISDivision is updated to include missing reference to autopay route type.
- C1-CalculationGroup is updated to include child maintenance object calculation rule.
- C1-CalculationRule is updated to include child maintenance object calculation rule eligibility.
- C1-SAType is updated to include child maintenance object SA Start Options.
- C1-LetterTemplate is updated to include child maintenance object letter template extract record.

## Known Issues in This Release

This section lists known issues and bugs not fixed in this release of Oracle Utilities Customer Care and Billing and Oracle Utilities Application Framework.

- [Known Issues in Oracle Utilities Customer Care and Billing](#)
- [Bug Fixes Not Included in This Release](#)
- [Known Issues in Oracle Utilities Application Framework](#)

## Known Issues in Oracle Utilities Customer Care and Billing

Following are the known issues in Oracle Utilities Customer Care and Billing at the time of this release:

Bug #	Description
30246105	Related to Contract and Products - missing Foreign Key reference constraints for the Customer Service Request Service Location (C1_CS_REQ_SVC_LOC) table

## Bug Fixes Not Included in This Release

This section lists bug fixes released for previous versions of the product that have not been included in this release. These fixes are planned for a future date for the current release using the bug numbers listed in the table below:

Original Bug	Original Version	Description	2.7.0.3.0 Post-Release
25595408	2.4.0.3.0	Held Field Activities are not processed on Start/Stop Page	29213533
28788688	2.6.0.1.0	Tender Control not balancing even after over/under is fixed by adjusting Ending Balance	29195538
28476977	2.5.0.2.0	Unable to complete a Start Request using IWS WXProcessStartStopRequest, due to duplicate error	28540313
28006231	2.5.0.2.0	Batch C1-PRGSY - the BO Status is not properly validated	29135624
28920187	2.6.0.1.0	Issue with global context not clearing when searching service points from the Main menu	29122050
29716475	2.6.0.1.0	Issue with carriage return included in the Field Order extract file	30255657
30059203	2.7.0.1.0	Issue with Start/Stop Confirmation page not showing all Service Agreement Types based on previous service for the premise	30213203
30215154	2.7.0.1.0	Issue with the Account Debt Monitor (ADM) not deleting entries from the Credit Review Schedule (CI_ADM_RVW_SCH) table	30284879
29753432	2.6.0.1.0	Issue when updating an effective multi-item service point upon completion of a field activity	30284838
30033789	2.6.0.1.0	Issues related to performance of Payment Tender Search screen	30122628
30155469	2.7.0.1.0	Issue with missing COBOL wrapper class for the "Deposit Class - Good Customer" (DPGD) system event	30265808



Original Bug	Original Version	Description	2.7.0.3.0 Post-Release
29836845	2.7.0.1.0	Issue with CMA import error due to missing error messages	30122665
28006231	2.5.0.2.0	Issue with "Purge Sync Requests" (C1-PRGSY) batch process not properly validating business object status	29135625
27661646	2.5.0.2.0	Issues with scenarios not covered by a patch (Bug ID 27410091) related to payments made after a Service Agreement's End Date but prior to the Writeoff Date	27723946
29897137	2.6.0.1.0	Issue with prepaid metering - collection process not being created prior to billing the prepaid customer	30259311
28476977	2.5.0.2.0	Issue with the Process Start Stop Request (WXProcessStartStopRequestEnter) inbound web service	28540311
30065650	2.4.0.3.0	Issue with selecting Characteristic Types from a Calculation Rule	30073164
29024106	2.6.0.1.0	Issue when creating Customer Contacts - contact can be saved without providing any context values	30188623
28971671	2.6.0.1.0	Issue when restricting data based on CIS Division	29131779

## Known Issues in Oracle Utilities Application Framework

The following are the known issues in this version of Oracle Utilities Application Framework which may affect Oracle Utilities Customer Care and Billing at the time of release:

- The display of the characteristic value on the **To Do Management** portal has inconsistent behavior for Foreign Key Value characteristics that do not have a search zone. Characteristic values should be displayed like Adhoc Value characteristics. When searching by this characteristic alone, the characteristic value displays properly.
- On the **To Do Management** portal, when saving a search that includes any characteristic value filters, the characteristic value is not retained when opening the saved search.
- Cube Type access should be controlled by the application service associated with the Cube type's "sourcing data" zone. Currently, users that have access to Cube View will see all Cube Types.
- When navigating to a portal with data in context, the search does not execute if the target portal is configured with a query zone.

- Firefox Error dialogs do not open large enough for you to view full the error message.
- Miscellaneous user interface issues, including Label/Data alignment, Help icon positioning, Dates in grids are shifted one column to the left, missing frame around Characteristics grids (Bug #29198401).

# Deprecation Notices

This section describes items that are deprecated in this release or planned for deprecation in a future release.

- [Items Planned for Future Deprecation](#)

## Items Planned for Future Deprecation

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

### Migration Plan Changes

As noted in the [Migration Plan Changes](#) enhancement, "self-contained" migration plans will be deprecated in a future release.

## Supported Integrations

The following integrations are supported in this version of Oracle Utilities Customer Care and Billing:

### Oracle Application Integrations

- CCB V2.7.0.3 to E-Business Suite (Revenue Accounting) V12.2.2+
- CCB V2.7.0.3 to PeopleSoft (Financials) V9.2
- CCB V2.7.0.3 to JD Edwards (Enterprise One) V9.1

### Oracle Utilities Product Integrations

- CCB V2.7.0.3/Oracle Utilities Analytics V2.6.0
- CCB V2.7.0.3 to Oracle Utilities Meter Data Management V2.2.0.x, V2.3.0.x
- CCB V2.7.0.3 to Oracle Utilities Service Order Management V2.2.0.x, V2.3.0.x
- CCB V2.7.0.3 to Oracle Utilities Network Management System V2.3.0.x or V1.12.0.3+
- Oracle Integration Pack for Oracle Utilities Field Work V12.2
  - Oracle Utilities Mobile Workforce Management V2.3.0.x
  - Oracle Utilities Work and Asset Management V1.9.1.x, V2.2.0.x

### Oracle Integration Cloud Integrations

- CCB V2.7.0.3 to Oracle Field Service Cloud 19A or higher

## Additional Integrations

- Oracle Documaker V12.5
- Oracle Dataraker V3.8.0.2
- BI Publisher V12c
- Oracle Utilities Customer Self Service V2.2.0.0

## 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 included in the package and includes its own installation instructions. Please refer to the *Oracle Utilities Customer Care and Billing Installation Guide* for more information or contact Oracle Support.

# Oracle Utilities Application Framework v4.4.0.1 Release Notes

This section describes enhancements, system data details and deprecation notices in Oracle Utilities Application Framework v4.4.0.1.0 including:

- [Web Services Enhancements](#)
- [Market Transaction Management](#)
- [Application Security Enhancements](#)
- [To Do Enhancements](#)
- [Integration Enhancements](#)
- [Scripting Enhancements](#)
- [Miscellaneous Enhancements](#)
- [Oracle Utilities Application Framework Deprecation Notices](#)

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

## User Interface Enhancements

### Error in Business Object Maintenance Dialogue Scrolls

When making change to a business object driven record using the pop-up maintenance dialogue any error message displayed will 'float' or scroll with the page.

Previously, error messages on a pop-up maintenance dialogue were shown at the top of the dialogue. However, if the element in error was located lower on the page and was marked as part of the error, the user needed to scroll to view the error. In this release, the dialogue has been enhanced so that the error message is always visible until the user clicks **Save** or **Cancel**.

### Steps To Enable

No steps are required to enable this feature.

### Query Filter Area Enhancement

The query data explorer filter area has been enhanced to automatically collapse when showing results to allow for more results to be visible.

In this release, we have introduced functionality in query data explorer zones. If the query results in more than two records, the filter area will automatically collapse to provide more space for the results. An **Expand Filters** button will appear to allow the user to expand and view the filters. When the filters are expanded, a **Collapse Filters** button is visible.

This functionality applies to saved searches as well.

### Steps To Enable

No steps are required to enable this feature.

## Timeline Zone Redesign

The Timeline zone has been redeveloped to improve the overall look and feel.

The redesign has the following main features:

- The calendar controls have been repositioned to be more in line with the new standards
- Events now appear as a simple circle enclosing the day in the month that the event occurred. Icons are no longer used.
- The information formerly displayed separately as hover text or within a detail section has now been incorporated into a single pop-up window that appears when the user hovers over the event.
- The zone now follows the updated color standards. Note that as part of this it means that the zone no longer supports different colors for background color, text color or icon overrides as in previous releases.
- The underlying structure has been simplified to enhance rendering and accessibility

### Steps To Enable

No steps are required to enable this feature.

## Market Transaction Management

In this release support has been provided for market transaction management

Several objects are provided to support market transaction management.

- **Market Message Type:** This object is used to define the different types of market messages, both inbound and outbound and to define the appropriate market message Business Object to use when creating objects of this type.
- **Inbound Market Message:** This object captures the instance of a market message received from an external source.
- **Outbound Market Message:** This object captures the instance of a market message that will initiate a message to an external source.
- **Market Process Type:** This object is used to define configuration related to processes that may be orchestrate related inbound and outbound market messages. It defines the market process Business Object to use when creating market processes of this type. It may also define one or more market process event business objects to initiate events that are generated to support steps within the market process.
- **Market Process:** This object captures a instance of a market process that carries out business logic for related inbound and outbound market messages.
- **Market Process Event:** This object is used to orchestrate individual events that may occur to support steps in a given market process.
- **Market Configuration:** This object may be used to capture configuration needed to support market transactions. Each type of configuration should use a Business Object to define what information needs to be captured. Each type of configuration may define up to five key fields that may be used to uniquely identify an individual configuration instance.

Note that the Framework supplies basic functionality for each maintenance object. Individual implementations and applications may extend this functionality through business objects designed for specific market transaction management business processes.

Refer to the **Market Transaction Management** chapter in the *Oracle Utilities Application Framework Administrative User Guide* as well as related sections in individual application Administrative User Guides for details about what is supported in each product.

Note that the following objects are enabled for Information Lifecycle Management (ILM). Standard ILM crawler batch controls have been provided for the maintenance objects and the maintenance objects are configured with the standard ILM eligibility algorithms.

- Inbound Market Message
- Outbound Market Message
- Market Process
- Market Process Event
- Are steps required to enable? (required)

### Steps To Enable

Security administrative users must provide access to appropriate user groups to several new application services listed below.

Application Service	Description	Access Mode
F1-IMCRL	ILM Crawler - Inbound Market Message	Execute
F1INMM	Inbound Market Message Portal	Inquire
F1-MIMMN	Inbound Market Message Monitor	Execute
F1-MKCRL	ILM Crawler - Market Process	Execute
F1-MKMSO	Outbound Market Message Monitor	Execute
F1-MKPRP	Market Process Monitor	Execute
F1MKTCFG	Market Configuration Portal	Inquire
F1-MKTCFG	Market Configuration MO	Add, Change, Delete, Inquire
F1MKTCFS	Market Configuration Query Portal	Inquire
F1MKTMSG	Market Message Query Portal	Inquire
F1-MKTMSGIN	Inbound Market Message MO	Add, Change, Delete, Inquire
F1-MKTMSGOUT	Outbound Market Message MO	Add, Change, Delete, Inquire
F1-MKTMSGTYP	Market Message Type MO	Add, Change, Delete, Inquire
F1MKTPEV	Market Process Event Portal	Inquire
F1MKTPR	Market Process Portal	Inquire
F1-MKTTPRCEVT	Market Process Event MO	Add, Change, Delete, Inquire

F1-MKTPRCTYP	Market Process Type MO	Add, Change, Delete, Inquire
F1-MKTPROC	Market Process MO	Add, Change, Delete, Inquire
F1MKTPTY	Market Process Type Portal	Inquire
F1MMTYPE	Market Message Type Portal	Inquire
F1-MPECL	ILM Crawler - Market Process Event	Execute
F1-MPEVRM	Market Process Event Monitor	Execute
F1-OMCRL	ILM Crawler - Outbound Market Message	Execute
F1OUTMM	Outbound Market Message Portal	Inquire
F1PRCQRY	Market Process Query Portal	Inquire

## Application Security Enhancements

### User Group Services Management Portal

A new portal is provided to manage application service links to user groups.

In this release, we have introduced a new portal **User Group Services Management** portal. This portal provides a list of all user groups. When a security user broadcasts a user group, additional zones appear.

- **Application Services Linked:** This zone shows the list of application services and access modes currently linked to the user group. A user may remove one or more links using this zone.
- **Application Services Not Linked:** This zone shows the application services and access modes that are not currently linked to this user group. A user may add one or more application services/access modes using this zone.

Both zones include filters allowing a user to narrow the results to a subset of records.

### Steps To Enable

Security administrative users must provide access to appropriate user groups to the application service used by this new portal.

## To Do Enhancements

This section provides information about enhancements to To Do Entry functionality.

### Ability to Work On To Do from To Do Management

The **To Do Management** portal now has a **Work** button for each entry in the search results, allowing a user to drill in and work on the To Do entry.

In this release, the **To Do Management** portal (introduced in the previous release) has been enhanced to include a **Work** button for each row in the results. Clicking this button causes the To Do entry to be the user's "current To Do", resulting in the following functionality.



- The user is taken to the page associated with the related object (the "drill key"), or if configured, it launches the BPA script associated with the To Do type.
- The **Current To Do** dashboard zone is populated with this To Do entry. This zone provides a link to view the To Do entry record and provides a button to Complete the To Do. In addition if the To Do entry has related To Do entries, the user may click a link to view the related To Do entries and provides a button to Complete All of the To Do entries.

This new column includes the **Worklist** icon, allowing a user to put all the results in the dashboard's **Worklist** zone. Once records are in the **Worklist** zone, clicking another entry triggers all the code described above. The new entry becomes the "current To Do"; the user is brought to the appropriate page or an associated BPA is launched; and the **Current To Do** dashboard zone is updated accordingly.

### Steps To Enable

No steps are required to enable this feature.

## Integration Enhancements

### More Detail in API Specification for REST Services

In this release, the API Specification generated for REST Services has been enhanced to show more useful, descriptive information.

The API Specification now displays the Inbound REST Web Service' long description at the top of the specification.

In addition, for each element in the schema of the business object, business service or service script referenced by each operation, the API specification shows information based on the element's related Field, if populated. It shows the field's label, field type and field size. In addition, if the field is a lookup, the valid values of the lookup are also displayed.

### Steps To Enable

No steps are required to enable this feature.

## Scripting Enhancements

### Support for Marking an Element in a List in Error

Syntax is provided in XPath scripting for marking an element within a list in the terminate with error statement.

The terminate with error supports 'element=' to refer to the XPath of the element in error. However, previously there was no way to support indicating a list occurrence if the element in question was in a list. In this release, support is provided by moving the proper XPath reference to a variable and then referencing the variable in the element=syntax.

### Steps To Enable

In order to correctly reference an element within a list as the element to mark for an error, script writers must update any script to configure the information.

- The 'for' loop should maintain a count of the list occurrence.
- When an error is detected, a move "concat" statement should be used to build the correct XPath syntax for the list occurrence / element to reference, populating a variable.
- The terminate with error statement should use the variable in the element= attribute.

Example:

```

move "0" to $count;
default $elementReference;
for ($list in "parm/hard/newBusinessObject/listName")
move "1 + xs:integer($count)" to $count;

    if /** check some condition for elementName

        move "concat('list[',$count,']/elementName')" to
        $elementReference;
        terminate with error (11000, 11000
element=$elementReference);
    end-if;
end-for;

```

### Ability to Mark Field in Error for Groovy Script

A new method is provided in Groovy scripting to indicate a field to mark when issuing an error.

In this release, the method `addErrorWithPath` has been added to support issuing an error from a Groovy script and providing a reference to the field in error so that the user interface can correctly mark the field. This syntax supports referencing a field within a list as well.

### Steps To Enable

In order to correctly reference an element within a list as the element to mark for an error, script writers must update any Groovy script to use the new method and configure the field to mark. The syntax is documented in the Javadocs for the method.

## Miscellaneous Enhancements

### Ability to Manually Transition Object Erasure

Users may transition an object erasure record from Pending to Discarded or Erased and from Discarded back to Pending.

Previously a user could only edit an object erasure record and adjust its erasure date. In this release, the user may now transition an object erasure record from Pending to Discarded or Erased and from Discarded back to Pending. As per standard processing, the status transitions may be controlled by application security.

**Steps To Enable**

No steps are required to enable this feature.

**Support a Summary Panel for a Process Flow**

A process flow designer may now provide a high level summary panel for a finalized process flow.

When applicable, a process flow may be configured to present the user with a high level summary of the information and events associated with a closed process flow. The summary panel is defined on the process flow type and is optional.

In addition, log records associated with a process flow record are no longer displayed as part of the query portal. They are displayed on a standard log tab on the process flow portal.

**Steps To Enable**

No steps are required to enable this feature.

**New Batch Control Template for Monitor Batch Controls**

A new batch control template is provided.

The new template is provided as an easy starting point for implementers to create new monitor batch controls and include the appropriate parameters.

**Steps To Enable**

No steps are required to enable this feature.

**Application Viewer Supported in Chrome Browser**

The application viewer is now supported in the Chrome browser.

Note that this was also hot fixed to the 4.4.0.0.0 code line. Refer to bug 29648052.

**Steps To Enable**

No steps are required to enable this feature.

**Status Added to Installed Products Collection**

A product status has been added to the **Installation Options - Installed Products** collection.

In this release, a new **Product Status** field has been introduced to the list of installed products in the **Installation Options** portal. It allows the installation step of a multi-product installation to mark one or more products in the 'stack' as inactive, meaning that certain functionality related to that product is 'turned off'.

**Steps To Enable**

No steps are required to enable this feature.

## Oracle Utilities Application Framework Deprecation Notices

This section provides information on functionality that has been removed, is no longer supported by Oracle Utilities Application Framework v4.4.0.2, or is planned for removal.

### Items Planned for Future Deprecation

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

#### Append Setting In Pagination

There are several known issues with the functionality of the 'append' option in pagination such that it is not recommended to use this pagination setting. This functionality will be deprecated in a future release.

#### Support for Master / Subordinate Services for Web Services Catalog

The Service Catalog Configuration (master configuration) supports defining subordinate servers. This functionality is no longer applicable for the Oracle Integration Cloud and will be removed in a future release.

#### Selected Functionality of the Batch Run Statistics Portal

The **Batch Run Statistics** portal provides some additional information about batch runs. However, some of the functionality provided on this page is related to capturing additional information from an external tool. This information is stored in a Fact record.

The functionality related to capturing additional information will no longer be supported in a future release. This information will still be available to existing clients, but the functionality will no longer be maintained.

#### Miscellaneous System Data

- Environment Reference. This administrative maintenance object was related to ConfigLab and Archiving, which are no longer supported. In a future release, the following will be removed:
  - Migration Plan F1-EnvironmentRef. Note that no base migration request references this plan. Implementations should ensure that no custom migration request references this plan.
  - F1-EnvironmentRefPhysicalBO business object
  - ENV REF maintenance object
- The To Do Type F1-SYNRQ (Sync Request Error) is not in use and will be deleted in a future release. Errors for the Sync Request Monitor (that also has the name F1-SYNRQ) are reported using the To Do Type F1-SYNTD (Sync Request Monitor Errors).
- The following metadata related to the legacy LDAP import pages will be removed in a future release: Services CILTLDIP, CILTLDIL, CILTLDIS, Application Service: CILTLDIP
- The following algorithm types and algorithms provided for the current LDAP import functionality do not include any logic. They will be removed in a future release.
  - Algorithm Type / Algorithm F1-LDAPIMPRT
  - Algorithm Type / Algorithm F1-LDAPPREPR

- The lookup value CHAR\_ENTITY\_FLG / F1SE (Characteristic Entity / Sync Request Inbound Exception) is not in use and will be removed in a future release.
- The zone F1-MGRREQDSP will be removed in a future release.

### **CMA Migration Requests**

The migration requests F1-FrameworkAdmin (Framework Admin) and F1-SchemaAdmin (Schema Admin) are no longer recommended and are not going to be updated with new administration / control tables in future releases. The product may deprecate them in a future release.

### **CMA Import Algorithm**

In a future release, the CMA Import algorithm plug-in spot will be deprecated. As an alternative, review any existing algorithms and create appropriate Pre-Compare algorithms.

### **Business Object Read in F1-MainProc When Pre-Processing Exists**

In the original implementation of configuration tools, if a pre-processing script was linked to the business object via options, the main framework maintenance BPA (F1-MainProc) would not perform a Read of the business object (leaving it to the responsibility of the pre-processing script).

In a subsequent release, to solve a UI Hints issue related to child business objects, a business object Read was included in F1-MainProc even if a pre-processing script existed. This solution introduced a problem only visible for specific scenarios and a different fix has been introduced. In the meantime, the business object Read is no longer necessary in F1-MainProc. Since there are many pre-processing scripts that are properly performing the Read of the business object, ideally the business object 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 business object Read was included in F1-MainProc that were coded to not perform a business object read in the pre-processing script. Due to this situation, the business object Read is still performed as part of the processing of F1-MainProc.

The product plans to remove the business object Read from F1-MainProc logic when a pre-processing script exists. Review your custom pre-processing scripts that are linked to your business object options to ensure that it properly performs a Read of your business object.

# Oracle Utilities Application Framework v4.4.0.2.0 Release Notes

This section describes enhancements, system data details and deprecation notices in Oracle Utilities Application Framework v4.4.0.2.0 including:

- [Web Services Enhancements](#)
- [Implementation Tool Enhancements](#)
- [Accessibility Enhancements](#)
- [Miscellaneous Enhancements](#)
- [Oracle Utilities Application Framework Deprecation Notices](#)

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

## Web Services Enhancements

### XSLT Storage in the Database for SOAP Services

In previous releases, you had to store eXtensible Stylesheet Language Transformations (XSLTs) files in the file system. The system now supports creating a Managed Content record for any XSLT that you can reference on a SOAP Inbound Web Service (IWS) or External System/Outbound Message Profile record.

Your decision to use Managed Content as the storage mechanism rather than the file system is a system-wide decision. The product does not support some records referring to XSLTs in the file system and managed content. You can control this setting using a Feature Configuration option on the "External Messages" feature type. If you do not define an option, the default value is that the XSLT will be stored in managed content. For new installations, we recommend storing the XSLT records as managed content.

For backward compatibility, you can use an upgrade script to add the XSL Location feature type and set the value to F1FL (file system). If desired, you can see the steps to enable below for information about adopting the new feature.

Be aware that other locations where XSLTs are defined do not support XSL in the database. This includes XAI Inbound Service and any internal functionality, such as zone type configuration, that uses XSLT. Also, be aware that the business service that supports sending a real-time email supports providing XSLT names as part of the payload. This functionality does not support a XSLT defined in managed content.

### Steps To Enable

By default, the system-wide configuration for upgrading clients is set to indicate that XSLTs used for SOAP IWS records and outbound messages are defined in the file system for backward compatibility. In order to support defining these XSLTs as a Managed Content record instead, you should perform the following steps:

1. Create a Manage Content record for each unique XSLT. If the existing file is 30 characters or less, set the Managed Content code to the same name as the existing file name.

2. Locate the feature configuration record for the "External Messages" feature type and find for the XSLT Location option.
3. Change the value to F1MC from F1FL, or you can simply remove the option as F1MC is the default. Since this setting is cached, be sure you flush the cache.
4. For each SOAP IWS record or external system or outbound message profile record that references an XSLT, confirm the name. Make any necessary changes to the referenced XSLT to ensure that it is referencing a valid Managed Content recorded for SOAP IWS records and outbound messages are defined in the file system for backward compatibility.

## REST Web Service URL Update

The published API for REST services was updated to the following URL format:

```
.../rest/apis/{ownerURIComponent}/{resourceCategoryURIComponent}/
{iwsURIComponent}/{iwsOperationURIComponent}
```

The information preceding /rest/ is needed to reference the environment. This part of the URL configuration has not changed and will continue to work like previous releases.

The following provides more information about where the various components:

- **Owner URI Component:** Configured using a new extendable lookup. Each owner flag will define its URI Component and the URL will be built using the URI Component for the owner of the REST IWS.
- **Resource Category URI Component:** A new element on the Resource Category extendable lookup. The product delivered resource categories are updated with appropriate values. For any custom Resource Categories, an upgrade script will populate the new URI Component using the extendable lookup value preceded by a slash. You should review these records and make any desired updates to the value.
- **IWS URI Component:** A new element on the REST IWS record. The product delivered IWS records are updated with appropriate values. For any custom REST IWS records, an upgrade script will populate the new URI Component using the Web Service code preceded by a slash. You should review these records and make any desired updates to the value.

The system will continue to support the REST URL format from previous releases. However, we plan to deprecate that code in a future release. You should plan to review any external REST calls and adjust them to follow the new pattern.

## Steps To Enable

No steps are required to enable this feature.

## REST Web Services Support Parameters and Additional HTTP Methods

The REST IWS was enhanced to support addition HTTP methods along with path and query parameters. On the IWS operation, the methods GET, PUT and PATCH are now supported. This is in addition to existing support for POST.

The actual actions and functionality that are triggered by a given REST service call are still controlled by the business object, business service, or service script that is configured

on the operation. For example, if you configure an operation with the HTTP method of PUT and you reference a service script that is simply reading a record, the system will perform the action of the service script and read the record. The HTTP methods are meant as external documentation.

In addition to supporting additional HTTP methods, the system also supports designing path or query parameters. When using the HTTP Method of GET, PUT or PATCH, a new child collection for IWS Operation is available for the REST IWS record. The collection is a mapping from the schema element XPath to the text that you want used for that parameter in the URL. In addition, for each parameter, you indicate whether it is a path or query parameter:

- **Path parameters:** Parameters that are part of the endpoint and required. The Operation's URI Component must declare each path parameter surrounded by curly braces. The API for the Inbound REST Web Service will include this notation so that REST callers will know what needs to be provided.
- **Query parameters:** Optional. Parameters that are not part of the endpoint. They are included in the endpoint URL after a question mark and followed by name-value pairs.

### Steps To Enable

No steps are required to enable this feature.

## Implementation Tool Enhancements

### Data Conversion Tools

You can use the following new template batch programs to convert data for enabled maintenance objects:

- **Validation (F1-CVVAL):** Validates the schema and business rules associated with a maintenance object.
- **Key Assignment (F1-CVASG):** When the primary key is system generated, generates new keys for legacy keys for a table.
- **XML Resolution (F1-CVXML):** Resolves converted foreign key references in XML storage fields.
- **Insert to Production (F1-CVINS):** Inserts data to production while resolving legacy keys across physical fields and XML storage fields.
- **Copy to Staging (F1-CVCTS):** Allows you to copy data from production back to staging in order to resolve unique conversion situations that may arise when multiple products are installed.

### Steps To Enable

No steps are required to enable this feature.

### Key Resources

You can refer to your product's online help for more information about the conversion process. You can refer to your product-specific documentation for more information on the specific maintenance objects enabled for conversion.



## Oracle JavaScript Extension Toolkit (OJET) Upgrade

Oracle JavaScript Extension Toolkit (OJET) was upgraded to accommodate security fixes within JQuery.

### Steps To Enable

No steps are required to enable this feature.

### Tips and Consideration

The new version of OJET also incorporated newer releases of other included libraries. Knockout, one of these new releases, is used for data binding. Knockout uses a JavaScript function to enable this binding, which resembles the following:

```
ko.applyBindings(viewModel, document.body);
```

With the previous OJET and Knockout releases, the `applyBindings` function only required the `view/model` parameter. The second parameter, the DOM object, was optional. With the new release, the second parameter is now required. If you have code that omitted this parameter, you will need to add it. If you do not provide it, a message will appear on the console log informing you of the situation. Be aware that while `"document.body"` is an acceptable parameter, performance may be enhanced if you can provide a smaller portion of the document. For example:

```
ko.applyBindings(viewModel,
document.getElementById('bindContainer'));
```

With the previous release of OJET v3.2, the elements were included on the page by use of the `data-bind` format. For example:

```
<div id="barChart" data-bind="ojComponent: { component: 'ojChart',
  type: 'bar',
  orientation: orientationValue,
  stack: stackValue,
  series: barSeriesValue,
  groups: barGroupsValue,
  hoverBehavior: 'dim'          }"
</div>
```

This format of definition is still supported by the current OJET v7.1 release. However, a new format of definition called Web Component is available in this release. For example:

```
<oj-chart id="areaChart" type="bar"
orientation="[[orientationValue]]" stack="[[stackValue]]"
data="[[dataProvider]]">
  <template slot="itemTemplate" data-oj-as="item">
    <oj-chart-item value="[[item.data.value]]" group-id="[[
      [item.data.quarter] ]]" series-id="[[item.data.series]]"></
    oj-chart-item>
  </template>
</oj-chart>
```

While the structure appears to be different, the actual functionality and parameter usage are almost identical to the `"data-bind"` format. Since it provides more functionality (if needed) and performance changes to make rendering faster, we recommend using the Web Component format instead of the `data-bind` format.

Be aware that OJET v8.0 and later will no longer support the deprecated `"data-bind"` format. Therefore, updating any OJET code now will provide you with immediate benefits as well as reduce or remove future implementation issues. Details and examples of the Web Component format are provided on the website listed below.

**Key Resources**

You can refer to the OJET site at <https://www.oracle.com/webfolder/technetwork/jet/index.html>.

## Accessibility Enhancements

**Alternate Row Header on Data Explorers**

For accessibility, every table in the system should define its row header as the data that uniquely identifies the row. In previous releases, for data explorer results, the first column in the results was automatically designated as the row header. There was no ability for you to designate a different column or multiple columns as the row header. In this release, a new zone column mnemonic has been introduced: `rowheader=true`. You can use this when designing a data explorer zone if the first column in the results does not uniquely define the row.

**Steps To Enable**

If you have accessible users and custom zones where the first column does not uniquely define the row, you should consider updating the zone columns to indicate the column(s) that uniquely identify the row.

**Alternate Red Text Color Option**

There are places in the products where the color red is used for emphasis. The standard red color supported in HTML does not satisfy the accessibility requirement for color contrast minimum when the background is white.

Instead of using `color=red` or `#FF0000` (the RGB color model combination for "red"), we recommend you use the following red shade on a white background:  
`color=#E0292F`.

In addition, we provide a new Cascading Style Sheet (CSS) class so that you do not have to remember the code to implement this change. You can use the class `textColorRedOnWhite`. You can use this UI maps, zone help text, and scripting. For data explorer columns, reference the RGB code.

**Steps To Enable**

No steps are required to enable this feature.

**Tips and Considerations**

If implementations are coding their own user interface components and plan to use the color red, we recommend implementing the alternate red color to accommodate any accessible users that may be impacted.

**Key Resources**

You can reference the new "Accessibility Considerations" section in the Configuration Tools chapter of the online help.

---

## Miscellaneous Enhancements

### Date and Time Extracted in XSD Format

By default, date and time fields are retrieved and extracted in an internal "OUA" format. In this release, various changes were implemented to support indicating that all date and time fields should be converted to standard XSD format:

- The plug-in driven extract batch program supplied by the product was enhanced to include a new parameter to indicate the date format.
- The F1-ConvertXMLToDelimited and F1-ConvertXMLToFileFormat business services were enhanced to include a new parameter to indicate the date format. By default, date and time fields are retrieved and extracted in an internal "OUAF" format. In this release, various changes were implemented to support indicating that all date and time fields should be converted to standard XSD format.
- The plug-in driven extract batch program supplied by the product was enhanced to include a new parameter to indicate the date format.

### Steps To Enable

No steps are required to enable this feature.

### Market Transaction Management Environment Initialization

If you plan to import market transaction management accelerator metadata, you are required as an initial step to include a new entry in the Installed Products database for the "utility markets" owner flag.

### Steps To Enable

You need to submit the F1-IPUM background process. This process has its own F1-IPUM application service that you need to configure for the appropriate user group.

### Configuration Updates on ILM-Enabled Maintenance Objects

We added a missing eligibility algorithm and an ILM crawler batch control to the ILM-enabled Process Flow (F1-PROSTR) and Statistics Snapshot (F1-STSSNPSHT) maintenance objects. As per the recommended settings, several maintenance objects that are ILM enabled and are configured with the base ILM Eligibility algorithm by status were updated to configure maintenance object options related to status.

### Steps To Enable

Make the feature accessible by assigning or updating privileges and/or job roles. Details are provided in the Role section below.

### Tips and Considerations

If any of the settings do not align with your implementation's business rules, you should take steps to adjust the options.

**Role Information**

The two new ILM crawler batch jobs include new application services: F1-SSCRL and F1-PFCR. Security administrators should add these application services to any user group that is authorized to run the ILM crawler batch controls.

**Batch Thread Error Handling Enhancement**

Batch jobs may fail because of technical or environmental reasons that are transient in nature, such as an interruption in the availability of the database. With the previous batch implementation, temporary failures would result in the batch thread being marked in Error status and a customer alert. Since these issues cannot always be resolved, batch processing now supports automatic thread resubmission when a failure occurs for technical reasons. The thread will now move to a status of "Interrupted" and the system will attempt a number of retries before moving the thread to "Error."

**Steps To Enable**

No steps are required to enable this feature.

**Oracle Utilities Application Framework Deprecation Notices**

This section provides information on functionality that has been removed, is no longer supported by Oracle Utilities Application Framework v4.4.0.2, or is planned for removal.

**Items Planned for Future Deprecation**

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

**Application Viewer**

In a future release, we plan to no longer support a standalone application viewer. The functionality will be incorporated into the application:

- Similar to the data dictionary, we will enhance user interfaces for tables and fields to provide more information at a glance and provide a view of links between tables.
- Information displayed for maintenance objects, batch controls and algorithm types and algorithms are already visible in the application.
- Javadocs and Groovy Javadocs will be viewable from within the application rather than launching a separate application viewer application.

**REST IWS - Original REST Servlet**

The original URL supplied for invoking IWS-based REST services included the IWS Service name in its makeup. We continue to support this for backward compatibility purposes, but we will deprecate it in a future release. As defined in the documentation, you should adjust your existing integrations to use the currently supported URL.

**Maintenance BPA Change Warnings to Popup**

Currently, the common maintenance BPA used by most of the system displays warnings as errors. This erroneously allows you to make changes to the record before clicking OK. In this situation, the warning conditions will not be checked again for the new changes. We plan on changing this in the future to show warnings as pop-ups. You will be able to

click OK to accept the warning without being able to make any changes. You can click Cancel to adjust the form and resubmit, which will check the warning conditions again.

### **Append Setting In Pagination**

There are several known issues with the functionality of the 'append' option in pagination such that it is not recommended to use this pagination setting. This functionality will be deprecated in a future release.

### **Support for Master / Subordinate Services for Web Services Catalog**

The Service Catalog Configuration (master configuration) supports defining subordinate servers. This functionality is no longer applicable for the Oracle Integration Cloud and will be removed in a future release.

### **Selected Functionality of the Batch Run Statistics Portal**

The **Batch Run Statistics** portal provides some additional information about batch runs. However, some of the functionality provided on this page is related to capturing additional information from an external tool. This information is stored in a Fact record.

The functionality related to capturing additional information will no longer be supported in a future release. This information will still be available to existing clients, but the functionality will no longer be maintained.

### **Miscellaneous System Data**

- Environment Reference. This administrative maintenance object was related to ConfigLab and Archiving, which are no longer supported. In a future release, the following will be removed:
  - Migration Plan F1-EnvironmentRef. Note that no base migration request references this plan. Implementations should ensure that no custom migration request references this plan.
  - F1-EnvironmentRefPhysicalBO business object
  - ENV REF maintenance object
- The To Do Type F1-SYNRQ (Sync Request Error) is not in use and will be deleted in a future release. Errors for the Sync Request Monitor (that also has the name F1-SYNRQ) are reported using the To Do Type F1-SYNTD (Sync Request Monitor Errors).
- The following metadata related to the legacy LDAP import pages will be removed in a future release: Services CILTLDIP, CILTLDIL, CILTLDIS, Application Service: CILTLDIP
- The following algorithm types and algorithms provided for the current LDAP import functionality do not include any logic. They will be removed in a future release.
  - Algorithm Type / Algorithm F1-LDAPIMPRT
  - Algorithm Type / Algorithm F1-LDAPPREPR
- The lookup value CHAR\_ENTITY\_FLG / F1SE (Characteristic Entity / Sync Request Inbound Exception) is not in use and will be removed in a future release.
- The zone F1-MGRREQDSP will be removed in a future release.

**CMA Migration Requests**

The migration requests F1-FrameworkAdmin (Framework Admin) and F1-SchemaAdmin (Schema Admin) are no longer recommended and are not going to be updated with new administration / control tables in future releases. The product may deprecate them in a future release.

**CMA Import Algorithm**

In a future release, the CMA Import algorithm plug-in spot will be deprecated. As an alternative, review any existing algorithms and create appropriate Pre-Compare algorithms.

**Business Object Read in F1-MainProc When Pre-Processing Exists**

In the original implementation of configuration tools, if a pre-processing script was linked to the business object via options, the main framework maintenance BPA (F1-MainProc) would not perform a Read of the business object (leaving it to the responsibility of the pre-processing script).

In a subsequent release, to solve a UI Hints issue related to child business objects, a business object Read was included in F1-MainProc even if a pre-processing script existed. This solution introduced a problem only visible for specific scenarios and a different fix has been introduced. In the meantime, the business object Read is no longer necessary in F1-MainProc. Since there are many pre-processing scripts that are properly performing the Read of the business object, ideally the business object 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 business object Read was included in F1-MainProc that were coded to not perform a business object read in the pre-processing script. Due to this situation, the business object Read is still performed as part of the processing of F1-MainProc.

The product plans to remove the business object Read from F1-MainProc logic when a pre-processing script exists. Review your custom pre-processing scripts that are linked to your business object options to ensure that it properly performs a Read of your business object.