

**Oracle Utilities Customer Care and Billing**  
Release Notes

Release 2.5.0 Service Pack 2  
**E61795-03**

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Oracle Utilities Customer Care and Billing Release Notes

E61795-03

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# Preface

These release notes provide an overview of the enhancements, known issues, and other changes in this release.

## Audience

*Oracle Utilities Customer Care and Billing Release Notes* 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 V2.5.0.2 Release Notes*
- *Oracle Utilities Customer Care and Billing V2.5.0.2 Quick Install Guide*
- *Oracle Utilities Customer Care and Billing V2.5.0.2 Installation Guide*
- *Oracle Utilities Customer Care and Billing V2.5.0.2 Database Administrator's Guide*
- *Oracle Utilities Customer Care and Billing V2.5.0.2 Optional Products Installation Guide*
- *Oracle Utilities Customer Care and Billing V2.5.0.2 License Information User Guide*

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

- *Oracle Utilities Customer Care and Billing V2.5.0.2 Administrative User Guide*
- *Oracle Utilities Customer Care and Billing V2.5.0.2 Business User Guide*

### **Supplemental Documents**

- *Oracle Utilities Customer Care and Billing V2.5.0.2 Server Administration Guide*
- *Oracle Utilities Customer Care and Billing V2.5.0.2 Security Guide*

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## Conventions

The following text conventions are used in this document:

<b>Convention</b>	<b>Meaning</b>
<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.

# Chapter 1

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## Release Notes

This document provides general information about this release of Oracle Utilities Customer Care and Billing, including new functionality, known issues, and other important information.

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

This guide includes the following:

- [Release Overview](#)
- [Database Changes](#)
- [Enhancements in Oracle Utilities Customer Care and Billing](#)
- [System Data Details](#)
- [Known Issues](#)
- [Deprecation Notices](#)
- [Supported Integrations](#)
- [Demo Data Information](#)
- [Oracle Utilities Application Framework v4.3.0.2 Release Notes](#)

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## Release Overview

This section contains general information about this release of Oracle Utilities Customer Care and Billing version 2.5.0.2.

This release includes the following components:

- Oracle Utilities Customer Care and Billing version 2.5.0.2
- Oracle Utilities Application Framework version 4.3.0.2

## Supported Platforms

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

## Supported Upgrades

This version of Oracle Utilities Customer Care and Billing supports the following upgrade paths:

- Upgrade from Oracle Utilities Customer Care and Billing version 2.5.0.1 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 2.5.0.0 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 2.4.0.3 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 2.4.0.2 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 2.4.0.1 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 2.4.0.0 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 2.3.1 Service Pack 10 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 2.2.0 Service Pack 10 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 2.2.0 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 2.1.0 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 2.0.5 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 1.5.20 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 1.5.15 to version 2.5.0.2
- Upgrade from Oracle Utilities Customer Care and Billing version 1.5.10 to version 2.5.0.2



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## Database Changes

The database enhancements for version 2.5.0.2 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.

### Database Changes to Highlight from Previous Releases

The following table highlights database changes that were done prior to the v2.4.0.3 release but were not listed in that version's *Database Administrator's Guide*.

Table Name	Columns	Comment
CI_BANK_ACCOUNT	ENCR_ACCOUNT_NBR	New column introduced in CCB 2.4.0.1.0 as part of encryption functionality
CI_ENRL_FLD	ENCR_COL_REF_VAL HASH_COL_REF_VAL	New columns introduced in CCB 2.4.0.1.0 as part of encryption functionality
CI_APAY_SRC_L	APAY_SRC_NAME	Column Format Change.
SC_USER	TIME_ZONE_CD USER_ENABLE_FLG F1_SECURITY_HASH	New columns introduced in FW 4.2.0

### 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.

Oracle Utilities Customer Care and Billing Version	Oracle Software Delivery Cloud Patch Number
2.3.1	20100078
2.4.0.1	16978448
2.4.0.2	17589574
2.4.0.3	19075773
2.5.0.1	19407590

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## 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. This release builds on the business functionality available in Oracle Utilities Customer Care and Billing V2.5.0.1.

This release includes:

- [System Wide Support for Person Contacts](#)
- [Customer Contact Enhancements](#)
- [Dispatch Field Activity Page Enhancements](#)
- [Order Search Capability Enhancement](#)
- [Ability to Introduce Logic to Override Bill Cycle Assignment](#)
- [Ability to Introduce Logic to Override Proration](#)
- [Off-Cycle Service Provider Switching](#)
- [Exception for Exceeding Maximum Number of Consecutive Estimated Bill Segments](#)
- [Bill Print Extract – Usage Histogram Enhancement](#)
- [Auto Pay Enhancement](#)
- [Ability to Link an External User to CCB Person](#)
- [Maintain CCB-owned Person/Communication Preferences Information](#)
- [Ability to Use a Process to Control Person Contact Status and Opt-in](#)
- [Support for Notifications Owned by Other Edge Applications](#)
- [Self-Service Payment Options Zone](#)
- [Communication Route Types Specify if Person Contact Status Allowed for Person Contacts of This type](#)
- [Time Zone Added to Person](#)
- [System Wide Enhancements](#)
- [Support for Integration with Oracle Social Cloud or Social Relationship Management Applications](#)
- [Support for Integration to Oracle RightNow Knowledge Cloud Service](#)
- [Additional Support for Integrating with Oracle DataRaker](#)
- [Support for Pitney Bowes DOC1 for Online/Batch Printing and Online Display](#)
- [Localization Related Enhancements](#)

### System Wide Support for Person Contacts

Person Contacts was introduced in a prior release as an updated and more configurable alternative to person phone and email, but the system processes that utilize person phone and email were not updated to utilize the data stored in person contacts.

In this release, a feature is introduced that some system processes use to determine if person phone and email or person contacts is being used. When the Use Legacy Person Phone and Email Option Type Customer Information Options feature configuration is set to Y, the updated system processes use Person Phone and email. When not set or set to N, Person Contacts is used.

One of the areas enhanced to support using person contacts is the preferred contact method found on case and customer contact. Person contact is now an option and a specific person contact Id allows the precise contact as opposed to just the type to be specified. When the system

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is configured to use person contacts the legacy values are not available. An implementation may wish to update existing customer contacts and cases that use one of the legacy values to person contact. The *Oracle Utilities Customer Care and Billing Database Administrator's Guide* contains sample SQL that upgrading customer can use to perform this update.

If an implementation uses functionality that has not been updated to use the feature, you may wish to enable this feature and continue to utilize person phone and email. As of this release, the following areas do not support Person Contacts:

- Orders and Campaigns
- Prepaid Metering Notifications
- UGBU Productized Integrations and DataConnect Extracts

**Note:** Person Contacts are required for notifications (except for Prepaid Metering Notifications).

Refer to the section *Choosing to Use Person Contact or Person Phone* in the *Oracle Utilities Customer Care and Billing Administrative User Guide* for more information.

## Customer Contact Enhancements

The customer contact capability has been enhanced so that customer contacts can be linked to a person, account and/or premise.

A customer contact may be categorized as a:

- Person-based customer contact: A person is linked to the customer contact. It should be noted that letters can only be generated from person-based customer contacts.
- Premise-based customer contact: Only a premise is linked to the customer contact

For person-based customer contacts, if populated:

- The account must be related to the person
- The premise must be related to the account

All base-package supplied algorithm types/routines that create customer contacts have been updated to populate account and/or premise details based on the information available when a customer contact is created.

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

The *Oracle Utilities Customer Care and Billing Database Administrator's Guide* contains sample SQL that upgrading implementations can use to update the account ID and premise ID fields on existing customer contacts. Implementations that are upgrading may also wish to consider the following regarding existing account and premise customer contact characteristics to fully migrate to using the new fields:

- Examine implementation-specific or custom system and business processes including reports and extracts that create account and premise customer contact characteristics and adjust these processes to use the new fields
- Review the provided SQL to update existing customer contacts
- Remove existing characteristics from customer contacts (optional)
- Remove the characteristic types from customer contact types to prevent future customer contacts from being created with the characteristics
- Remove customer contact characteristic entity from the characteristic types

## Dispatch Field Activity Page Enhancements

These enhancements allows users to:

- 
- Filter field activities to dispatch by **Field Activity (FA) Type**
  - Select field activities to dispatch by **Field Activity (FA) ID**

## Order Search Capability Enhancement

This enhancement allows a business user to search for an existing premise record, on an order, using Premise ID.

## Ability to Introduce Logic to Override Bill Cycle Assignment

There is a new plug-in spot, Installation - Bill Cycle Selection, on installation options to override the existing bill cycle assignment logic. This plug-in spot is invoked by the SA Start/Stop common routine. The spot will be called right after existing base logic has updated the account.

## Ability to Introduce Logic to Override Proration

There is a new plug-in spot, SA Type - Determine Proration. This plug-in spot is invoked from the rate application right after the base logic has determined if proration applies. This is used to override the base days, normal days and is within proration window indicator, which were determined by base logic. Only one algorithm may be plugged-in to this system event. This is available only in the new rating engine.

## Off-Cycle Service Provider Switching

This enhancement enables an implementation (e.g., network or distribution utility), in a deregulated market, to support customers switching service providers (e.g. retailers) a number of times within the customer's billing period. It caters for the scenario where usage is received from an external system, via Bill Determinants, such as Oracle Utilities Meter Data Management. Usage details will need to be received on the dates a customer changes service providers, so that charges can be accurately calculated.

The following billing relationships are supported that define how an implementation bills for their own charges and optionally other service provider's charges:

- We Bill for Them – Rate Ready
- We Bill for Them – Bill Ready
- Dual Billing

The enhancement also supports the sending of consumption details to each relevant service provider for the time period the customer had / has the relationship with them during a billing period.

## Exception for Exceeding Maximum Number of Consecutive Estimated Bill Segments

This enhancement caters for the scenario where usage is received from an external system, via Bill Determinants, such as Oracle Utilities Meter Data Management. It allows an implementation to configure the system to create a bill segment exception if the current bill segment being generated will result in the maximum number of consecutive estimated bill segments to be exceeded. The maximum number of consecutive bill segments is configured on Service Agreement (SA) Types so that an implementation can define different values for different types of service and/or CIS Division.

**Note:** This capability already exists for traditional CCB-owned meter reads through the base-package supplied Bill Segment Type – Get Consumption algorithm type 'Get Consumption From SP's Linked to SA (BSGC-SP)'.

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## Bill Print Extract – Usage Histogram Enhancement

This enhancement allows an implementation to configure the number of usage periods to extract for presentation on customer's bills (up to 24 months). The following base-package supplied algorithm types have been enhanced:

- **Create XML bill print extract records** (C1-BLEX-XML) – configurable bill print extract
- **Create bill print extract records** (BLEX-EX) – flat file extract

## Auto Pay Enhancement

The base-package algorithm type **Auto Pay Record Creation Algorithm** (APAY-CREATE) has been enhanced to provide an option for an implementation to define if the auto pay amount, at extract time, is to be overridden by the account's current balance. This caters for the scenario where the account's current balance is less than the auto pay amount due to a refund or partial payment against the customer's account.

If the auto pay amount is adjusted or auto pay record is canceled, an implementation can configure the system to create a customer contact for auditing purposes.

## Ability to Link an External User to CCB Person

Oracle Utilities Customer Care and Billing has been enhanced to provide the ability for a user in an external application (e.g., self-service application) to be linked to the person record as a person contact. This will allow a CSR to view this relationship. The ability to link to an external system from the Account/Person is also available.

## Maintain CCB-owned Person/Communication Preferences Information

Linking a Oracle Utilities Customer Care and Billing person to an external application (e.g., self-service application) in Oracle Utilities Customer Care and Billing, enables a user (e.g. customer) to maintain CCB-owned information such as person phone details/person contacts and communication preferences for notifications from the external application. Only support for phone details existed previously.

## Ability to Use a Process to Control Person Contact Status and Opt-in

This enhancement allows person contact status to be controlled by a process as opposed to manually. The solution delivered with Oracle Utilities Customer Care and Billing supports single and double notification opt-in requirements. Opt-in is used to describe the process for an external user (e.g., customer) to agree to receive notifications as well as the unsubscribe process to indicate they no longer wish to receive notifications. Oracle Utilities Customer Care and Billing supports the ability for an external user (e.g., customer) to unsubscribe from receiving all notifications or just those for a particular notification type.

Additionally, the notification preferences logic has been enhanced to check if opt-in is enabled for a particular delivery type. If so, it checks to see if a user has opted-in and if not will initiate the opt-in process. When enabled for a delivery type, notifications will not be sent to users without a confirmed opt-in. This process can function independently from the process to control person contact status and can work with manually set person contact status.

## Support for Notifications Owned by Other Edge Applications

This enhancement allows Oracle Utilities Customer Care and Billing to capture external user (e.g., customer) notification preference for notification types owned by other edge applications. The other edge application is notified when contact preferences are added, activated, or inactivated. The enhancement provides a new inbound service that the other edge application calls when the triggering event occurs.

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## Self-Service Payment Options Zone

Oracle Utilities Customer Care and Billing has been enhanced to include a Self-Service Payments Option zone on the Person – Person Portal tab.

The zone displays and allows a user to manage the payment options available for the person record (e.g., credit card information, bank account details, etc from previous self-service payment transactions) to support making additional one-time payments or scheduled (future-dated) one-time payments from an external system (e.g. self-service application).

## Communication Route Types Specify if Person Contact Status Allowed for Person Contacts of This type

An Allow Person Contact Flag has been added to person contact type. For upgrading customers, the flag value is defaulted to Not Allowed if a default person contact status was not defined on the person contact type and is defaulted to Allowed if a default value is defined on the person contact type. Please review your configuration and business rules.

**Important Note:** If you are using person contact status on a person contact type, but do not default a status, you will need to update the person contact type and set the value to Allowed.

## Time Zone Added to Person

Time zone has been added to Person. This is used for Do Not Disturb start and end times in conjunction with notifications. This is an optional field on person and need only be specified if it differs from the installation time zone. When not specified, the installation time zone is used.

## System Wide Enhancements

This section describes the system wide enhancements made in this release to Oracle Utilities Customer Care and Billing.

### Admin Menu Changes

The following changes have been made:

- The **BI Configuration (CI\_AD\_BI)** menu is deprecated.
- The **Service Credit (CI\_AD\_SC)** sub menu was added.
- The following menu lines have been moved:

Menu Line	Moved From Submenu	Moved to Submenu
Admin/Bill Route Type	Customer	Billing
Admin/Column Reference	Customer	Sales & Marketing
Admin/Contract Quantity Type	Customer	Rates
Admin/Order Hold Reason	Customer	Sales & Marketing
Admin/Order Cancel Reason	Customer	Sales & Marketing
Admin/Customer Relationship Request Type	(New)	Integration
Admin/Time Of Use	General	Rates
Admin/Unit Of Measure	General	Rates

Menu Line	Moved From Submenu	Moved to Submenu
Admin/Service Credit Event Type	Sales & Marketing	Service Credit
Admin/Service Credit Membership Type	Sales & Marketing	Service Credit
Admin/SC Membership Inactive Reason	Sales & Marketing	Service Credit
Admin/Credit Unit	Sales & Marketing	Service Credit
Admin/Analytics Configuration (Formerly BI Configuration)	BI Configuration (Deprecated)	Analytics Configuration
Admin/Customer Relationship Request Type	(New)	Integration
Main/Customer Relationship Request	(New)	Integration

## Support for Integration with Oracle Social Cloud or Social Relationship Management Applications

The following entities have been introduced to support the integration between Oracle Utilities Customer Care and Billing (CCB) and Oracle Social Cloud or other Social Relationship Management application:

- **Social Issue Resolution Request Type** business object (C1-SocialIssueResReqType) based on the new **Customer Relationship Request Type** (C1-CUSTRRTYP) maintenance object
- **Social Issue Resolution Request** business object (C1-SocialIssueResRequest) based on the new **Customer Relationship Request** (C1-CUSTRELQR) maintenance object

These provide an integration framework that will allow an implementation to configure the steps (or life cycle) that are required to perform/manage a specific business process in Oracle Utilities Customer Care and Billing to investigate/resolve a social issue as a result of receiving a specific type of payload or issue. Implementation-specific integration can use a base-package supplied inbound web service to create Social Issue Resolution Requests.

Examples include:

- A High Bill Complaint related issue may result in a case being created in Oracle Utilities Customer Care and Billing
- A service outage related issue may result in a field activity being created in Oracle Utilities Customer Care and Billing

The application can be configured to support various types of social issues. Each type of social issue can be configured with their own unique steps (or life cycle) for the specific business process that is required to be carried out (e.g. create a case, field activity, etc).

New portal zones are provided in Oracle Utilities Customer Care and Billing to configure, view and manage issues that are sent to Oracle Utilities Customer Care and Billing for investigation/resolution. The system can also be configured to display an alert for each type of issue that is 'open' or 'unresolved' for the account and person in context..

## Support for Integration to Oracle RightNow Knowledge Cloud Service

This enhancement will allow users of Oracle Utilities Customer Care and Billing to be presented with a list of Frequently Asked Questions (FAQs) or topics, in a Dashboard Zone, that are relevant to the page they are working on. Each FAQ will be displayed as a hyperlink that the user

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can select and be navigated to Oracle RightNow Knowledge Cloud Service for the content to be accessed.

The display of the Frequently Asked Questions zone is controlled by master configuration settings, which includes the URL of the Oracle RightNow Knowledge Cloud Service instance and a list of page/portal navigation keys for which the dashboard zone should display. A list of search terms to pass to Oracle RightNow Knowledge Cloud Service is defined for each navigation key. Implementations can also define a custom script for retrieving additional search terms

## Additional Support for Integrating with Oracle DataRaker

Oracle Utilities Customer Care and Billing has been enhanced to provide additional support for integrating with Oracle DataRaker:

- Service Point Business Flag Support

Oracle Utilities Customer Care and Billing now supports the integration of exceptions, at a customer's service point, that have been detected by Oracle DataRaker. These exceptions are generated by Oracle DataRaker algorithms to detect potential theft, abnormally high or low usage, among other things.

The following new objects have been introduced to support this integration:

- The Business Flag Type business object (C1-BusinessFlagType) is based on the new Oracle Utilities Application Framework business Flag Type (F1-BUSFLGTYP) maintenance object
- The Service Point Business Flag business object (C1-SPBusinessFlag) is based on the new Oracle Utilities Application Framework business flag (F1-BUSFLG) maintenance object

These allow an implementation to configure business flags to represent the different types of exceptions that can be generated from Oracle DataRaker as well as enable a user to perform the following actions against those exceptions to aid in their investigation:

- Create a field activity
- Create a notification
- Create a case

Ultimately the result of any investigation into an exception can be communicated back to Oracle DataRaker to indicate whether the exception was confirmed or rejected. It should be noted that these objects can accept exceptions originated from any external system.

- Customer Program Management Enhancements

The Customer Program Management module has been enhanced to support performing additional analysis/validation, for the purposes of additional or advanced segmentation, outside of Oracle Utilities Customer Care and Billing (e.g., in Oracle DataRaker).

- The Generic Initiative (C1-Initiative) business object has been enhanced to include the Advanced Analysis Usage indicator to specify whether an initiative's leads are to be sent to an external system for additional analysis/validation
- A new Advanced Analysis System Lead (C1-AdvancedAnalysisLead) business object is provided to cater for external analysis/validation in the lifecycle. It has similar functionality to the Account Lead (C1-LeadAccount) business object
- The lead generation related processes/scripts have been enhanced to select one of the two Lead business objects based on the Advanced Analysis Usage indicator on the initiative
- The Lead Generation and Disposition zone has been renamed to Lead Processing. A new action called Lead Extract for Analysis has been added to the Batch



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Submission section. This action is used to submit a batch job to extract leads that are ready for external analysis/validation

- Oracle Utilities Customer Care and Billing is able to receive updates following the outcome of the external analysis/validation and activate those leads that are still eligible to participate in the initiative.

**Note:** A new Statistics tab has been provided for Initiatives to group all statistics-related zones together. The following zones have moved from the **Initiative's** Main tab: **Lead Summary By Representative, Lead Outcome Graph, Lead Statistics, Lead Monthly Statistics and Unassigned Leads.**

## Support for Pitney Bowes DOC1 for Online/Batch Printing and Online Display

This enhancement supports the online/batch printing and online display viewing of bills, letters, field orders, statements and quotes using the Pitney Bowes DOC1 application.

## Localization Related Enhancements

- Portugal

Oracle Utilities Customer Care and Billing has been enhanced to support the Portuguese Tax Authority requirement of producing SAF-T (PT) audit extract files, for tax purposes, in a standard compliant XML format.

- Japan

The following reference specific features that are being included in this release of Oracle Utilities Customer Care and Billing that were previously delivered as bugs in Oracle Utilities Customer Care and Billing v2.4.0.3:

- Japanese Default Interest
- Step Threshold Calculation
- Month Based Processing
- Consumption Period Override
- Base Charge Based on Actual Demand

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## System Data Details

This section provides information about new and updated system data delivered in this release that may need to be reviewed for possible impact by implementations. This section consists of the following:

- [New/Updated Application Services](#)
- [Updated System Data Details](#)
- [Updated System Data Details From Prior Releases](#)

## New/Updated Application Services

The following application services were added or updated in Oracle Customer Care and Billing. Please review and determine which user groups, if any should be granted access to the application service/access mode.

Application Service	Description	Access Mode	Comments
C1-ADDCUSTRR	Add Customer Relationship Request	Execute	New Application Service for Customer Relationship Request functionality
C1-ADVLEADBOAS	Advanced Analysis Lead BO	Active, Add, Change, Delete, Discarded, Error, Inquire, Pending, Ready for Extract, Success, Waiting for Analysis	New Application Service for DataRaker Integration
C1-BUSFLGTYPBOAS	Business Flag Type BO	Add, Change, Delete, Inquire	New application service for Business Flag functionality
C1-CANSCHEDPAYAPS	Cancel Scheduled One Time Payment Service	Execute	New Application Service for one-time payment functionality
C1-CUSTRELINTBOAS	Customer Relationship Integration Master Configuration BO	Add, Change, Delete, Inquire	New Application Service for Customer Relationship Request functionality

<b>Application Service</b>	<b>Description</b>	<b>Access Mode</b>	<b>Comments</b>
C1-CUSTRELREQTYP	Customer Relationship Request Type MO	Add, Change, Delete, Inquire	New Application Service for Customer Relationship Request functionality
C1-CUSTRELREQ	Customer Relationship Request MO	Add, Change, Delete, Inquire	New Application Service for Customer Relationship Request functionality
C1-LEADUPDAPS	Update Lead Application Service	Execute	New Application Service for DataRaker Integration
C1-NTFPRFOPTINBOAS	Notification Preference Opt-In Task	Add, Awaiting Response, Change, Confirm, Delete, Error, Inactive, Inquire, Pending, Process, Stop, Validate,	New Application Service for Opt-in Functionality
C1-NTFPRFOPTINTYBOAS	Notification Preferences Opt-In Task Type	Active, Add, Change, Delete, Inactive, Inquire	New Application Service for Opt-in Functionality
C1-SOCISSRESREQBOAS	Social Issue Resolution Request BO	Actions In Progress, Add, Change, Complete, Delete, Discarded, Error, Inquire, Pending, Review In Progress, Validate	New Application Service for Customer Relationship Request functionality
C1-SOCISSRSRQTYPBOAS	Social Issue Resolution Request Type BO	Add, Change, Delete, Inquire	New Application Service for Customer Relationship Request functionality

<b>Application Service</b>	<b>Description</b>	<b>Access Mode</b>	<b>Comments</b>
C1-SPBUSFLGBOAS	Service Point Business Flag BO	Add, Additional Processing, Awaiting Analysis, Change, Complete, Delete, Discarded, Inquire, Pending, Validate, Validation Error	New application service for Business Flag functionality
C1CRRQTY	Customer Relationship Request Type Portal	Inquire	New Application Service for Customer Relationship Request functionality
C1CUSRRM	Customer Relationship Request Portal	Inquire	New Application Service for Customer Relationship Request functionality
C1CUSRRQ	Customer Relationship Request Query Portal	Inquire	New Application Service for Customer Relationship Request functionality
WX-ONETIMEPAYBOAS	One Time Payment Task	Discard	New access mode added to discard record

## Updated System Data Details

This section describes change made to the system data configuration:

- The lookup ALW\_DND\_FLG has been changed from customizable to not customizable.
- Batch Category has been updated on batch controls if the existing value is blank. This field is customizable and existing values are not overridden.
- The schema for the Form Task Type for Notification Preference BO was changed to move Update and Close Notification Types to their own group.
- Table metadata has been updated to populate the Characteristic Entity for the primary characteristic table for each characteristic entity.

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## Updated System Data Details From Prior Releases

The following table highlights system data changes that were done prior to the v2.5.0.2 release but were not listed in that version's *Release Notes* or *Database Administrator's Guide*.

Version	Change
2.4.0.2	<p>FK Reference's Info Program were modified - if customer hasn't changed it - to use 'com.splwg.base.domain.common.foreignKeyReference.GenericMOInfoRetriever' instead of 'com.splwg.base.domain.common.foreignKeyReference.DescriptionRetriever' for 'C1MRSCHD', 'C1POSTDF', 'C1-TOUB2', 'C1-BFVL2', 'C1DEGDAY', 'C1FLVL12', 'C1FLVL23', 'C1FSVCTL', 'C1HILOF2', 'C1-ITSQE', 'C1-CCORL', 'C1SATRLT'</p> <hr/> <p>Zone Code on FK Ref 'C1-FATYP' is updated to 'C1-FATYPEQ' when its value is empty</p>
2.4.0.3	<p>On several template Characteristic Tables, update default switch to 'Y' when the characteristic is Required.</p> <hr/> <p>Replace BUS_OBJ_OPT_FLG values C1EX and C1OM with F1EX and F1OM respectively</p> <hr/> <p>Remove incorrect/extra drill Key on To Do Type 'TD-FAUPL'</p>
2.5.0	<p>Application services related to the following areas have been removed from ALL_SERVICES: Rates Classic, Interval Billing, Interval Profile, TOU Map, and Config Lab related Items. For upgrading customers, entries for these application services have been changed to CM in ALL_SERVICES. Customers can removed these entries from ALL_SERVICES and custom user groups if the underlying functionality is not used.</p> <hr/> <p>Update Zones Code and Info Program for various FK Ref</p> <hr/> <p>Batch Control NEWLANG is replaced by F1-LANG and the owner is changed to CM. Upgrading customers can delete this batch control if it has not been used.</p>
2.5.0.1	<p>Set ALW_PREF_FLG to 'Yes' for Main Customers Accounts with the flag set to 'No'</p>

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## Known Issues

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

This section includes:

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

### Known Issues in Oracle Utilities Customer Care and Billing

The following table lists known issues in Oracle Utilities Customer Care and Billing version 2.5.0.2 at the time of release.

Bug Number	Description
23246784	CMA broken because of COPY OF 23175706 - CMA: Encountered Error "Cannot Pad Given String to Desired St"
23615301	CSS Notification Center – When Notify button is clicked, Page is refreshed and Home page is displayed. No notification message is sent.
23571521	Off Cycle Switch – Master SA is automatically transitioning to Bill Determinants Processed once it has received the usage details even if the related sub usage is not yet in Bill Determinants Processed state.
23711384	Person Contact Type Validation Issue - Validation on the Person Contact Type Change Handler should be removed
23712806	11796 - Contact Preference Creation Logic does not create opt in task

### Known Issues in Oracle Utilities Application Framework

The following table lists known issues in Oracle Utilities Application Framework version 4.3.0.2 at the time of release.

Bug Number	Description
23336650	JMX service unavailable exception in Windows environments
23588009	Batchjob logs are not created under CCB v25020 Windows environments

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Bug Number	Description
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23093571

Domain templates reference old class files.

If your implementation uses the domain template to create a weblogic domain, as a workaround to these, do the following:

1. Edit bin/setDomainEnv.sh and change antlr, serializer and xalan jar versions to the following:

- antlr-2.7.7.jar
- serializer-2.7.2.jar
- xalan-2.7.2.jar

2. If using the demo keystores, you must also generate new keystores and copy them to: <WL\_HOME>/user\_projects/domains/SFIX1\_domain/security

The ouaf\_demo\_\*.jks provided for native with the domain template does not work; it contains the CN=ouaf\_demo\_cert, it should be set to the host name.

Console changes work around (repeat for all [server]).

1. Navigate to: Home >Summary of Environment >Summary of Servers >[server]

2. Click Keystores Tab.

3. Set Keystores to: Demo Identity and Demo Trust

4. Set Demo Identity Keystore to: <WLS ROOT>/user\_projects/domains/SFIX1\_domain/security/DemoIdentity.jks

5. Set Demo Trust Keystore to: <WLS ROOT>/wlserver/server/lib/DemoTrust.jks

6. Click SSL Tab.

7. Set Identity and Trust Locations to: Keystores

8. Review Identity and Trust settings:

- Private Key Location: from Demo Identity Keystore
- Private Key Alias: DemoIdentity
- Certificate Location: from Demo Identity Keystore
- Trusted Certificate Authorities: from Demo Trust Keystore and Java Standard Trust Keystore

9. Import certificate to ks/.ouaf\_truststore by executing the following command:

```
initialSetup.sh -i
```

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## 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 tables below:

### Oracle Utilities Customer Care and Billing

Original Bug	Original Version	Description	2.5.0.2 Post-Release
23628096	2.5.0.1.0	COPY OF 23513975 - CCB V2.5.0.1.0 ACCOUNT CANNOT BE DELETED	23513975
23628088	2.5.0.1.0	COPY OF 23231670 - ERROR WHILE SEARCHING DEPOSIT CONTROL STAGING	23231670
23628078	2.5.0.1.0	COPY OF 22560004 - BILL FACTOR VALUE NO LONGER ACCEPTS NEGATIVE VALUES	22560004
23628039	2.4.0.2.0	COPY OF 23297033 - THERE IS NO VARIABLE DEFINED WITH NAME 'V8'. COL 8:V3+(V4*#V8	23297033
23628033	2.4.0.2.0	COPY OF 23100447 - PATCH 21981976 DID NOT RESOLVE BILL FACTOR LIKEABLE SEARCH IS	23100447
23628024	2.4.0.2.0	COPY OF 22824892 - PAY PLAN DOES NOT ALLOW CHANGING OF PAYMENT PLAN TYPE	22824892
23628020	2.3.1	COPY OF 23574059 - CANNOT ADD DUPLICATE PAYMENT USING THIS TRANSACTION ERROR ON	23574059
23605115	2.4.0.3.0	COPY OF 23187104 - NOTIFICATION SUBSCRIPTION NOT WORKING PROPERLY FOR PERSON LIN	23187104
23594968	2.4.0.3.0	COPY OF 23588086 - PRORATION IN EQUIPMENT CHANGE	23588086
23590175	2.5.0.1.0	COPY OF 23540347 - CANNOT ADD NON-INTEGGER CREDIT CONTRACT VALUE	23540347
23576253	2.5.0.1.0	COPY OF 23107869 - REQUEST TO INCREASE PAY PLAN SCHEDULED PAYMENTS COLLECTION SI	23107869
23537924	2.3.1	COPY OF 23501683 - MUP1 BATCH THROWING ERROR FOR DUPLICATE BADGE NUMBER FOR UNIQ	23501683
23537740	2.4.0.2.0	COPY OF 23204856 - GEOCODING SERVICES ADDRESS VALIDATION NOT WORKING FOR PO BOX	23204856
23308934	2.4.0.2.0	COPY OF 23300830 - BUDGET NOT APPLIED WHEN ACCOUNT HAD IT CANCELLED AND RE-ENROL	23300830
22805404	2.4.0.2.0	COPY OF 22705550 - IF THE BILL PLACED ON BB IS PARTLY PAID, WRITE OFF ADJUSTMENT	22705550



<b>Original Bug</b>	<b>Original Version</b>	<b>Description</b>	<b>2.5.0.2 Post-Release</b>
21970710	2.5.0.1.0	COPY OF 21855006 - WXPROCESSSTARTSTOPREQUEST - PHONE INFO NOT UPDATED FOR EXISTI	21855006

#### **Oracle Utilities Application Framework**

<b>Original Bug</b>	<b>Original Version</b>	<b>Description</b>	<b>4.3 SP2 Post-Release</b>
20442432	4.3.0.1.0	CHAR TYPE VALUE SEARCH ICON NOT OPENING ON 1ST CLICK IN FIREFOX	22110940
22662923	4.2.0.3.0	UI MAP/SCHEMA DOES NOT WORK IN FRENCH	23280021
22988646	4.3.0.1.0	PREDEFINED CHAR VALUE SEARCH IS CASE SENSITIVE	23212904
23187587	4.3.0.1.0	DEPRECATED METHOD GETACTIVEBATCHTHREAD	23269160
22671665	4.3.0.1.0	THE NAME SEARCH IS CASE SENSITIVE FOR TURKISH CHARACTERS	23247119

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## Deprecation Notices

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

- [Deprecated Functionality in This Release](#)
- [Deprecated Functionality Planned For Future Releases](#)

### Deprecated Functionality in This Release

The following platforms and functionality are not supported by this version of Oracle Utilities Customer Care and Billing:

#### System Data Deprecation

The following configuration data is not used in any base processing and has been removed in this release.

Type of Object	Object ID	Comments
Business Service	C1-CHKACCPB	This was created in a previous release and it not used by the product.
Business Service	C1-RetErrorOutageOutboundMsg	This was created in a previous release and it not used by the product.
Business Object	C1-CasePhysicalBO	This was a duplicate Physical BO. BO C1-CasePhysicalBO remains the Case Physical BO.
Business Object	C1-CustomerContactPhysicalBO	This was a duplicate Physical BO. BO C1CustomerContactPhysical remains the Customer Contact Physical BO.
Business Object	C1-LandlordAgreementPhysicalBO	This was a duplicate Physical BO. BO C1LandlordAgreementPhysical remains the Landlord Physical BO
Business Object	C1-PremisePhysicalBO	This was a duplicate Physical BO. BO C1PremisePhysical remains the Premise Physical BO
Business Object	C1StockLocationPhysical	This was a duplicate Physical BO. BO C1StockLocationPhysical remains the Stock Location Physical BO
Business Object	C1-TOUMapTmPhysicalBO	This was a duplicate Physical BO. BO C1-TOUMapTemplatePhysicalBO remains the TOU Map Template Physical BO

<b>Type of Object</b>	<b>Object ID</b>	<b>Comments</b>
Business Object	C1-TOUMapTypePhyBO	This was a duplicate Physical BO. BO C1-TOUMapTypePhysicalBO remains the TOU Map Type Physical BO
Navigation Option	CI0000000290	XAI Dynamic Upload was deprecated in a previous release. This system data was related to this functionality.
Navigation Option	CI0000000276	XAI Dynamic Upload was deprecated in a previous release. This system data was related to this functionality.
Navigation Option	CI0000001080	XAI Dynamic Upload was deprecated in a previous release. This system data was related to this functionality.
Navigation Option	xmlUploadDynamicMaint	XAI Dynamic Upload was deprecated in a previous release. This system data was related to this functionality.
Navigation Key	xmlUploadDynamicMaint	XAI Dynamic Upload was deprecated in a previous release. This system data was related to this functionality.
Navigation Key	xmlUploadDynamicMaint_H	XAI Dynamic Upload was deprecated in a previous release. This system data was related to this functionality.
Service Program	CILAXXXL	This was inadvertently created in a previous release and is not used by the product.
Lookup Value	Field: CHAR_ENTITY_FLG (Characteristic Entity Flag) Value: C1SY (Sync Request)	C1SY was replaced with F1SY in a previous release. In this release any characteristic with entity C1SY and not F1SY had a row created for F1SY. Entries for C1SY were removed.
Lookup Value	Field: CHAR_ENTITY_FLG (Characteristic Entity Flag) Value: C1SL (Sync Request Log)	C1SL was replaced with F1SR in a previous release. In this release any characteristic with entity C1SL and not F1SR had a row created for F1SR. Entries for C1SL were removed.

Type of Object	Object ID	Comments
XAI Inbound Service and related entities for Usage Overview and Download	XAI inbound service: WXUsageOverview  Service script: WX-UsgOvrvw BO for outbound message: WX-UsageOverviewRequest	There is no support for CSS-CCB-MDM topology on Usage Overview, Usage Download and Residential Usage Details in this release. Only CSS-MDM flows will be supported.
XAI Inbound Service and related entities for Usage Details	XAI inbound service: WXUsageDetail  Service script: WX-UsgDtls BO for outbound message: WX-UsageDetailRequest	There is no support for CSS-CCB-MDM topology on Usage Overview, Usage Download and Residential Usage Details in this release. Only CSS-MDM flows will be supported.
XAI Inbound Service	XAI inbound service: WXReadAccountInfo Service script: WX-RAcctInfo	This service is no longer used by OUCSS starting with release 2.2.0.
Lookup Value	Field: WX_EXT_CALL_TYPE_FLG (Characteristic Entity Flag) Values: WXUD (Usage Detail), WXOV (Usage Overview)	There is no support for CSS-CCB-MDM topology on Usage Overview, Usage Download and Residential Usage Details in this release. Only CSS-MDM flows will be supported.
Zone	C1-SYNCRQSTR	The zone is replaced with zone C1-SYNCRQREL
Algorithm Type and Algorithm	Check Related Sub Bill Segment Usage Request Status Algorithm Type: C1-CKSBSURST Algorithm: C1-CKSBSURST	The logic contained in this program is no longer used by the system.

The following configuration data is not used in any base processing and the owner has been changed to CM (Customer Modification). Your implementation may wish to review these items to determine if your custom processes use any of them. If they are not used, you may wish to delete these items as they are no longer part of the application.

Type of Object	Object ID	Comments
Script	SCSTPERADD	This was inadvertently created in a previous release and is not used by the product.
Script	RESACCTADD	This was inadvertently created in a previous release and is not used by the product.
UI Map	CUSTINFO	This was inadvertently created in a previous release and is not used by the product.

Type of Object	Object ID	Comments
Business Object	ACCOUNT	This was inadvertently created in a previous release and is not used by the product.
Business Object	CUSTINFO	This was inadvertently created in a previous release and is not used by the product.
Menu	C1_AD_BI	CCB Menu Lines were moved to the Framework Analytics Configuration Menu. The CCB menu no longer contains any C1 owned menu lines
Lookup Value	Field: C1_NF_SSTASK_TYPE_FLG (Notification Self-Service Task Type) Value: C1FI (Issues Notification)	This value was used with notification center owned notification. This is not needed for CCB owned notifications. You can remove this lookup value unless you are using notification center owned notifications.
Lookup Value	Field: C1_NF_SSTASK_TYPE_FLG (Notification Self-Service Task Type) Value: C1MP (Marketing Preferences)	This value was used with notification center owned notification. This is not needed for CCB owned notifications. You can remove this lookup value unless you are using notification center owned notifications.

## Deprecated Functionality Planned For Future Releases

The following platforms and functionality will not be supported in future releases of Oracle Utilities Customer Care and Billing:

- COBOL Programs CIPOXFOO, CIPOXFON, and CIPBXBLN - The logic in these programs was moved to algorithm types in a prior release
- AIX Websphere
- Windows Production

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# Supported Integrations

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

## Oracle Application Integrations

- CCB version 2.5.0.2 to E-Business Suite (Revenue Accounting) version R12.2.2.x or 12.1.1.x
- CCB version 2.5.0.2 to PeopleSoft (Financials) version 9.2
- CCB version 2.5.0.2 to JD Edwards (Enterprise One) version 9.1

## Oracle Utilities Product Integrations

- CCB version 2.5.0.2/Oracle Utilities Analytics version 2.5.1
- CCB version 2.5.0.2 to Oracle Utilities Meter Data Management version 2.1.0.3
- CCB version 2.5.0.2 to Oracle Utilities Network Management System version 1.12.0.2
- Oracle Integration Pack for Oracle Utilities Field Work version 12.2
  - Oracle Utilities Mobile Workforce Management version 2.3.0
  - Oracle Utilities Work and Asset Management version 1.9.0.1 and version 1.9.1.x and version 2.1.1

## Additional Integrations

- Oracle Documaker version 12.3
- Oracle Dataraker version 3.8.0.2
- BI Publisher version 11.1.1.9.0
- Oracle Utilities Customer Self Service version 2.2.0
- Siebel version 8.1.1.6

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## 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 *Installation Guide* for more information or contact Oracle Support.

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# Oracle Utilities Application Framework v4.3.0.2 Release Notes

This section describes enhancements, system data and deprecation notices in Oracle Utilities Application Framework version 4.3.0.2 including:

- [Oracle Utilities Application Framework Enhancements](#)
- [Oracle Utilities Application Framework System Data Details](#)
- [Oracle Utilities Application Framework Deprecation Notices](#)

## Oracle Utilities Application Framework Enhancements

This section describes new and enhanced features in this release of Oracle Utilities Application Framework v4.3.0.2, including:

- [System Wide Enhancements](#)
- [Configuration Tool Enhancements](#)
- [Batch Enhancements](#)
- [To Do Enhancements](#)
- [Integration Enhancements](#)
- [Configuration Migration Assistant \(CMA\) Enhancements](#)
- [Miscellaneous Enhancements](#)
- [ILM Enhancements](#)

### System Wide Enhancements

This section describes the system wide enhancements made in this release.

#### Main Menu Changes

This section describes the changes made to the **Main Menu**.

- The **Batch** submenu was renamed **Tools**.
- The **Health Check** portal introduced in the previous release has been moved from the **Admin/System** submenu to the **Menu/Tools** submenu.
- The **External Message** submenu was renamed **Integration**.

#### Admin Menu Changes

These changes are only applicable to implementations that use the Functional sort order configuration for the **Admin Menu**. The following changes have been made:

- The **Audit Query** menu entries have been moved from the **Audit Query** submenu to the **Database** submenu. The **Audit Query** submenu is no longer applicable in the framework. If your edge application includes menu entries in this submenu, then it will still be visible with the application specific menu entries. If your edge application does not include any entries, the submenu will no longer be visible. Note that in this case, the metadata for the **Audit Query** submenu will exist with the owner flag of CM to cater for the possibility that an implementation has added their own menu entries to this submenu.
- The **Currency** menu entry has been moved from the **Financial** submenu to the **General** submenu. The **Financial** submenu is no longer applicable in the framework. If your edge application includes menu entries in this submenu, then it will still be visible with the application specific menu entries. If your edge application does not include any entries in the **Financial** submenu, the submenu will no longer be visible. Note that in this case, the metadata for the **Financial** submenu will exist with the owner flag of CM to cater for the possibility that an implementation has added their own menu entries to this submenu.
- The **Migration** submenu has been renamed **Implementation Tools**.  
The following menu entries have been moved to the **Implementation Tools** submenu:



- 
- **Application Viewer** (formerly found in the **Database** submenu)
  - **Bundle Export** (formerly found in the **System** submenu)
  - **Bundle Import** (formerly found in the **System** submenu)
  - **Revision Control** (formerly found in the **System** submenu)
  - The **External Message** submenu has been renamed **Integration**
  - The **Bucket Configuration** submenu has been renamed **Analytics Configuration**.
  - The following menu entries have been moved to the **General** submenu:
    - **Characteristic Type** (formerly found in the **Database** submenu)
    - **Extendable Lookup** (formerly found in the **Database** submenu)
    - **Feature Configuration** (formerly found in the **System** submenu)
    - **Master Configuration** (formerly found in the **System** submenu)
    - **Status Reason** (formerly found in the **System** submenu)

### Installation Time Zone Differ from Operating System Time Zone

In previous releases, the time zone configured on the installation options had to be the operating system (OS) time zone. In this release, that rule has been relaxed, allowing for the installation time zone to differ from the OS time zone. In conjunction with this, a new application property has been added to indicate whether the DB session time zone should be synchronized to the time zone defined on the installation options (rather than the OS time zone). The property name is **ouaf.database.session.setInstallationTimeZone** and its default value is 'false'.

In addition, existing functionality for referring to the current date and current timestamp and standard Date/Time have been changed to use functions **@currentDate** and **@currentTimestamp**. The functions **CURRENT\_DATE**, **SYSDATE**, **CURRENT\_TIMESTAMP** and **SYSTIMESTAMP** should not be used. This ensures that the time used is the correct DB session time.

**Upgrade impact:** Implementations should review any custom SQL, for example in custom data explorer zones, to ensure that **@currentDate** and **@currentTimestamp** are used going forward.

### Cache Flushing Enhancements

In previous releases, the product provided commands to flush caches but depending on where the flush request is performed, not all caches may be included. For example, the **flushAll.jsp** command from the browser flushed the application cache for the web layer and the server layer, but it did not flush the web services cache or the batch thread pool worker cache.

Within WebLogic, there are multiple deployments each with their own cache: web layer, service layer and IWS (web services). In addition, if WebLogic clusters are implemented, there may be multiple nodes configured that all need their caches flushed.

In this release support has been introduced to perform a 'global' flush when requesting cache flushing.

- A JMS Topic will be used to broadcast the request of a flush. Each deployment in WebLogic includes a 'listener' to respond to requests for a flush. Refer to the *Server Administration Guide* for more information about how to configure this.
- Performing the **flushAll.jsp** command will now check for the JMS topic configuration and if available it will request a global flush. If not, it will perform a local flush as per previous functionality.
- By default, the various deployments in WebLogic (web, service and web services) will 'listen' for the global flush request.
- The thread pool workers may also be configured to 'listen' for the global flush request; however this is not the default behavior. If the thread pool workers are not configured to

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'listen' to this request, their caches are refreshed by restarting the thread pool workers, by submitting the **F1-FLUSH** batch job. Also note that as per [automatic flushing](#), the system has been enhanced to support automatic flushing of the Hibernate cache for batch. However, the methods described here are still required for flushing the application caches.

Note that these enhancements only impact WebLogic and do not impact Websphere.

In addition, the **F1-FLUSH** batch job has been enhanced to flush cached data for all thread pool workers for all thread pools (not just the thread pool where the batch job was submitted).

### Enhanced EJB Container Security Support

For Oracle WebLogic implementations the product now uses additional facilities to secure JNDI access to EJB resources. This change will be transparent to implementations as it will be included in the upgrade templates. It reuses the JNDI lookups already available. In order to better secure JNDI resources exposed by the application, Weblogic JNDI resources will be configured to be require authentication (anonymous access is no longer granted) and not accept connections from remote systems. If there are cases where remote access may be required, customers will need to configure the following property to be true: `-Dweblogic.jdbc.remoteEnabled`.

It is also advised to not use the system user to access JNDI resources. This release advises the installers to use a different user such as `ouafjndi` rather than `system`. For convenience, the `ouafjndi` user has been added to the `ldap` for embedded installations.

### Enhanced JMS Security Support

For Oracle WebLogic implementations the product now uses additional facilities to secure JMS access for inbound and outbound communications. This change will be transparent to implementations as it will be included in the upgrade templates. It reuses the settings already populated for other components.

### Support for Service Identifier: Removal of SID

In line with the directions of Oracle Database 12c, JDBC connections should refer to the Service Identifier and not Oracle SID as SID is deprecated in Oracle 12c. Customers using Oracle SID should configure a Service Name for the database and alter the Database connection strings to use the service name.

### Importing Self-Signed Certificates

If you are using self-signed certificates and the Inbound Web Services (IWS) feature, then it is necessary to import these certificates into the OUAF truststore file.

Perform the following commands:

1. Start Weblogic.
2. Initialize a command shell and setup the environment by running the following:

#### Unix:

```
$SPLEBASE/bin/splenvron.sh -e $SPLENVIRON For example:  
/ouaf/TEST_ENVIRON1/bin/splenvron.sh -e TEST_ENVIRON1
```

#### Windows:

```
%SPLEBASE%\bin\splenvron.cmd -e %SPLENVIRON% For example:  
D:\ouaf\TEST_ENVIRON1\bin\splenvron.cmd -e TEST_ENVIRON1
```

3. Execute the following script to generate all information:

#### Unix:

```
$SPLEBASE/bin/initialSetup.sh -i
```

#### Windows:

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```
%SPLEBASE%\bin\ initialSetup.cmd -i
```

**Note:** This needs to be performed before deploying the IWS application.

## Configuration Tool Enhancements

In this release, the following enhancements have been made to the configuration tool functionality.

### Schema Editor Enhancements

The following enhancements have been made in the schema editor for defining elements for a business object:

#### Simplified Flattening a Characteristic/Characteristic List

When the schema editor was introduced, it included an element type for **Flattened Field**, providing the information needed to indicate which child table the element is mapped to along with the detail needed to uniquely define the flattened row.

Because a common use of flattening is to flatten an entry in a sequence based characteristic, in this release, a new schema editor element type **Characteristic** has been introduced to help simplify the steps needed to create an element that is flattening a characteristic. This can be thought of as a type of wizard for a specific type of **Flattened Field** element.

The **Characteristic** element may only be used if the maintenance object has at least one characteristic collection that is sequence based. If there is only one such characteristic collection on an MO the user only needs to define the element name and select the characteristic type. The system will generate the full syntax of the flattened field, including the 'row' definition. The appropriate mapField attribute will automatically be configured to the ADHOC\_CHAR\_VAL, CHAR\_VAL or CHAR\_VAL\_FK<sub>n</sub> based on the chosen characteristic type. In addition, for FK reference type characteristics, the fkRef attribute will be automatically generated.

If the MO has more than one sequence based characteristic collection (not a common situation) then after defining the element name, the user must select the appropriate characteristic collection prior to selecting the characteristic type.

Note that this is only available for the schema editor on Business Object because that is the only place where the maintenance object is known. For other schema editors on other pages, for example the Data Area schema editor, the **Flattened Field** element type must be selected to define this type of element.

Similarly, a new schema editor element type **Characteristic List** has been introduced to help simplify the steps needed to create a flattened list based on a characteristic, where the list includes the Sequence and the Characteristic Value. This can be thought of as a type of wizard for a specific type of **Flattened List** element. In this situation, the user must define the element name for the list element and the element name for the characteristic value element. The rest of the functionality related to selecting the characteristic type is similar to the **Characteristic** element type. The system will generate the full syntax of the flattened list including the 'rowFilter' definition. It will automatically create an element for the Sequence.

### Script Syntax Highlighter

In this release, enhancements have been made to the Edit Data editor pop-up text box on Script to aid in writing edit data step types.

- A mono-spaced font is used making it easier to read
- Line numbering has been added
- Pressing the tab key provides indentation
- Highlighting is used when typing to match brackets, single quotes and double quotes
- Colors are used to distinguish comments, keywords and values

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In addition, the pop-up shown when clicking the **View Script as Text** link also includes the line numbering, the colors and the mono-spaced font.

### Ability to Round Based on Dynamic Scale in Scripting

In this release, a new API has been provided to allow for a monetary amount to be rounded based on a dynamic number of decimals. This is to support the fact that different currencies support a different number of decimals.

Example:

```
move "parm/amount" to $qnty;  
move "currency/decimalPositions" to $scale;  
move "fn:round(xs:decimal($qnty) * math:exp10(xs:double($scale))) div  
math:exp10(xs:double($scale))" to "parm/roundedAmount";
```

### Moved Tips Topics to Help

In this release, the topics visible in the Tips zones have been moved to online help. As part of this conversion, some of the tips verbiage has been changed and some of the topics have been rearranged. The following table highlights the pages that include a Tips dashboard zone and the change that was done.

Page	Old Link Verbiage	New Link Verbiage	Comments
Several pages	Valid schema attributes and node names	View advanced schema topics	BO, BS, DA, UI Map and Script all had a link to 'Valid schema attributes and node names'. This topic included both Schema syntax details and UI Hint syntax details. The online help has two separate topics for Schema syntax and UI Hint syntax. As a result, the tips link will bring the reader to a parent topic called <b>Advanced Schema Topics</b> where the reader can choose to view the schema syntax or the UI hint syntax.
	Valid schema attributes and node names	View advanced schema topics	See comments in the first row.
Business Object	View a sample schema	No new equivalent	The product includes many base schemas that may be viewed for samples

<b>Page</b>	<b>Old Link Verbiage</b>	<b>New Link Verbiage</b>	<b>Comments</b>
Business Service	Valid schema attributes and node names	View advanced schema topics	See comments in the first row
	View a sample schema	No new equivalent	The product includes many base schemas that may be viewed for samples
	View examples of business services	View common business services	This topic has not been carried over as is. Only the 'Miscellaneous Useful Services' has been included with only framework owned business services included
Data Area	Valid schema attributes and node names	View advanced schema topics	See comments in the first row
	View a sample schema	No new equivalent	See comments in the first row
Script	View a list of edit data step type commands	View edit data step type commands View script engine version 2 notes	The existing tips topic included a section with 'script engine version 2 notes'. This topic has been split out so there are now two separate links.
	Valid schema attributes and node names	View advanced schema topics	See comments in the first row
UI Map	Valid HTML attributes and supported Javascript functions	Valid HTML attributes and supported Javascript functions	Tips topic has been converted as is
	Standard HTML and CSS class styles	Standard HTML and CSS class styles	Tips topic has been converted as is
	Valid schema attributes and node names	View advanced schema topics	See comments in the first row

Page	Old Link Verbiage	New Link Verbiage	Comments
	View a list of explorer column mnemonics	View SQL column parameter mnemonics	Adjusted the verbiage
	View explorer configuration samples	View SQL statement valid keywords View pagination configuration samples	This topic has not been carried over as is. The samples are not included because there are many base product zones that may be viewed for samples. The supported SQL keywords are included in their own topic. In addition, the pagination configuration has its own topic.
Zone		View zone action parameter mnemonics View user filter parameter mnemonics View hidden filter parameter mnemonics View multi-select action parameter mnemonics	New links have been included to view detailed configuration for various parameters including Zone Action, User Filter, Hidden Filter and Multi-Select Action.

### Support for Processing BO / MO Plug-ins via Batch Monitor

By default, when a record is processed by a business object monitor batch process, the BO post processing and audit algorithms and the MO audit algorithms are not executed. In this release, the system has been enhanced to allow for an algorithm to indicate that the BO and MO algorithms should be executed by the batch monitor. The Enter, Exit and Monitor plug-in spots for the BO status have been enhanced to include a new Boolean switch called 'force post processing'. Any algorithm may set this to true to cause the algorithms to execute. The default setting is false ensuring backward compatibility.

### Batch Enhancements

In this release, the following enhancements have been made to batch functionality.

#### Integration with Oracle Scheduler

The Oracle Database includes an enterprise wide scheduler to simplify the scheduling of background processes. The scheduler is implemented by the DBMS\_SCHEDULER package. The product provides an integration with the Oracle Scheduler to facilitate scheduling background processes shipped with the product.

Refer to the *Server Administration Guide* for more information. In addition, a white paper, Oracle Scheduler Integration provides implementation advice and guidelines.

#### Plug-in Driven Batch Processes

In this release two new batch processes have been introduced to support invoking plug-in algorithms for the logic that differs from one batch process to another: the logic to select the

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records to process and the logic to process the records. The following points highlight more information about the functionality:

- A new batch process has been provided to perform adhoc processing where some records are selected based on algorithm logic and each record is processed based on algorithm logic.
- A new batch process to be able to create an extract file. It is similar to the perform adhoc processing batch process and calls the same algorithm plug-in spots to select and process the records. In addition, it includes parameters and logic to support writing a fixed position extract file, a CSV file or an XML file.
- A new plug-in spot has been introduced to the Batch Control called Select Records. Algorithms plugged into this spot supply an SQL that the batch process should execute to select the records that should be included in the processing. The algorithm may also supply bind variables to be substituted into the SQL when executed. Note that the product provides a base algorithm type for this plug-in spot that simply defines a parameter for the SQL. It may be used by any custom batch process where the SQL does not rely on any special bind variables that must be determined. Simply create an algorithm for the algorithm type and provide the appropriate SQL. Refer to the algorithm type Select Records by Predefined Query (**F1-PDB-SR**) for more information.
- A new plug-in spot has been introduced to the Batch Control called Process Record. This algorithm is called for each record selected for the process. For the adhoc processing batch process, algorithms plugged into this spot are responsible for doing the work for each record based on the desired logic. For the extract batch process, algorithms plugged into this spot are responsible for returning the data that should be written to the file in one or more XML instances along with the schema name(s) that describes the XML instance(s). For XML output format, the batch process will write the XML instance data as returned by the plug-in. For fixed position or CSV output format, the batch process will convert the XML instance data to the appropriate format and add it to the file.

The product provides a template batch control record for each of the plug-in driven batch processes that include a detailed description of the logic along with the standard parameters supported. If an implementation would like to introduce a custom batch process, after creating appropriate Select Records and Process Record algorithms, the appropriate template batch control may be duplicated to support the custom algorithms. Refer to the detailed description and parameter descriptions for the batch controls Plug-in Driven Generic Template (**F1-PDBG**) and Plug-in Driven Extract Template (**F1-PDBEX**).

### **Event Driven Batch Process Triggering (via BO State Transition)**

In this release a new BO Enter algorithm type (**F1-SCHEDJOB**) has been provided to create an entry in the Batch Job Submission table for a batch control provided as a parameter. This allows for a batch job to be ‘event driven’.

An algorithm may be created for this algorithm type for any batch job that should be triggered when a record enters a given BO state. It does not allow for any user provided parameters but rather relies on the default values defined on the batch control.

In addition, the product provides base algorithms for various CMA batch controls. Refer to [Algorithms Provided for Event Driven Batch Submission for Various Steps](#) for more information.

### **New Post-Processing Plug-in Spot**

In this release a new plug-in spot has been introduced for batch programs: Post-Processing. If a given batch control references a post-processing algorithm, the algorithm is executed after all the threads for a given batch run are completed.

Algorithms for this plug-in spot receive the batch control and run number for the current batch job, in case the statistics of the current batch job are useful for the algorithm logic.

The product also provides a base algorithm type (**F1-NEXTJOB**) that submits a new batch job for a batch control defined as a parameter. This is helpful for use cases where multiple batch

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processes should be run in sequence and where the batch jobs are not configured as timed or are part of a scheduler.

### Ability to Download Batch Logs

In previous releases if a user wished to review the log files created by a batch run, it was necessary to find the server location where the logs are stored to view the information.

In this release, the Batch Run Tree page, which displays information about a batch run, provides links to download the log files for each thread to save or view locally. Please note the following information about this functionality:

- The location of the log files is defined in the application properties file and in addition must be defined for each thread pool worker.
- Separate **Download** hyperlinks are shown for the 'stdout' log and the 'stderr' log, if the logs exist.
- If multiple threads are used for the batch run, separate log files exist for each thread, if applicable. The **Download** hyperlinks are visible at the thread detail level.
- The name associated with the log file(s) is captured for each thread in the Batch Thread table. The **Download** hyperlinks are only shown if there is a log file name captured on the Batch Thread and this log file is still available in the log directory. Note that this also means that the ability to download will only be available for batch processes run after upgrading to this release as batch processes run prior to the upgrade will not have the file name stamped on the Batch Thread.
- Users must be given explicit security access to be able to download the files. The links are only visible if the user has the appropriate access. The required access is the Download access mode on the Batch Run Tree application service.

### Automatic Flushing of the Thread Pool Worker Cache

In previous releases, the cache used by batch processes could only be refreshed by restarting the thread pool workers or by running **F1-FLUSH**.

As described in [Cache Flushing Enhancements](#), the thread pool workers can also be configured to listen to a global flush request.

In this release the system is configured to automatically flush the Hibernate (sometimes referred to as the L2 cache) cache periodically. An implementation may turn it off using a properties setting **com.ouaf.batch.disableAutoFlush=true**. The default number of seconds between flushes is 60. An implementation may override that value using a different properties setting: **com.ouaf.batch.flushIntervalInSeconds=nn** (where nn is the desired number of seconds). Note that this automatic flushing only covers the Hibernate cache. Batch processes may also access server level caches (also referred to as application caches).

### Support for Paging in LDAP Import

It is possible that an LDAP server has a maximum number of objects that a query can return. For implementations with a large number of users that may exceed that limit, the LDAP Import batch process has been enhanced to support multiple calls to the LDAP server to retrieve user information in pages. A new parameter called **LDAP Query Page Size** has been added to the LDAP Import batch control **F1-LDAP**. Configure a value for this parameter to indicate that multiple paged searches should be performed with each call retrieving the indicated number of objects.

### New Purge Batch Category

In this release a new batch category value has been added: **Purge**. It may be used to identify batch controls that are related to purging records.

As part of this change the To Do Purge (**F1-TDPG**) and the Notification Download Purge (**F1-NDPUR**) batch controls have been updated to refer to the new Purge value.



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## To Do Enhancements

This section describes To Do related enhancements.

### Enhanced Logic for To Do Creation Plug-in

In previous releases, the product provided a BO Enter plug-in to create a To Do Entry allowing for configurable parameters to control aspects of the To Do creation. In this release, the algorithm has been enhanced to allow for information to be defined on the related type record for the object. This allows for one BO to be configured for a master / transactional object with one algorithm but different 'type' records may be used that configure different settings for the To Do creation.

- **To Do Type** - Previously, the To Do Type had to be referenced as a parameter on the algorithm. In this release, a parameter has been enabled to reference an element name for the To Do Type on the related type. If populated, the algorithm first looks for an element on the object's 'type' record. If one is found that is used. Otherwise, the To Do Type defined as an algorithm parameter is used.
- **To Do Role** - Similarly, a parameter has been enabled to reference an element name for the To Do Role. It follows similar rules to the To Do Type. Note that the algorithm looks for the To Do Type and To Do Role independently of each other. In other words, the algorithm does not expect to find the To Do Role populated in the same place as the To Do Type.
- **Retry Frequency** - Previously, the Retry Frequency could be defined as a parameter on the algorithm or as an option on the BO. In this release, a new parameter has been defined allowing for the retry frequency to be defined on an element for the related 'type' object.

Refer to the detailed description of the algorithm type F1-TDCREATE for more information.

## Integration Enhancements

This section provides information about integration oriented enhancements.

### SSLv3 Support Retirement and TLS 1.2 Support

In alignment with industry trends the use of SSLv3 will not be supported for inbound and outbound communications. An error message will be generated when attempting to use this protocol, denying its use. Customers using this protocol should shift to an alternative protocol including TLS 1.2. Refer to the Oracle WebLogic and IBM WebSphere documentation for details of altering the protocols used.

### JSON Support for Outbound Messages

In this release, support has been provided for sending messages that natively support the JSON format (JavaScript Object Notation) for outbound messages.

A new message sender class has been provided for handling JSON based web services. It is responsible for converting the message into JSON format prior to connecting with the external web service. When configuring a JSON communication sender on the External System / Outbound Message configuration, you may define one of three options for converting the XML Source (from the outbound message BO) to JSON (and subsequently converting a response received):

- Use a standard API (using a Jettison library) to do the conversion of the XML to JSON. In this case an XSL may optionally be applied prior to calling the API. The product also supports applying an XSL to the response after the JSON to XML conversion is performed.
- Simply apply an XSL to the XML source that will result in a valid JSON formatted message. In this case the standard API is used to transform a response back to XML.
- Use a base delivered conversion from XML to JSON that know how to convert some framework specific element types to JSON. Note that for this option, the system also supports converting from the outbound message schema to a different schema (defined using

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a data area) via XSL before doing the base JSON conversion. In addition, the JSON response is converted back to XML using this method. As with the request, the conversion may be from JSON to the business object's response schema or to an interim schema (defined using a data area) which may then be transformed via XSL to the BO's response schema. If no response schema is defined, then the standard API is used to transform the response to XML.

### **Business Flag Introduced**

It is possible that information detected in one product may be useful or even critical to share with another product. The framework provides functionality for receiving information from an external system that acts as a type of flag or alert that may need investigation. This allows any system to store detected business flags in a common way and share that information with one or more other systems.

The following is an example of a use case for business flags. Imagine that DataRaker highlights potential theft of service at a certain location. That product may initiate a business flag alert to various products owned by the implementation with a recognized standard name for the business flag, such as "TAMPER".

- If Oracle Utilities Meter Data Management receives this business flag, it may initiate a service investigation monitor.
- If Oracle Utilities Meter Workflow Management receives this business flag, it may initiate a service investigation activity.
- If Oracle Utilities Customer Care and Billing receives this business flag, it may initiate a hold on billing for that location.

Note that the framework product supplies basic functionality to support logic that is common to all edge applications that implement business flag functionality. However it is the individual edge applications that supply more specific functionality (business objects and algorithms) for specific use cases, if applicable.

Refer to the Business Flag section in the Integration chapter in the framework administration guide as well as the related section in your specific edge application's administration guide for details about what is supported in your product for this functionality.

**Note:** Business Flag has been enabled for ILM. A standard ILM crawler batch control has been provided for this maintenance object and the MO is configured with the standard ILM eligibility algorithm.

### **JMS Queue Message Browser**

In this release, a new portal has been introduced that can view messages in a JMS Queue. In order to connect to the JMS Queue, Message Senders must be defined for each queue so that the credentials (user name / password) are defined.

Users select the Message Sender / JMS Queue to view and a list of up to 300 messages is displayed. A message selector may be used to limit the results to messages that satisfy the message selector.

The details of a single message may be viewed. In addition, the portal supports selecting one or more messages to delete from the queue.

### **Several JMS Related Objects Renamed**

In this release, the following objects have been renamed:

- XAI JMS Connection has been renamed to JMS Connection.
- XAI JMS Queue has been renamed to JMS Queue.
- XAI JMS Topic has been renamed to JMS Topic.
- XAI JNDI Server has been renamed to JNDI Server.

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These objects are not specific to the legacy XAI functionality. They are applicable for external messaging and integration so their names have been updated accordingly.

In addition, the maintenance pages for these objects have been moved from the **Admin >XAI** menu to the **Admin >Integration** menu.

### Support for XML Message Substitution in HTTP URL

In this release, the system supports entering @XMLMSG@ in the URL of an HTTP message sender. This is supported for GET calls where an XSL has been applied that converts the XML into HTTP GET parameters.

For example, if the XML message is as follows:

```
<myRequest>
  <firstName>Mary</firstName>
  <lastName>Smith</lastName>
</myRequest>
```

An XSL may be used to convert the XML to the following:

**firstName=Mary&lastName=Smith.**

Then the following URL: **http://example.com/myService?@XMLMSG@** would be converted to this to execute the HTTP GET call: **http://example.com/myService?firstName=Mary&lastName=Smith**

### Miscellaneous Updates for Inbound Web Service

Several enhancements have been made to inbound web service maintenance and deployment functionality.

#### IWS Deployment Default Security

IWS has been enhanced to improve the default security of deployed Inbound Web Services. Prior to this release, installations were required to manually add a security policy for each web service even if it was supplied as part of their product. If a web service did not have a security policy defined the container default would be used. This was container dependent but was typically HTTP Basic over HTTP. This is not an acceptable level of security so a mechanism was defined to create a global default security policy even if an environment has taken no steps to customize the security policy for individual IWS.

The default security policy for IWS is **@Policy(uri="policy:Wssp1.2-2007-Https-BasicAuth.xml", attachToWsdl=true)**. This policy requires HTTP Basic Authentication over HTTPS and a WS-Security timestamp.

An environment does not need to do any further configuration if this is acceptable. However, if a different security policy is desired, a new feature configuration option may be defined using the option type **Default security policy** in the **External Messages** feature type.

An individual inbound web service may continue to define a specific security policy by defining an Annotation referencing the base Policy annotation type (**F1POLICY**). Note that the **F1-USERNAM** annotation has been removed as it defined a security policy that sent clear text passwords. As part of the upgrade, any existing Inbound Web Service that refers to this annotation will be updated to remove the reference.

In addition, the system supports configuration to indicate that no **@Policy()** should be generated. This may be used when policy management is configured via the admin console. To turn off the policy generation for all services, configure **<none>** in the **Default security policy** feature configuration option. To turn off the policy generation for a particular IWS record, configure a web service annotation that defines **<none>** as its URI.

After determining and configuring the appropriate security policy, Implementations will need to redeploy their inbound web services. If using the default security policy, the following changes are needed:

- 
- Use an https URL to invoke any inbound web service
  - Use HTTP Basic credentials
  - Supply a WS-Security Timestamp in the SOAP header to prevent replay attacks

### **IWS Services Secured by Default**

Operations for an IWS refer to a business object (BO), business service (BS) or service script (SS). A business object is typically delivered with a specific security application service. However, since most business services and service scripts are used internally, they are typically delivered with a default application service. In this release, any business service or service script that is configured in an operation row for an Inbound Web Service has been updated to refer to a specific security application service. This allows an implementation to explicitly secure which user groups may access those underlying services via a web service call.

The following application services have been introduced for existing business services that are linked to inbound web services:

- F1-EMAILSVC (for business service F1-EmailService)
- F1-SMSRECEIVESVC (for business service F1-SmsReceive)
- F1-UPDATESYNCSVC (for business service F1-UpdateSyncRequest)
- F1-GEOCODESVC (for business service F1-GeocodeAddress)
- F1-HEALTHCHECKSVC (for business service F1-HealthCheck)

**Upgrade Note:** Upgrading clients will receive the new application services but the business services listed will not be updated to refer to the new application services because that column is customizable. Existing implementations that wish to take advantage of the new application services must update the business service to refer to the new application service and configure the user groups to have appropriate access the application service as per business rules.

### **Deployment Only Available Online in Development Regions**

In this release, the **Deploy** button on the **Inbound Web Service Deployment** portal will only be allowed when the system is configured to be a 'development' region.

### **New Search by Schema Type / Schema Name**

In this release, a new search option has been added to inbound web service allowing the user search for inbound web services that refer to a specific schema (business object, business service or service script schema).

In addition, a new context menu entry has been added for Business Object, Business Service and Service Script to **Go To Inbound Web Service**, which navigates to the above search option.

### **Ability to View the WSDL for an Inbound Web Service**

In this release, the Inbound Web Service Deployment page has been enhanced to include a new column for each deployed web service or deployed XAI inbound service to be able to view its WSDL.

### **Inbound Web Services Visible in Schema Tree**

The Schema Tree visible on the Schema tabs on Business Object, Business Service and Service Script now include a node for Inbound Web Services linked to the record displayed (if applicable).

## **Support Characteristic Mapping for Analytics Integration**

Some products include integration with Oracle Utilities Analytics that include extract / transformation and load (ETL) processes to extract data from the source system (edge product) into the analytics product. In previous releases, if an implementation wished to extend the mapping to extract data captured in characteristics tables in the source system for population into user defined fields on dimension, this was possible via additional SQL statements during the extract process.

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In this release, the product has provided configuration objects to support mapping one or more characteristic values to a User Defined Dimension in a specific table in the analytics product. The analytics tools uses this configuration during the ETL process to extract the appropriate data. The framework supplies the following configuration objects:

- A new extendable lookup BO: Allowed Target Dimension (**F1-AlwTgtDmn**). This lookup allows for a source system to define the valid target dimension and columns in the analytics product that may map to a characteristic. In addition, it defines the valid source characteristic entity. Note that the framework does not supply any base lookup values for this lookup. However, your specific application may provide base records for objects whose data is extracted for analytics.
- A new maintenance object ETL Mapping Control (**F1-ETLMPCTRL**) to capture the mapping definitions. Along with this, a base BO for ETL Mapping Control (**F1-ETLMapCtrl**) is supplied. System administrators may use the new **ETL Mapping Control** portal (found on the **Admin >Analytics Configuration** menu) to define the desired mapping of characteristic values.

**Note:** Refer to the **Integration >Analytics Configuration** chapter of the *Server Administration Guide* in the online help for more information.

## Configuration Migration Assistant (CMA) Enhancements

The following sections highlight enhancements to CMA functionality. Note that the product is continuing to find ways to streamline the overall CMA process; reducing steps and increasing the ability to automate various steps.

### Language Oriented Migration Configuration Removed

In previous releases, the system supplied a migration plan for copying rows in the Language table and implemented a special migration request to only bring the language rows across in an isolated migration. The idea was that if language rows are copied in a migration mixed in with other admin objects with language rows, all objects would have a dependency with the language row and would all be grouped into the same transaction.

In this release, the product is changing its recommendation for language and CMA and does not believe that a new language row should be introduced to a new region using CMA. Supporting an additional language in an implementation requires a major step of translating all base product supplied labels, messages and other user-facing text (system data). An implementation may use a language pack provided by the product to get the necessary translated strings. Alternatively, the implementation may be managing its own translation of system data, which is independent of using CMA. In either case, the expectation is that the translation of the system data is applied for each region at an implementation site following the procedures documented in the online help for supporting additional languages.

In this release, the migration plan **F1-Language** and the migration request **F1-Languages** have been deprecated.

**Note:** For upgrading clients, above records have not been removed, but rather the owner flag has been updated to CM so that other records that may be referencing either of these records are not impacted.

### Caching Requirements Automatically Handled

In previous releases, an important caching step that was required to be performed as part of exporting and importing migration data sets are now performed automatically in this release. The batch jobs used in the CMA process were required to reference a thread pool worker with batch caching (L2 caching) turned off. In this release, various algorithms used in the CMA lifecycle to retrieve, compare and update data perform a step to turn off the batch caching for their session prior to performing their logic. As a result, the Thread Pool Name is no longer a required parameter in the various batch controls. In addition, there is no need to define a special thread pool worker with batch caching turned off.

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## Algorithms Provided for Event Driven Batch Submission for Various Steps

There are many steps involved to progress a migration data set through its full lifecycle. Several of the steps require submission of a batch job. The online help documentation highlights that the batch jobs must be submitted manually or alternatively, defined as Timed or defined in a scheduler.

Because CMA is not an ongoing activity, but rather an activity that happens ad-hoc or on a more irregular schedule, in this release a new option has been provided for some of the batch jobs, to allow them to be submitted by an 'event' (namely transitioning the appropriate BO to state) that should trigger the job.

As described in [Event Driven Batch Job](#), in this release a new algorithm type supports submitting a batch job when entering a state. In addition, base algorithms have been provided to submit the following CMA related batch controls:

- **F1-MGDIM** - Migration Data Set Import Monitor (algorithm **F1-MGDIM-SJ**)
- **F1-MGDPR** - Migration Data Set Export Monitor (algorithm **F1-MGDPR-SJ**)
- **F1-MGOPR** - Migration Object Monitor (algorithm **F1-MGOPR-SJ**)

The product does not however release the CMA related business objects with these algorithms already plugged in. Rather, the users that are performing the migration, if they decide to use this technique for submitting the appropriate batch jobs, should configure them on the appropriate business objects. Refer to the online user documentation for more information.

## Change to the Method for Adjusting Imported Data

In previous releases, CMA supplied an import algorithm meant to allow implementations to adjust imported data. The implementation of the plug-in spot made it challenging to create plug-ins as it didn't allow for easily interacting with the record using a BO. This made it difficult to use a plug-in script as the plug-in type. In addition, it made it difficult to update elements in an XML column.

In this release, the product supplies a new plug-in spot for the import process: **Pre-compare**. The pre-compare algorithm is plugged in on the primary instruction of a migration plan and is executed during the import process for each migration object that references that migration plan. It is called prior to comparing the record's source and target data.

Algorithms for this plug-in spot receive the view of the source data and the target data using a BO schema (the physical BO). The plug-in can compare the source and target views of the data to make appropriate decisions. If any changes are made, they are reflected in the 'source' data captured in the migration object and the comparison of source to target uses the updated source. Note that if an algorithm wished to adjust data that is in an XML based column in the record, there are existing business services that allow you to convert the data from the physical BO to the 'logical' BO to update elements within the XML.

Note that it is possible to use the algorithm to reset the source data as a way of indicating that the record should not be imported. This is not expected to be used often because the expectation is that using appropriate selection criteria at export time should ensure that the only records exported are those that should be imported. However, this is supported if needed. For these situations, the migration object comparison step will transition the record to **Unchanged** and will use an object action value of **Canceled**. (Note that object action is a simple lookup value. The record is not transitioned to the Canceled BO status as to reserve that status for user initiated cancellations of the object or one of its parent records).

The product provides an algorithm for this plug-in spot for the Batch Control migration plan. It adjusts the Batch Run Number and other 'batch run' related fields in the source data such that it matches the value in the target data.

**Note.** The CMA import algorithm plug-in spot will be deprecated in a future release and the recommendation is to discontinue using it.

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## Support for Admin Data with System Generated Keys

In previous releases, the CMA documentation indicates that it doesn't support migration of records with system generated keys. In fact the tool supports migrating these records. However, there was no logic in place to check that if a record in the target has the same key that it is in fact the same record. Because keys are generated, it's possible that the record in the target represents a different record.

In this release CMA has been enhanced with respect to system generated keys. To highlight the enhancements, an example using a 'common' attachment will be used to describe possible scenarios. Imagine an attachment for the standard rate codes exists in a source region with the key 123456789. The table below highlights possible situations at the target region and actions supported in CMA.

Scenario	Target Situation	Action	Comments
1	No matching record	Record can be added with key 123456789.	
2	Record exists with key 123456789 and logic confirms that it is also the 'standard rate codes' attachment.	Record can be updated.	
3	Record exists with key 123456789, but logic detects that it is not the 'standard rate codes' attachment.	Record is not updated. An error is issued.	The system cannot update this record because it is not the right attachment record.
4	The system detects that another attachment record exists for the 'standard rate codes' attachment with a different ID.	Record is not updated. An error is issued.	Assumption is that the record was created directly in the target or was copied from a different source.

As highlighted in the table, scenarios 3 and 4 are not currently supported. These use cases would require key mapping to keep track of the id from the source to the id in the target so that any other records from the source that reference this key as a foreign key would be updated as part of the migration. This functionality has not been provided.

Scenarios 1 and 2 above are supported and should cater for 95% of the use cases with some assumptions in place.

- The record has some other attributes that constitute a type of 'logical key' such that the MO can detect if the record being copied already exists and with which ID. In the example above, the attachment MO can review the attributes of the source record and determine if a record with the same logical attributes exist. If no and there is no existing attachment record with the same ID (representing different data), an attachment record is added with the ID from the source. If an attachment is found in the target for the same logical key with the same ID as the source, it is updated. If a record is found with a different ID than the source, an error is issued.

Note. Each MO that has a system generated key and contains admin data will need to provide its own method that CMA can call to check this information. If the method does not exist, CMA will update an existing record with the same ID. In the framework product, the Attachment MO has been updated to look at the file name and the creation date. If your specific edge application has additional administrative MOs with system generated keys, verify with that documentation if there is support for checking logical keys.

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- The product recommends that an implementation establishes a migration strategy such that administrative records with system generated keys are always created in the same region and always follow a standard migration path for promoting the data from this source region to other regions. Following this strategy, you would minimize or eliminate the possibility that a record for the same logical key is created in multiple places such that different IDs would be generated as described by scenario 4 above.

There is a special use case that is also considered as part of this enhancement. That is, that there are some MOs that contain a mixture of master or transaction data and administrative data. The Attachment is an example of this. The product supports Common attachments and Owned attachments. Owned attachments are records that are specific to its owner. The owner could be master or transaction data and its attachments are therefore considered master or transaction data. Common attachments on the other hand are considered administrative data. For these use cases, an implementation may follow the suggested strategy of only creating the administrative data in one region so that IDs for common attachments are not reused. However, it is reasonable and expected that owned attachments are being created in the target region and may receive a system generated key that matches the key of a common attachment from the source region.

To try to minimize this issue, the system includes a special method to be used by any MO that may contain administrative data mixed in with master or transaction data. This method generates the key of an administrative record with a zero (0) in the middle of the key and ensures that the keys for master and transaction data do not include a zero in this spot. In the framework, the Attachment MO has been updated to use this method. It means that going forward, common attachments will receive a key with a zero in the middle of the key and owned attachments will not.

**Note:** No data conversion is supplied for upgrading customers. It means that for customers with existing attachments the IDs for common attachments and owned attachments are not following any differentiating pattern. If you wish to migrate common attachments, it is possible that the target region has an existing attachment with the same key that may not be for the same logical record.

### Adjusted Access Mode for Retry Actions

The Migration Data Set Import BO includes user initiated actions for Retry Objects and Retry Transactions. In both cases, the access mode used on the BO was Change. In this release, the access mode of Retry Objects was changed to match the one used on the Apply Objects state (Migration Approved). The access mode of Retry Transactions was changed to match the one used on the Apply Transactions state (Apply).

### Miscellaneous Enhancements

This section describes miscellaneous enhancements.

#### Ability to Restrict URL References

In this release, the system provides an ability to restrict the information that may be entered when configuring a URL.

- This validation is turned on using a properties file entry:  
**com.oracle.ouaf.urlValidator.enable=true**. For upgrade purposes, the default value is false.
- Implementations can configure a 'white list' of valid hosts/ports/protocols that may be referenced in various URL data entry points. This list is referenced in a new properties file entry: **com.oracle.ouaf.whitelist.file=<file location>**. When a user enters a URL value at both update time and run time, the URL is checked against this white list (if the validation property is 'true'). Note that a new validation API is provided to execute this validation.
- The following framework delivered functionality that captures a URL have been enhanced to execute the new URL validation API.
  - **Message Sender** - context entries for the context types: HTTP URL (1-9), SMTP Host name, HTTP Proxy Host, HTTP Proxy Port and JMS Provider.



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- **JNDI Server** - the Provider URL field.
  - **Web Service Adapter** - the WSDL URL and the URL fields. In addition, the WSDL source will be parsed to extract the service address from the document and validate the value.
  - **Feature Configuration** - Server URL for the SMS Send Configuration feature type.

**Note:** Your specific edge product may also include configuration objects that allow for the definition of a URL. Confirm with your specific product that the URL validation is in place.

**Potential implementation upgrade task:** If your implementation has introduced custom configuration objects that capture a URL and this URL validation is desired, then changes must be made to code to invoke the new URL validation API.

Note that the following entities are not recommended for use going forward but have also been updated to follow this validation pattern:

- XAI JDBC Connection - the JDBC URL and JNDI Data Source.

### Minor Updates to Navigation Key Field Names

On the Navigation Key page, the field URL Location has been renamed **Navigation Key Type**. Also note that a new value has been added: **Help**. This is used by the product to distinguish help related navigation keys from other external navigation keys. Also note that the value **Override (External)** has been renamed **Override (Other)**. This value may be used to override either External navigation keys or Help navigation keys.

The field **URL Override** has been renamed **URL Component**.

### Outbound Message Maintenance Object Updated to Determine BO

The Outbound Message maintenance object (**F1-OUTMSG**) is missing the configuration of the Determine BO algorithm. It means that if an implementation has algorithms configured on the Outbound Message business object (namely validation, post processing or audit algorithms), they are not getting executed.

In this release, the maintenance object has been updated to configure this algorithm correctly.

**Upgrade Note:** If your implementation has a business object for Outbound Message (defined on the Outbound Message Type) with BO algorithms configured, the algorithms will now execute when adding or updating an outbound message.

### Checked Out Dashboard Zone Reorder

For development environments that configure revision control will notice that the Checked Out zone has been changed to sort by the maintenance object's description. In previous releases, the order was dictated by the maintenance object code (which is not visible).

### Extendable Lookup Value List - Pagination and Filtering Added

When viewing extendable lookup information, you are first prompted to choose the BO for the lookup. Then you are taken to a portal that displays the list of all extendable lookup values for the selected BO at which point you may view, edit or remove values as needed.

In this release, to cater for extendable lookups that may have a large number of lookups values, the list zone has been enhanced to support pagination and includes an ability to filter the list by value or description.

### Application Service - Application Security Zone Updates

The Application Security zone on Application Service includes two zones to help review/update the user groups and users that have access to the application service. Both zones were updated to minimize some confusion:

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- The zone User Groups with Access was changed to **User Groups Linked**. This is because the zone shows application services linked to the user group even if the link is expired. An expired link by default means that there is no access. The zone title was changed to make this clear. In addition, the user filter functionality for this zone was updated to only show user groups that the user has a current link to. If the user has an expired link to a user group, it is not shown in the results.
  - The zone User Groups without Access was changed to **User Groups not Linked**. The zone title was changed to make it clear that this zone shows user groups that do not have any link to the application service. In addition, the user filter functionality for this zone was updated to only show user groups that the user has a current link to. If the user has an expired link to a user group, it is not shown in the results.

### Table/Field Usage Flags Removed

In this release, the Table Usage flag has been removed from the Table - Main user interface page and the Field Usage flag has been removed from the Table - Field user interface page. In addition, any validation referencing the fields has been removed.

Note that the columns remain in the respective database tables at this time. However there is no functionality related to them.

### ECID Support

The Execution Context ID (ECID) is a unique context id generated by the WebLogic server for every request that is sent to the server. This unique identifier correlates events or requests associated with the same transaction. This value is generated at the start of the request and is passed to subsequent layers. If this request contains a remote server call, the ECID value is passed as a header parameter to the remote server. This way administrator can track the end-to-end flow of a particular request across the application stack.

The following points highlight changes made in this release to support including the ECID in various diagnostic tools.

- The hibernate.properties file used for online transactions has been modified to use JDBC datasource instead of UCP connection pooling. Note that the use of UCP connection pooling is still supported and can be selected during installation of the product.
- The release scripts have been modified to provide an option to configure the diagnostic volume and enable the context. Note that by default the diagnostic volume is set to 'Low' and the context is not enabled.
- A new configurable property has been included in the spl.properties file called "ouaf.weblogic.enableDiagnostics". This provides an option to enable or disable the display of the ECID in log files and V\$SESSION table during online transactions. The value is set to 'false' by default.

### ILM Enhancements

- In previous releases, the To Do Entry table included an index for ILM Date, ILM Archive Switch and To Do Entry ID. This index was provided to aid the performance of the ILM crawler batch program. However, the decision is that the product will not release an index in base for ILM enabled MOs for the ILM crawler performance. Rather, as part of configuring the database for ILM for a given MO, an index on ILM Date, ILM Archive Switch and PK field should be added.
- The database administrator guide has been updated with more information about defining this index when preparing an MO for ILM.
- The existing index for To Do Entry is no longer provided.
- The new [business flag](#) maintenance object has been enabled for ILM.

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## Oracle Utilities Application Framework System Data Details

This section provides information about new and updated system data delivered in this release that may need to be reviewed for possible impact by implementations.

This section consists of the following:

- [New/Updated Application Services](#)
- [New/Updated Migration Plans/Migration Requests](#)
- [New/Updated Inbound Web Services](#)
- [New/Updated XAI Inbound Services](#)
- [Updated System Data Details](#)

### New/Updated Application Services

The following application services were added or updated. Please review and determine which user groups, if any should be granted access to the application service / access mode.

Application Service	Description	Access Mode	Comments
CILTBTRP	Batch Run Tree	Download	New access mode added for the new ability to <a href="#">download batch logs</a> .
F1JMSBRW	JMS Message Browser Portal	Inquire	New application service for JMS Queue Message Browser.
F1-BUSFLGTYP	Business Flag Type MO	Add, Change, Delete, Inquire	New application service for Business Flag functionality.
F1-BUSFLG	Business Flag MO	Add, Change, Delete, Inquire	New application service for Business Flag functionality.
F1BSFTYM	Business Flag Type Portal	Inquire	New application service for Business Flag functionality.
F1BSFLGQ	Business Flag Query Portal	Inquire	New application service for Business Flag functionality.
F1BSFLGM	Business Flag Portal	Inquire	New application service for Business Flag functionality.
F1-BUSFLGSYN	Business Flag Sync Driver Script	Execute	New application service for the new script exposed as an Inbound Web Service for the Business Flag functionality.
F1APPLYBNDL	Import / Apply Bundle Script	Execute	New application service for the new script exposed as an Inbound Web Service.

<b>Application Service</b>	<b>Description</b>	<b>Access Mode</b>	<b>Comments</b>
F1-EMAILSVC	Send Email BS	Execute	New application service for the Email Service business service that is newly secured.
F1-SMSRECEIVESVC	Receive SMS Message BS	Execute	New application service for the Receive SMS Message business service that is newly secured.
F1-UPDATESYNCSVC	Update Sync Request BS	Execute	New application service for the Update Sync Request business service that is newly secured.
F1-GEOCODESVC	Geocode Address BS	Execute	New application service for the Geocode Address business service that is newly secured.
F1-HEALTHCHECKSVC	Health Check BS	Execute	New application service for the Health Check business service that is newly secured.
F1-ETLMPCTRL	ETL Mapping Control MO	Add, Change, Delete, Inquire	New application service for ETL Characteristic Mapping functionality.
F1ETL	ETL Mapping Portal	Inquire	New application service for ETL Characteristic Mapping functionality.

## New/Updated Migration Plans/Migration Requests

The following migration plans have been added and all have been added to the F1-FrameworkAdmin migration request.

- Attachment (F1-Attachment) (Note that only Common attachments are migrated. This rule is implemented using the migration request.) Note that this MO has system generated keys.
- Bucket Configuration (F1-BucketConfiguration)
- Business Flag Type (F1-BusinessFlagType)
- Inbound Web Service (F1-InboundWebService)
- Menu (F1-Menu) - Note that this MO has system generated keys.
- Web Service Annotation (F1-Annotation)
- Web Service Annotation Type (F1-AnnotationType)

When copying data in system owned tables where the MO does not support any customizable data for a base owned record, there is no reason to copy base owned data. The comparison in the target region will always result in an 'unchanged' state. To reduce the unnecessary copying of this data, the instructions in the migration request for those plans should be checking for the owner flag and only including CM owned records.

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The following migration request instructions were updated accordingly:

Migration Request	Migration Plan
F1-FrameworkAdmin	Algorithm Type
	Context Sensitive Zone
	Display Icon Reference
	Managed Content
	Navigation Key
F1-MigrationAdmin	Navigation Option
	Migration Plan
	Migration Request

In addition, base migration plans that include one of the above migration plans as a subordinate instruction were updated to limit the selection to CM owned records.

### New/Updated Inbound Web Services

A new Inbound Web Service has been introduced for the Business Flag functionality: **F1-BusinessFlagSync**.

A new Inbound Web Service has been introduced to import and apply a Bundle: **F1-ApplyBundle**.

### New/Updated XAI Inbound Services

A new XAI Inbound Service has been introduced for the Business Flag functionality: **F1-BusinessFlagSync**. Note that the recommendation for implementations going forward is to use Inbound Web Services for all web service functionality. However, for existing implementations that are using XAI for web service functionality and have not yet changed their implementation to use inbound web services, this record is provided for exposing the Business Flag Sync functionality.

### Updated System Data Details

This section highlights miscellaneous changes to system data configuration.

- The description of Message Category 11011 was changed from **XAI** to **External Message**.
- A new physical BO was added for Batch Control: **F1-BatchControlPhysicalBO**. The existing batch control physical BO (F1-BatchControlMO) used by bundling does not have all the fields from the batch control table. Note that the existing physical BO is still the one configured in the MO option as it is used by bundling. The new BO will be available for any processing that needs it.
- The following menu entries were not configured to follow the standard for 'fixed' pages where using the Search option launches the search with no pre-populated data. They were showing previously viewed records.
  - Navigation Key
  - Portal
  - Zone
- The menu entry to add a zone has been corrected to no longer pre-populate the zone type of a previously viewed record. Navigating to Zone via the menu in add mode will now show a blank page as per the standard for 'fixed' pages.

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- The **TO DO ROLE** maintenance object (To Do Role) now has a physical BO and a bundling Add BO. In addition, it has been enhanced to support bundling.

Note that the physical BO for To Do Role was made available in previous releases using the following bugs: 21909965 (4.2.0.2.0HOT), 21909955 (4.2.0.3.0HOT), 21879998 (4.3.0.0.1HOT), 21647369 (4.3.0.1.0HOT)

Enabling bundling for To Do Role was made available in 4.3.0.1.0HOT using bug 21812728.

## Oracle Utilities Application Framework Deprecation Notices

The following points highlight functionality that has been removed or is no longer supported by Oracle Utilities Application Framework v4.3.0.2. This section consists of the following:

- [System Deprecation](#)
- [System Data Deprecation](#)
- [Deprecated Functionality Planned For Future Releases](#)

### System Deprecation

- Batch processing no longer supports **DISTRIBUTED** execution mode. Implementations using **DISTRIBUTED** execution mode should migrate to using **CLUSTERED** execution mode.
- The table usage flag (TBL\_USAGE\_FLG) on MD Table (CI\_MD\_TBL) and the field usage flag (FLD\_USAGE\_FLG) on MD Table Field (CI\_MD\_TBL\_FLD) have been dropped along with their corresponding lookup entries.
- A previous release introduced UI map extension logic where product owned maps needed to include 'hooks' (or user exits) in order for an implementation to extend the UI map html. The two HTML attributes **oraDisplayExtensionUI="xpath;"** and **oraEditExtensionUI="xpath;"** were the statements required to be included in a base product UI map in order to extend them. With the introduction of UI hints, the ability to extend a BO schema and its generated UI map is now the preferred method. It is confirmed that no product had implemented the UI map extension 'hooks'. This functionality is no longer supported.

### System Data Deprecation

The following metadata related to the legacy LDAP import functionality via XAI has been deprecated:

- XAI Inbound Service **LDAPImport**
- XAI Adapter **LDAPImport**
- Message Class (formerly XAI Class) **LDAPIMPRTADA**

Note that for upgrading clients the above records are updated to have a CM owner flag so that any existing records that may reference any of this metadata will continue to be valid.

### Deprecated Functionality Planned For Future Releases

- 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.
  - Business Object **F1-EnvironmentRefPhysicalBO**

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- Maintenance Object **ENV REF**
  - 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 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 menus **CI\_ADDCONTEXT** and **CI\_GOTOCONTEXT** are not in use and will be removed in a future release.
  - The database tables **F1\_IWS\_ANN\_CHAR** and **F1\_IWS\_ANN\_TYPE\_CHAR** will be removed in a future release.

### Support for Abbreviated Time Zone Names

The time zone page includes a drop down for defining a Time Zone Name. The list includes many three-digit 'abbreviated' time zone names. However, their use is deprecated because the same abbreviation is often used for multiple time zones (for example, 'CST' could be U.S. 'Central Standard Time' and 'China Standard Time'), and the Java platform can then only recognize one of them.

In a future release the Time Zone name drop down will be updated to remove the abbreviated values and upgrade any existing records to refer to an appropriate supported time zone name.

### CMA Import Algorithm

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

### BO Read in F1-MainProc when Pre-Processing Exists

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

In a subsequent release, to solve a UI Hints issue related to child BOs, a BO 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 BO Read is no longer necessary 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. Because of this situation, the BO Read is still performed as part of the processing of F1-MainProc.

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





