**Oracle Utilities Customer Care and Billing**

Release Notes

Release 2.6.0.0.0

**E86257-01**

April 2017

ORACLE®

Oracle Utilities Customer Care and Billing Release Notes

# Contents

# Preface

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

## Audience

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 V 2.6.0.0.0 Release Notes*
- *Oracle Utilities Customer Care and Billing V 2.6.0.0.0 Quick Install Guide*
- *Oracle Utilities Customer Care and Billing V 2.6.0.0.0 Installation Guide*
- *Oracle Utilities Customer Care and Billing V 2.6.0.0.0 Database Administrator's Guide*
- *Oracle Utilities Customer Care and Billing V 2.6.0.0.0 Optional Products Installation Guide*
- *Oracle Utilities Customer Care and Billing V 2.6.0.0.0 Licensing Information User Manual*

**Administrative and Business User Guides**
- *Oracle Utilities Customer Care and Billing V 2.6.0.0.0 Administrative User Guide*
- *Oracle Utilities Customer Care and Billing V 2.6.0.0.0 Business User Guide*
- *Oracle Utilities Customer To Meter V 2.6.0.0.0 Administrative User Guide*
- *Oracle Utilities Customer To Meter V 2.6.0.0.0 Business User Guide*

**Supplemental Documents**
- *Oracle Utilities Customer Care and Billing V 2.6.0.0.0 Server Administration Guide*
- *Oracle Utilities Customer Care and Billing V 2.6.0.0.0 Security Guide*

# Conventions

The following text conventions are used in this document:

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

# Acronyms

The following acronyms and terms are used in this document:

| Acronym | Definition |
|---|---|
| CCB | Oracle Utilities Customer Care and Billing |
| C2M | Oracle Utilities Customer To Meter |
| SOM | Oracle Utilities Service Order Management |
| MDM | Oracle Utilities Meter Data Management |
| OUAF | Oracle Utilities Application Framework |

# Chapter 1

# 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 v4.3.0.3.0 Release Notes
- Oracle Utilities Application Framework v4.3.0.4 Release Notes

# Release Overview

This section contains general information about this release of Oracle Utilities Customer Care and Billing version 2.6.0.0.0.

This release includes the following components:

- Oracle Utilities Customer Care and Billing version 2.6.0.0.0
- Oracle Utilities Application Framework version 4.3.0.4.0

Please visit My Oracle Support (http://support.oracle.com) and Oracle Software Delivery Cloud (http://edelivery.oracle.com/) for the most recent service packs and patches for Oracle Utilities Customer Care and Billing V2.6.0.0.0 to ensure you have the most current version of this product.

## 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 2.5.0.2 to version 2.6.0.0.0
- Upgrade from Oracle Utilities Customer Care and Billing version 2.5.0.1 to version 2.6.0.0.0
- Upgrade from Oracle Utilities Customer Care and Billing version 2.5.0.0 to version 2.6.0.0.0
- Upgrade from Oracle Utilities Customer Care and Billing version 2.4.0.3 to version 2.6.0.0.0
- Upgrade from Oracle Utilities Customer Care and Billing version 2.4.0.2 to version 2.6.0.0.0
- Upgrade from Oracle Utilities Customer Care and Billing version 2.4.0.1 to version 2.6.0.0.0
- Upgrade from Oracle Utilities Customer Care and Billing version 2.4.0.0 to version 2.6.0.0.0
- Upgrade from Oracle Utilities Customer Care and Billing version 2.3.1 Service Pack 10 to version 2.6.0.0.0
- Upgrade from Oracle Utilities Customer Care and Billing version 2.2.0 Service Pack 10 to version 2.6.0.0.0
- Upgrade from Oracle Utilities Customer Care and Billing version 2.1.0 to version 2.6.0.0.0
- Upgrade from Oracle Utilities Customer Care and Billing version 2.0.5 to version 2.6.0.0.0

- Upgrade from Oracle Utilities Customer Care and Billing version 1.5.20 to version 2.6.0.0.0

- Upgrade from Oracle Utilities Customer Care and Billing version 1.5.15 to version 2.6.0.0.0

- Upgrade from Oracle Utilities Customer Care and Billing version 1.5.10 to version 2.6.0.0.0

# Database Changes

The database enhancements for version 2.6.0.0.0 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 |
| 2.5.0.2 | 23629545 |

# 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 includes:

- Deployment Options
- Additional System Wide Support for Person Contacts
- CIS Division Enhancements
- Introduce Restricted Accounts Zone
- Ability to Restrict Batch Billing by CIS Division
- Ability to Restrict Collection Processes by CIS Division
- Ability To Maintain Calculation Rules Cross-References and Add Calculation Groups
- Convert Control Central to use a Mutli-Query Zone
- Standardize Control Central Account Information - Current Context Zone
- Introduce CMA Support for System Generated Keys
- Ability To Handle Bill Cycle/Service Cycle in Coordination with CC&B/SOM/MDM
- System Wide Enhancements
- Database Character Support

# Deployment Options

This release will provide a deployment option for an implementation, referred to as Oracle Utilities Customer to Meter, to install the following Oracle Utilities applications in the same Oracle Utilities Application Framework instance as Oracle Utilities Customer Care and Billing:

- Oracle Utilities Meter Data Management (MDM)
- Oracle Utilities Smart Grid Gateway (SGG)
- Oracle Utilities Service Order Management (SOM)

The single instance deployment option will provide implementations with a consistent user experience, simplify the installation process, and assist in reducing the overall total cost of ownership. Some of the enhanced features include:

- For each object that is currently common to or overlapping CCB and MDM / SGG/SOM, will be internally synchronized without the need for a middleware layer. These will either be:
  - Merged from a maintenance transaction point of view (example: for service points, one user interface but in the background both service point records in Oracle Utilities Customer Care and Billing and Oracle Utilities Meter Data Management will be maintained); or
  - One common/overlapping object will be used by all applications with the remainder being made redundant or hidden from a users point of view (example: Bill Cycle)
- In the Current Context Dashboard Zone, the current context is merged between the various applications.
- Redundant menu and Context menu items are to be hidden from business users.

# Additional 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. In a subsequent enhancement, a feature was introduced that some system processes used to determine if person phone and email or person contacts was being used. In this release, the following areas are added to support Person Contacts which were not enhanced in previous releases.

In this release, the following areas are added to support Person Contacts:

- Orders and Campaigns
- Prepaid Metering Notifications
- UGBU Productized Integrations and DataConnect Extracts
  - Oracle Utilities Customer Self Service
  - Oracle Utilities Network Management System
  - Oracle Utilities Meter Data Management; and
  - Oracle Process Integration Pack for Oracle Utilities Field Work

# CIS Division Enhancements

In Oracle Utilities Customer Care and Billing, CIS Division is used to define a specific business unit or jurisdiction. Each CIS Division may be configured with its own unique business rules for specific business processes.

CIS Division has been converted to a portal/zone user interface. The existing characteristic collection is now called "Effective-Dated Characteristic". Sequence-based characteristic has been added. These can be used to extend the CIS Division schema to add new elements. New schema elements can be mapped to a new CLOB data area added to CIS Division.

In this release, there are a number of enhancements to further support implementations with multi-CIS Division requirements. None of these setting are enabled by default for upgrading customers. These include:

- Overriding system defaults and values for the account's CIS Division. These include:

    - Overriding Installation record defaults for Customer Class for Persons and Businesses

    - Overriding Installation record values for Credit Rating and Cash-Only Score

    - Overriding the extract batch program and/or extract algorithm found on bill and quote route types

- CIS Division can be configured to ensure that service agreements and premise related to an account have the same CIS Division as the account's CIS Division.

- In this release, the following admin objects have been enhanced to allow a CIS Division to be specified. The use of the admin type on master or transactional records is restricted to records matching the specified CIS Division

    - Adjustment Type

    - Bill Cycle

    - Budget Plan

    - Case Type

    - Customer Contact Type

- User can be associated with CIS Division(s).

- An installation option is provided to secure service points and premises that are not related to an account. They can be secured using the CIS Division(s) associated with a user. Those associated with an account remained secured by account access group

- An installation option is provided to require an account on CIS Division. This setting triggers changes on the person and order pages to allow a CIS Division to be specified when adding an account. This setting limits users to CIS Divisions defined on their record.

# Premise Type Can Control CIS Division

In this release, a configurable option on Premise Type has been added to define whether a CIS Division is required, optional, or not allowed on a premise record of that type. For upgrading customers, the default value is "optional".

# Access Group Defaulting

In this release, a configurable option on Customer Class Control has been added to default an Access Group on an account based on CIS Division / Customer Class and also override the default Access Group on an account based on implementation-specific requirements using a new plug-in spot on customer class control that allows more complex logic to be introduced.

# Introduce Restricted Accounts Zone

Oracle Utilities Customer Care and Billing has been enhanced to include a Restricted Accounts zone on the Control Central - Customer Information tab. The zone displays the accounts that are associated with the person and / or premise in context and to which the current user does not have security access to.

# Ability to Restrict Batch Billing by CIS Division

A new plug-in driven batch control version of the 'BILLING' batch control has been provided in this release (C1-BILL). The accounts to be retrieved for processing are determined by the 'Select Records for Billing' (C1-BILL-SR) algorithm configured in the Batch Control - Select Algorithms plug-in spot. The optional CIS Division parameter on the batch control can further limit the accounts to be retrieved for billing by a specific CIS Division.

# Ability to Restrict Collection Processes by CIS Division

New plug-in driven batch controls have been provided in this release for various Credit and Collection processes.  Each of these have an optional CIS Division parameter on the batch control to further limit the records to be retrieved for processing by a specific CIS Division.

- Account Debt Monitor (C1-ADM) is the plug-in driven version for the existing ADM batch control. The records to be retrieved for processing are determined by the 'Select Records for Account Debt Monitor Process' (C1-ADMP-SR) algorithm configured in the Batch Control - Select Records plug-in spot.

- Collection Event Trigger (C1-CET) is the plug-in driven version for the existing CET batch control. The records to be retrieved for processing are determined by the 'Select Records for Collection Event Trigger Process' (C1-CETP-SR) algorithm configured in the Batch Control - Select Records plug-in spot.

- Severance Event Trigger (C1-SET) is the plug-in driven version for the existing SET batch control. The records to be retrieved for processing are determined by the 'Select Records for Severance Event Trigger Process' (C1-SETP-SR) algorithm configured in the Batch Control - Select Records plug-in spot.

- Write-off Monitor (C1-WPM) is the plug-in driven version for the existing WPM batch control. The records to be retrieved for processing are determined by the 'Select Records for Write-off Monitor Process' (C1-WPMP-SR) algorithm configured in the Batch Control - Select Records plug-in spot.

- Write-off Event Trigger (C1-WET) is the plug-in driven version for the existing WET batch control. The records to be retrieved for processing are determined by the 'Select Records for Write-off Event Trigger Process' (C1-WETP-SR) algorithm configured in the Batch Control - Select Records plug-in spot.

- Overdue Account Monitor (C1-OAM) is the plug-in driven version for the existing C1-ADMOV batch control. The records to be retrieved for processing are determined by the 'Select Records for Overdue Account Monitor Process' (C1-OAMP-SR) algorithm configured in the Batch Control - Select Records plug-in spot.

- Collection Process Monitor (C1-CPM) is the plug-in driven version for the existing CPM batch control. The records to be retrieved for processing are determined by the 'Select Records for Collection Process Monitor Process' (C1-CPMP-SR) algorithm configured in the Batch Control - Select Records plug-in spot.

- Severance Event Set Dependency Date (C1-SED) is the plug-in driven version for the existing SED batch control. The records to be retrieved for processing are determined by the 'Select Records for Severance Event Set Dependency Date Process' (C1-SEDP-SR) algorithm configured in the Batch Control - Select Records plug-in spot.

- Severance Event Completion (C1-SEC) is the plug-in driven version for the existing SEC batch control. The records to be retrieved for processing are determined by the 'Select Records for Severance Event Completion Process' (C1-SECP-SR) algorithm configured in the Batch Control - Select Records plug-in spot.

# Ability To Maintain Calculation Rules Cross-References and Add Calculation Groups

The calculation rules-based rating engine was introduced in a prior release of Oracle Utilities Customer Care and Billing.

Calculation Rule cross-references are configured via member / target category settings on the Calculation Rule itself. This enhancement provides a more efficient way to add calculation rules as a member to a target category. A user will be able to see other calculation rules in a rate schedule that a specific calculation rule may apply to and be able to add / remove cross-references from a single location.

In addition to the above, a user will be able to add Calculation Groups to a rate schedule from new links from within the Rate Schedule portal itself. Previously, Calculation Groups were maintained via its own menu item and then had to be linked back to a Rate Schedule.

# Convert Control Central to use a Mutli-Query Zone

The existing Control Central Search capability has been superseded using multi-query data explorer zones in a new Control Central - Main portal tab. The existing search

options have been retained and CIS Division has been added as an additional search filter.

This approach also enables implementations to extend the Control Central Search capabilities by adding / overriding search options to meet their implementation-specific requirements using the Oracle Utilities Application Framework's Configuration Tools.

# Standardize Control Central Account Information - Current Context Zone

The Current Context zone, on the Control Central - Account Information tab, has been superseded by a new zone using a zone type of Explicit Object Map. The original green and red buttons, for Starting and Stopping Service respectively, have been replaced with regular button types and labels.

# Introduce CMA Support for System Generated Keys

Oracle Utilities Customer Care and Billing maintenance objects with system-generated keys for master and transactional records are now able to be migrated using Configuration Migration Assistant (CMA). This enhancement will avoid inadvertently overwriting data in the target system that happens to have the same system-generated key but is not the same object as that being migrated.

These include:

- Account
- Customer Contact
- Device Test
- Device Test Selection
- Field Activity
- Field Order
- Item
- Landlord
- Meter
- Meter Configuration
- Meter Read
- Non-Billed Budget SA
- Order
- Person
- Premise
- Service Agreement
- SA Relationship

- Service Point
- SP/Item History
- SP/Meter History

# Ability To Handle Bill Cycle/Service Cycle in Coordination with CC&B/SOM/MDM

During the activation of a service agreement, an Account may be assigned a Bill Cycle. This Bill Cycle was previously only set to the bill cycle related to a service point's service cycle in Oracle Utilities Customer Care and Billing.

However, in implementations where meters and meter reading processes are being managed by Oracle Utilities Meter Data Management, the Bill Cycle should be assigned to the bill cycle related to the Oracle Utilities Meter Data Management's service point's measurement cycle. This enhancement bridges the gap to determine the Bill Cycle in Oracle Utilities Meter Data Management and return back to Oracle Utilities Customer Care and Billing.

# 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** (**C1_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/Case Type | Case Type | Customer |
| Admin/General Audit | General Audit | Database |

# Database Character Support

Oracle Utilities Customer Care and Billing supports the new Oracle Utilities Application Framework functionality - storage, processing and retrieval of data in multiple languages by leveraging the Oracle Database globalization support architecture. It supports CHAR length semantics to store data in database columns in terms of CHARACTERS rather than in terms of BYTEs.

For more information, refer to the **Database Globalization Support Consideration** section in the *Oracle Utilities Customer Care and Billing Database Administrator's Guide*.

# 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. The section consists of the following:

- New/Updated Application Services
- Updated System Data Details
- Updated System Data Details From Prior Releases

## New/Updated Application Services

In this release, an Application Service column (APP_SVC_ID) has been added to the Batch Control table, allowing an implementation to control which users are able to submit which batch controls. For a list of application services added or updated in Oracle Utilities Application Framework, refer to New/Updated Application Services.

For the list of Batch Controls, refer to the **New System Data** section in the *Oracle Utilities Customer Care and Billing Database Administrator's Guide*. Please review and determine which user groups, if any should be granted access to the application service/ access mode.

## Updated System Data Details

This section describes change made to the system data configuration:

- Batch Application Services have been added.

  Refer to the **New System Data** section in the *Oracle Utilities Customer Care and Billing Database Administrator's Guide.*

- A new Current Context zone (C1-CURCONTX, zone type: F1-MAPEXPL) has been added to replace CI_CONTEXT (zone type: SERVICE). Customer is suggested to use the new one by changing it via User Preferences / Control Central Account Info Portal.

- A new Restricted Accounts (C1-INACC-ACT) zone has been added to Control Central / Account Information, to list restricted Accounts associated to Premise or Person.

- To Do Types ADM, C1-ADMOV and C1-ODET have been updated to associate them with their corresponding creation batch process. However, the field allows customization and will not be updated for upgrading customer. It is suggested that upgrading customers review these To Do Types and update them accordingly. Verify that the To Do Roles for these To Do Types are set according to your business rule.

- Index XT285S1 in table C1_OFFCYC_BGEN_ADJ recreated to be non-unique.

- FK Reference C1-COEVT - Info Program was updated to use the Java version: com.splwg.ccb.domain.creditcollections.common.CollectionEventInformation.

- FK Reference C1-SVEVT - Info Program was updated to use the Java version: com.splwg.ccb.domain.creditcollections.common.SeveranceEventInformation.

The following algorithms without parameters were added:

| Algorithm | Algorithm Type | Description |
|---|---|---|
| C1-ADJT-TA | ADJT-TA | Payoff Amt = Adj / Current Amt = 0 |
| C1-ADJT-GL | ADJT-GL | Payoff = Current = 0 (GL only) |
| C1-DELBILPY | CPBC-DB | Delete bill if only payment exists |
| C1-PERID-EIN | CIPERID-EIN | Validate person ID is in NN-NNNNNNN format |
| C1-PERID-SSN | CIPERID-SSN | Validate person ID is in NNN-NN-NNNN format |
| C1-TD-INFO | F1-TDI-INFO | To Do Information |
| C1-TDCR-DFRL | C1-TDCR-DFRL | Default To Do Role via Account |
| C1-BIPR-INV | F1-BIPR-INV | Creates URL for opening BI Publisher Reports |
| C1-PEVT-INFO | C1-PEVT-INFO | Payment Event Information algorithm |
| C1-CCAL-TD | CCAL-TD | Highlight open To Do entries |
| C1-CCAL-DECL | CCAL-DECL | Highlight effective declarations for account and premise |
| C1-WO-BILLS | C1-WO-BILL | Highlight Written Off Bills |
| C1-PP-ACTIVE | PP BY STATUS | Show count of ACTIVE pay plans |
| C1-PP-BROKEN | PP BY STATUS | Show count of BROKEN pay plans |
| C1-GEOTYP-LL | CIGEOTY-LL | Lat/Long - N2.7 N3.7 |
| C1-BLEX-XML | C1-BLEX-XML | Create XML bill print extract records |
| C1-ADJT-CA | ADJT-CA | Payoff Amt = 0 / Current Amt = Adj Amount (no GL) |
| C1-APAM-DFLT | APAM-DFLT | Automatic Payment Amount Calculation |
| C1-PP-KEPT | PP BY STATUS | Show count of KEPT pay plans |
| C1-OI-BILAMT | C1-OI-BI-AMT | Determine Open-Item Bill Amounts |
| C1-NEXTD-SKL | F1-NEXT-ASSG | Next To Do Assignment (Match Skills) |
| C1-DEPRFTODO | DEPREFMETH-W | Create ToDo entry (rather than refund) |
| C1-PREM-INFO | PREM-INFO | Premise Information (Address 1, City, State,Postal) |
| C1-PER-NMVAL | NMFM-VALFMT | Person Name Format Validation (Last,First) |

| Algorithm | Algorithm Type | Description |
|---|---|---|
| C1-ADJ-INFO | C1-ADI-INFO | Adjustment Information |
| C1-APAY-CRE | APAY-CREATE | Automatic Payment Creation |
| C1-BILL-INFO | BIFN-BL INFO | Bill Information |
| C1-BS-BC-DFT | BSBS-BC | Create a bill segment for each new billable charge |
| C1-ADJFT-NM | ADJT-NM | Payoff Amt = Adj / Current Amt = Adj |

## Updated System Data Details From Prior Releases

The following table highlights system data changes that were done prior to the v2.6.0.0.0 release but were not listed in that version's *Release Notes* or *Database Administrator's Guide*.

| Version | Change |
|---|---|
| 2.5.0.2.0 | The lookup ALW_DND_FLG has been changed from customizable to not customizable. (Bug 23056937) |

# System Data Modifications For Upgrade From Previous Versions

The table below lists upgrade scripts delivered with older releases of Oracle Utilities Customer Care and Billing. It also lists the changes made by these scripts to system data (business objects, algorithms etc).

| Release | Pre-Upgrade Scripts | Mid-Upgrade Scripts | Post-Upgrade Scripts |
|---|---|---|---|
| 2.4.0.2 | • 24020_C1_BP_BpSchema1.sql - drops tables like 'C1_INITIATIVE_LEAD_CRIT%'<br><br>• 24020_C1_BP_BpSchema2.SQL - modifies SRCH_CHAR_VAL to VARCHAR2(50) from CHAR | None | • 24020_C1_AP_apData1.sql - UPDATE CI_FK_REF SET INFO_PRG='com.splwg.base.domain.common.foreignKeyReference.GenericMOInfoRetriever' WHERE FK_REF_CD IN ('C1MRSCHD','C1POSTDF', 'C1- TOUB2', 'C1-BFVL2','C1DEGDAY', 'C1FLVL12','C1FLVL23', 'C1FSVCTL','C1HILOF2', 'C1-ITSQE', 'C1- CCORL', 'C1SATRLT') AND INFO_PRG='com.splwg.base.domain.common.foreignKeyReference.DescriptionRetriever'<br><br>• 24020_C1_AP_APDATA2.SQL - UPDATE CI_FK_REF SET ZONE_CD = 'C1-FATYPEQ' WHERE FK_REF_CD = 'C1-FATYP' AND ZONE_CD = ' ' |

| Release | Pre-Upgrade Scripts | Mid-Upgrade Scripts | Post-Upgrade Scripts |
|---------|---------------------|---------------------|----------------------|
| 2.4.0.3 | None | Please refer to the bug itself:<br>• 24030_BUG_20878127.SQL<br>• 24030_BUG_21165656.SQL<br>• 24030_BUG_21165656_2.SQL | Please refer to the bug itself:<br>• 24030_BUG_18906800.SQL<br>• 24030_BUG_19162075.SQL<br>• 24030_BUG_20023780.SQL<br>• 24030_BUG_20426547.SQL<br>• 24030_BUG_21078919.SQL<br>• 24030_BUG_19707998.SQL |
| 2.5.0.0 | Please refer to the bug itself:<br>• 25000_BUG_20778819_APPSVC_TO_CM.SQL | None | Please refer to the bug itself:<br>• 25000_BUG_19884554.SQL<br>• 25000_BUG_19360619.SQL<br>• 25000_BUG_20029650.SQL<br>• 25000_BUG_20301006.SQL |
| 2.5.0.1 | 25010_C1_BP_BpSchema1.SQL - renames column CONTACT_ID TO C1_CONTACT_ID | None | Please refer to the bug itself:<br>• 25010_BUG_21482753.SQL |
| 2.5.0.2 | Please refer to the bug itself:<br>• 25020_BUG_22923270.SQL<br>• 25020_BUG_23171347.SQL<br>• 25020_BUG_23185566.SQL<br>• 25020_BUG_23333064.SQL<br>• 25020_BUG_23340914.SQL | None | Please refer to the bug itself:<br>• 25020_BUG_22076980.SQL<br>• 25020_BUG_23126046.SQL<br>• 25020_BUG_23171347_2.SQL<br>• 25020_BUG_23333266.SQL |

| Release | Pre-Upgrade Scripts | Mid-Upgrade Scripts | Post-Upgrade Scripts |
|---|---|---|---|
| 2.6.0.0 | Please refer to the bug itself:<br>• 26000_BUG_23522817.SQL<br>• 26000_BUG_25735907.sql | None | • 26000_BUG_24312969.SQL<br>• 26000_BUG_25143834.SQL<br>• 26000_BUG_25646627.SQL<br>• 26000_BUG_25578850.SQL<br>• 26000_BUG_25735862.sql<br>• 26000_BUG_25138293.SQL<br>• 26000_BUG_25839535.SQL<br>• 26000_BUG_24922723.SQL |

# 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 Customer To Meter
- Known Issues in Oracle Utilities Application Framework
- Bug Fixes Not Included in This Release

## Known Issues in Oracle Utilities Customer Care and Billing

There are no known issues in Oracle Utilities Customer Care and Billing at the time of this release.

# Known Issues in Oracle Utilities Customer To Meter

The following table lists known issues in Oracle Utilities Customer To Meter version 2.6.0.0.0 at the time of release.

| Bug Number | Description |
| --- | --- |
| 25752387 | The Premise Replicator does not create Meter Data Management service points. |
| 25871765 | Bill Factor and Contract Options portals not accessible.<br>**Note**: It is highly recommended that the single fix for this issue be installed as soon as the Oracle Utilities Customer To Meter environment has been installed to provide access to the following pages:<br>• CIPINVVP - BF Interval Values<br>• CIPIBDQP - BF Interval Values Query<br>• CIPCCOPP - Contract Option<br>• CIPICOEP - Contract Option Event<br>• CIPTCOTP - Contract Option Type<br>• CIPTCVTP - Contract Option Event type |

# Known Issues in Oracle Utilities Application Framework

The following table lists known issues in Oracle Utilities Application Framework version 4.3.0.4.0 at the time of release.

| Bug Number | Description |
| --- | --- |
| 25898377 | Java script error.<br>**Note**: It is highly recommended that the single fix for this issue be installed as soon as the Oracle Utilities Customer Care and Billing or Oracle Utilities Customer To Meter environment has been installed. This bug fixes user interface errors that may occur during application viewing. |

# 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 | 2.6.0.0.0 Post-Release |
|---|---|---|---|
| 25329252 | 2.5.0.1.0 | COPY OF 25329252 - FINAL BILL SEGMENTS NOT MARKED AS CLOSING WHEN USING SCHR MR | 25369255 |
| 22027598 | 2.4.0.2.0 | COPY OF 22027598 - UNABLE TO REPLICATE ORDERED ITEM WITH TRACKED LOCATION: LOCA | 22074518 |
| 25542182 | 2.5.0.2.0 | COPY OF 25542182 - ERROR WHILE CREATING SA USING START/STOP | 25616747 |
| 24330429 | 2.2.0 | COPY OF 24330429 - NEED THE BASE-PACKAGE CHANGE TO CHECK IF AN OVERDUE PROCESS S | 24456408 |
| 25424076 | 2.5.0.1.0 | COPY OF 25424076 - MISSING RATE SCHEDULE ELEMENT FROM 1500 RECORD IN BILL PRINT | 25453641 |
| 22215392 | 2.5.0.1.0 | COPY OF 22215392 - CC&B 2.5 SP1 VAL-ACCT_INVALID NUMBER FOUND.INPUT FIELD'S(CURB | 22242677 |
| 25317702 | 2.4.0.3.0 | COPY OF 25317702 - REMOVED METER NOT BEING USED WHEN REBILLING HISTORICAL BILL P | 25560490 |
| 25808712 | 2.4.0.3.0 | COPY OF 25808712 - AFTER INSTALLING PATCH 24441697, BILL SEGMENT RETURNS SQL ERR | 25816792 |
| 24560769 | 2.4.0.3.0 | COPY OF 24560769 - MAIN PERSON'S LANGUAGE PREFERENCE NOT REFLECTED IN GENERATED | 24960169 |

**Oracle Utilities Application Framework**

| Original Bug | Original Version | Description | 4.3.0.4 Post-Release |
|---|---|---|---|
| 22460671 | 4.3.0.2.0 | ADA-KEYBOARD COPY BUG : UNABLE TO OPERATE SAVE BUTTON USING TAB OPEARTION | 22644310 |
| 24318670 | 4.3.0.1.0 | COPY OF 24329691 - COPY OF 24318670 - DATE PICKER DAYS NOT ALIGNED WITH DAYS OF | 24329800 |
| 22544303 | 4.2.0.3.0 | COPY OF 24487407 - COPY OF 23742898 - COPY OF 22544303 - ISSUE WITH DOUBLE CLICK | 24495181 |

| Original Bug | Original Version | Description | 4.3.0.4 Post-Release |
|---|---|---|---|
| 24491304 | 4.3.0.1.0 | BUG 24491304 - COPY OF BUG 23303441 - PATCH DEPLOY TOOL NOT CREATING ROLL UP DB | 24491314 |
| 24593770 | 4.3.0.1.0 | COPY OF 24593770 - NOT ABLE TO SEARCH SA ID ON SA RELATIONSHIP SCREEN IN TURKISH | 25042276 |
| 24600284 | 4.3.0.1.0 | COPY OF 24600284 - NOT ABLE TO SAVE SEARCH TO FAVORITE SEARCHES | 24665221 |
| 24618785 | 4.3.0.1.0 | COPY OF BUG 24675089 - COPY OF BUG 24675058 - COPY OF BUG 24618785 - OHELP DEPLO | 24675117 |
| 24965749 | 4.3.0.1.0 | COPY OF 24965749 - SEARCH BY IS RESET AFTER SEARCHING DIFFERENT OPTION WHEN LAUN | 25164929 |
| 24927472 | 4.3.0.1.0 | COPY OF 24927472 - PSRM: HELP POPUP MESSAGES OF TAX FORMS ARE DISPLAY AT THE BOT | 25339327 |
| 22979038 | 4.3.0.1.0 | COPY OF 25265072 - COPY OF 22979038 - COMMENTS COLUMN IN TO DO LIST IS MISSING | 25459489 |
| 25268829 | 4.3.0.1.0 | COPY OF 25268829 - CUSTOMER CONTACT SEARCH IS SLOW WHEN SEARCH RESULT IS MORE TH | 25344529 |

# 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 Object | C1-CasePhysicalBO | This was a duplicate Physical BO. BO C1CasePhysical remains the Case Physical BO. |
| Business Object | C1StockLocationPhysical | This was a duplicate Physical BO. BO C1-StockLocationPhysicalBO remains the Stock Location Physical BO. |
| Zone | CI_CONTEXT | This zone will be deprecated in next version. It will be replaced by C1-CURCONTX zone. |
| XAI Inbound Service and related entities for Usage Overview and Download | XAI inbound service: WXUsageOverview<br><br>Service script: WX -UsgOvrvw<br>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<br><br>Service script: WX-UsgDtls<br>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<br>Service script: WX-RAcctInfo | This service is no longer used by OUCSS starting with release 2.2.0. |

| Type of Object | Object ID | Comments |
|---|---|---|
| Lookup Value | Field: WX_EXT_CALL_TYPE_FLG (Characteristic Entity Flag)<br><br>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.<br><br>Customers should remove these from self-service master configuration before upgrading. |
| Lookup Value | Field: F1GC_OPT_TYP_FLG (General System Configuration Option Type Flag)<br><br>Value: C1DP (DataRaker Point Type Code) | This option will be deprecated in next version to be replaced by an extendable lookup value.<br><br>Customers should remove these from feature configuration before upgrading to next version. |

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.

**Batch Controls**

| | |
|---|---|
| C1-ADDR | Deprecated. Address Dimension Extract for BI 2.4+ |
| CL-APPCH | Deprecated. Apply Changes Based on Compare |
| CL-COPDB | Deprecated. Copy "CI_" DB Processes |
| AR-DCDTF | Deprecated. Copy to File and Delete (Alternate Step 4) |
| AR-CRCHR | Deprecated. Create Child Archive Roots (2) |
| EXTACCT | Deprecated. Extract accounts for BI |
| EXTADDR | Deprecated. Extract address for BI |
| EXTADJT | Deprecated. Extract adjustment types for BI |
| EXTBLUSG | Deprecated. Extract billed usage for BI |
| C1-CMPGN | Deprecated. Extract campaign for BI |
| EXTCASE | Deprecated. Extract case for BI |
| EXTCLOG | Deprecated. Extract case log for BI |
| EXTCTS | Deprecated. Extract case status type for BI |
| EXTCOLEV | Deprecated. Extract collection event for BI |
| EXTCET | Deprecated. Extract collection event type for BI |

| | |
|---|---|
| EXTCOLPR | Deprecated. Extract collection process for BI |
| EXTCPT | Deprecated. Extract collection process template for BI |
| C1-CSCNT | Deprecated. Extract customer contact for BI |
| C1-CCTTY | Deprecated. Extract customer contact type for BI |
| C1-CUTEV | Deprecated. Extract cut event for BI |
| C1-CUTET | Deprecated. Extract cut event type for BI |
| EXTFINGL | Deprecated. Extract financials and GL accounts for BI |
| EXTFIN | Deprecated. Extract financials for BI |
| EXTFIPD | Deprecated. Extract fiscal period for BI |
| C1-FTGL | Deprecated. Extract FTGL Fact and GL Acct Dimension for BI |
| EXTLKUP | Deprecated. Extract lookups for BI |
| C1-MSGC | Deprecated. Extract Message Categories for BI |
| C1-MSG | Deprecated. Extract Messages for BI |
| C1-OCNRS | Deprecated. Extract order cancel reason for BI |
| C1-ORDER | Deprecated. Extract order for BI |
| C1-ODEV | Deprecated. Extract overdue event for BI |
| C1-ODVT | Deprecated. Extract overdue event type for BI |
| C1-ODPR | Deprecated. Extract overdue process for BI |
| C1-ODPT | Deprecated. Extract overdue process template for BI |
| C1-PCKGE | Deprecated. Extract package for BI |
| C1-PCNRS | Deprecated. Extract pay cancel reason for BI |
| EXTPER | Deprecated. Extract person for BI |
| EXTPREM | Deprecated. Extract premise for BI |
| EXTRATE | Deprecated. Extract rate for BI |
| EXTSAACC | Deprecated. Extract SA accumulation for BI |
| EXTSAARS | Deprecated. Extract SA accumulation for BI |
| EXTSA | Deprecated. Extract service agreement for BI |
| EXTSEVEV | Deprecated. Extract severance event for BI |
| EXTSET | Deprecated. Extract severance event type for BI |
| EXTSQI | Deprecated. Extract SQI for BI |
| C1-PYTND | Deprecated. Extract tender for BI |
| C1-TNDCT | Deprecated. Extract tender source for BI |
| C1-TNDTY | Deprecated. Extract tender type for BI |

| | |
|---|---|
| C1-TD | Deprecated. Extract to do entries for BI |
| C1-RECTD | Deprecated. Extract To Do Entry Fact for BI |
| C1-TDENT | Deprecated. Extract To Do Entry Fact for BI |
| C1-TDROL | Deprecated. Extract To Do Role for BI |
| C1-TDSKL | Deprecated. Extract To Do Skills for BI |
| C1-TDTYP | Deprecated. Extract To Do Type for BI. |
| EXTTOU | Deprecated. Extract TOU for BI |
| EXTUOM | Deprecated. Extract UOM for BI |
| EXTUSER | Deprecated. Extract users for BI |
| EXTUNCEV | Deprecated. Extract write off event for BI |
| EXTUET | Deprecated. Extract write-off event type for BI |
| EXTUNCPR | Deprecated. Extract write-off process for BI |
| EXTUCPT | Deprecated. Extract write-off process template for BI |
| AR-DCDT | Deprecated. Move or Delete Data (4) |
| AR-PRFK | Deprecated. Recursive Integrity Check (3) |
| TD-CLERR | Deprecated. To Do for Root Objects in Error |
| C1-MDMIL | Unsupported (Sync Request Initial Load for MDM) |
| C1-NMSIL | Unsupported (Sync Request Initial Load for NMS) |

**XAI Inbound Services**

| XAI Inbound Service | Request Schema | Response Schema |
|---|---|---|
| CDxAccountFinancialHistory (Account Financial History List) | CDxAccountFinancialHistoryRequest.xsd | CDxAccountFinancialHistoryResponse.xsd |
| CDxFieldActivityMaintenance (Field Activity Maintenance) | CDxFieldActivityMaintenance.xsd | CDxFieldActivityMaintenance.xsd |
| CDxProcessXDS (Process an XDS as an outgoing message) | CDxProcessXDS.xsd | CDxProcessXDS.xsd |
| CDxXAIInboundService (XAI Inbound Service) | CDxXAIInboundService.xsd | CDxXAIInboundService.xsd |
| CDxAccountMaintenance (Account Maintenance) | CDxAccountMaintenance.xsd | CDxAccountMaintenance.xsd |
| WXReadAccountInfo (Read Account Information) | | |

| Request/Response Schema Record XSL | XAI Inbound Service |
|---|---|
| MeterReadUploadStaging.xsd | MeterReadUploadStaging (Meter Read Upload)<br>MeterReadUploadFromCSV (Meter read upload from CSV) |
| CDxToDoEntryMaintenance.xsd | CDxToDoEntryMaintenance (To Do Entry Maintenance)<br>CDxToDoEntryUpload (To Do Entry Upload) |
| CDxStartStopMaintenance.xsd | CDxStartStopMaintenance (Start Stop Maintenance) |
| CDxSPMeterHistorySearch.xsd | CDxSPMeterHistorySearch (SP Meter History Search) |
| CDxServicePointsForAgreement.xsd | CDxServicePointsForAgreement (Reurns the list of Service points for a service agreement) |
| CDxServiceAgreementMaintenance.xsd | CDxServiceAgreementMaintenance (Service Agreement Maintenance) |
| CDxPremiseMaintenance.xsd | CDxPremiseMaintenance (Premise Maintenance)<br>CDxPremiseUpload (CSV Premise Upload) |
| CDxPremiseUpload.xsl | CDxPremiseUpload (CSV Premise Upload) |
| CDxPersonPhoneList.xsd | CDxPersonPhoneList (Retrieves a list of person phones) |
| CDxPersonNameList.xsd | CDxPersonNameList (List of names for a person) |
| CDxPersonMaintenance.xsd | CDxPersonMaintenance (Person Maintenance) |
| CDxPaymentEventMaintenance.xsd | CDxPaymentEventMaintenance (Payment Event Maintenance) |
| CDxMeterRegistrationList.xsd | CDxMeterRegistrationList (Returns the list of registers for a meter) |
| CDxMeterReadMaintenance.xsd | CDxMeterReadMaintenance (Meter Read Maintenance) |
| CDxMeterBillHistory.xsd | CDxMeterBillHistory (Meter Bill History) |
| CDxMDServiceMaintenance.xsd | CDxMDServiceMaintenance (MD Service Maintenance) |
| CDxLookupList.xsd | CDxLookupList (Lookup List) |
| CDxIntervalDataSet.xsd | CDxIntervalDataSet (Interval data) |
| CDxGetEffectiveMeterConfiguration.xsd | CDxGetEffectiveMeterConfiguration (Get the effective date of a meter configuration) |
| CDxCountrySearch.xsd | CDxCountrySearch (Country Search) |

| Request/Response Schema Record XSL | XAI Inbound Service |
|---|---|
| CDxCalcLinesForBillSegmentResponse.xsd | CDxCalcLinesForBillSegment (Bill Segment Calc lines) |
| CDxCalcLinesForBillSegmentRequest.xsd | CDxCalcLinesForBillSegment (Bill Segment Calc lines) |
| CDxBillsForAccountResponse.xsd | CDxBillsForAccount (Bills For Account) |
| CDxBillsForAccountRequest.xsd | CDxBillsForAccount (Bills For Account) |
| CDxBillSegmentsForBillResponse.xsd | CDxBillSegmentsForBill (Bill Segments for a Bill) |
| CDxBillSegmentsForBillRequest.xsd | CDxBillSegmentsForBill (Bill Segments for a Bill) |
| CDxBillMaintenance.xsd | CDxBillMaintenance (Bill Maintenance) |
| CDxAlertZone.xsd | CDxAlertZone (Alert Zone) |
| CDxAccountSummaryRequest.xsd | CDxAccountSummary (Account Summary) |
| TestDuplicatePremise.xsl | TestDuplicatePremise ((Test) Duplicate Premise) |

The following services will be deleted; these are services that refer non-existing Request/response schema:

| XAI Inbound Service Name |
|---|
| Activity Type (Activity Type) |
| BillFactorValuePage (Bill Factor Value Page) |
| MRCyclePageMaintenance (Meter Read Cycle Maintenance) |
| NotificationDownloadStaging (Sample Download Staging for Email) |
| NotificationDownloadStagingSample (Sample NDS Service for Email) |
| ServiceforCaseTypePageMaintenance (Service for Case Type Page Maintenance) |

**Portals**

| Type of Object | Object ID | Comments |
|---|---|---|
| Portal | CI_ACCTTREE | This portal was replaced by C1_ACCTTREE in 2.3.1 but inadvertently was not removed as it is not used by the product. |
| Portal | CI_PREMTREE | This portal was replaced by C1_PREMTREE in 2.3.1 but inadvertently was not documented. |

| Type of Object | Object ID | Comments |
|---|---|---|
| Portal | CI_PP_TREE | This portal was replaced by C1_PP_TREE in 2.3.1 but inadvertently was not documented. |
| Portal | CI_BP_TREE | This portal was replaced by C1_BP_TREE in 2.3.1 but inadvertently was not documented. |

## 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 Program CIPCPPHV (Phone format validation) - The logic in this program was replaced with FW-owned: ADHV-PHN.

- CIS Division Maintenance page was replaced with a new portal/zone.

  Cobol Programs and UI objects related to the old page will be deprecated: CIPTCIDP (CIS Division Page), CIPTCIDL (CIS Division List), CIPTCDCL (CIS Division Char List), CIPTDTRL (CIS Division TD Role List).

  **Note**: CIPTCIDR (CIS Division Row), CIPTCDCR (CIS Division Char Row), CIPTDTRR (CIS Division TD Role Row) are converted to use without any customer change.

# Supported Integrations

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

## Oracle Application Integrations

- CCB version 2.6.0.0.0 to E-Business Suite (Revenue Accounting) version 12.2.2+

- CCB version 2.6.0.0.0 to PeopleSoft (Financials) version 9.2

- CCB version 2.6.0.0.0 to JD Edwards (Enterprise One) version 9.1

## Oracle Utilities Product Integrations

- CCB version 2.6.0.0.0/Oracle Utilities Analytics version 2.6.0

- CCB version 2.6.0.0.0 to Oracle Utilities Meter Data Management version 2.1.0.3+, 2.2.0.x

- CCB version 2.6.0.0.0 to Oracle Utilities Network Management System version 2.3.0.x or 1.12.0.3+

- Oracle Integration Pack for Oracle Utilities Field Work version 12.2

  - Oracle Utilities Mobile Workforce Management version 2.3.0.x or 2.2.0.2+

  - Oracle Utilities Work and Asset Management version 1.9.1.x, 2.1.1x or 2.2.0.x

## 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

# Demo Data Information

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

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

# Oracle Utilities Application Framework v4.3.0.3.0 Release Notes

This section describes enhancements, system data details and deprecation notices in Oracle Utilities Application Framework version 4.3.0.3.0 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 v4.3.0.3.0, including:

- Configuration Tool Enhancements
- Integration Enhancements
- Reporting and Monitoring Enhancements
- Configuration Migration Assistant (CMA) Enhancements
- Miscellaneous Enhancements

### Configuration Tool Enhancements

This section provides information about enhancements to the system configuration tools.

### Introduced Support for the Apache Groovy Language

In this release, the system includes support for writing plug-in scripts and service scripts using the Apache Groovy programming language.

This enhancement includes:

- A new step type of **Groovy Member** has been added which provides a free format text area where you can enter Groovy code.

- A script can incorporate Groovy code in one of following two ways:

  - If a scripting engine version is used, a script can include a combination of Groovy Member step types and other script step types. The Groovy Member steps form a Groovy class whose methods can be invoked from edit data steps within the main script body.

  - Plug In scripts can be written solely using Groovy. A new a script engine version value of Groovy has been added so that the script can indicate this to the framework. This avoids the need to convert the data to and from an XML structure when invoking a plug-in and provides the ability to write Groovy code that can work with the Java objects directly

  - For security, the product, Java and third party classes available for scripting in Groovy will be restricted to a published whitelist.

  - A system wide property setting governs whether or not Groovy may be used in scripting by your implementation

Refer to the topic 'Using Groovy within Scripts' in the 'Defining Script Options' chapter of the *Administration Guide* for more details of the functionality provided.

## Integration Enhancements

This section provides information about integration oriented enhancements.

### Introduced a SOAP Message Sender

In this release, a new message sender class has been added to support sending HTTP outbound messages that follow the SOAP format. In previous releases, it was required to use an XSL to add a SOAP envelope to a message to accomplish this. When configuring senders of this type, besides configuring the common HTTP context entries, the following additional context variables are available:

- SOAP Insert Time Stamp (Y/N)

- SOAP User Name Security Type. Values may be BASIC (HTTP Basic), TEXT (Username Token plain text) or DIGEST - Username Token Digest.

- SOAP Expiration Delay (in seconds)

Note that only the HTTP method of POST is supported.

### Allow a Web Service to Define Content Type

By default, the real-time HTTP sender sets the HTTP Content-Type header to "text/xml". Some target applications require a different setting, such as "application/xml". In this release, a new sender context type has been added to allow you to configure the appropriate Content-Type for a given Real-time Sender.

### Support a Web Service Catalogue

In this release, the product has introduced an adapter to streamline integration between your edge applications and Integration Cloud Service (ICS), which is an offering that serves as integration infrastructure for Oracle cloud solutions.

## Reporting and Monitoring Enhancements

The following sections highlight enhancements to reporting functionality.

### Ability to Capture Calculated Statistics

In this release, the product introduces functionality related to capturing statistics for a given business use case. The framework provides the following:

- A statistics control object, which is used to configure control information about whether statistics for a given use case are calculated periodically and if so, how often. Additionally it controls whether multiple historic snapshots are kept and for how long. The product provides a base business object which may be used for implementations to define their statistics control records.

- A statistics snapshot object, which is used to capture the calculated statistics. The product provides a "root" business object with an appropriate lifecycle. Edge products or implementations would extend this business object to define specific use cases. The specific business objects would include the appropriate elements in its schema that define the information being captured. And it would include an appropriate algorithm that is used to calculate the statistics data and populate the elements in the record.

The framework also provides user interface objects to view and maintain the statistics control and to view and maintain basic information captured in the statistics snapshot.

Refer to the 'Capturing Statistics' section in the 'Reporting and Monitoring Tools' chapter in the *Administration Guide* for details of the functionality provided and the framework system objects used to support it.

Refer to your specific edge product's release notes to determine if your product has provided support for specific statistics business use cases.

### Ability to Define Performance Targets

In this release, the product provides functionality to define and categorize performance targets and link them to objects such as business services, zones and portals. This supports the calculation and display of the metrics against desired results.

In addition, the framework supplies out of the box support for creating batch process performance targets and the necessary components to configure these performance targets on a dashboard that groups related measures.

The batch process performance target functionality may be used a model for creating additional performance measures for use cases applicable to the edge products.

Refer to the 'Measuring Performance' section in the 'Reporting and Monitoring Tools' chapter in the *Administration Guides* for details of the functionality provided and the framework system objects used to support it.

Refer to your specific edge product's release notes to determine if your product has provided support for additional performance target business use cases.

## 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.

### Provide Additional Event Driven Batch Events

In this release several new algorithms have been provided to submit batch jobs that will automatically progress the lifecycle of the migration import.

- F1-MGOAP-SJ - Submit Migration Object Apply Monitor. This algorithm is supplied to be plugged into the **Apply Objects** status.

- F1-MGTAP-SJ - Submit Migration Transaction Monitor. This algorithm is supplied to be plugged into the **Apply Transactions** status.

- F1-MGTPR-SJ - Submit Migration Transaction Apply Monitor. This algorithm is supplied to be plugged into the **Retry Transactions** status.

In addition, the existing algorithm F1-MGOPR-SJ may optionally be plugged into the **Retry Objects** status to automatically progress the lifecycle.

In addition, the following algorithms have been provided to submit a batch job upon completion of a batch job:

- F1-MGDIM-NJ - Submit Migration Data Set Import Monitor. This algorithm is supplied to be plugged into the F1-MGTPR (Migration Transaction Monitor), F1-MGTAP (Migration Transaction Monitor - Apply) and F1-MGOAP (Migration Object Monitor - Apply) batch controls.

- F1-MGTPR-NJ - Submit Migration Transaction Monitor. This algorithm is supplied to be plugged into the F1-MGOPR (Migration Object Monitor) batch control.

## Automatically Transition to Apply Transactions if Possible

In previous releases, the algorithm that checks to see if a Data Set can automatically transition from Apply Objects to Apply Transactions would only proceed if there were no objects in the Error Applying state. In this release, the algorithm has been changed to instead check for the number of errors. If the number is below a certain limit (configured as a parameter), the data set will transition to Apply Transactions. Note that this automatic transition only occurs if the Migration Data Set Import monitor process is run after the Migration Object Apply monitor process completes.

## Ability to Indicate that No Approval is Needed

In this release, a new option has been added to the migration data set import: an Auto Apply flag. This is implemented to allow for use cases where the migration is repetitive and the users have tested it and feel that there is no need for the manual approval step. Setting this flag to Yes results in the Apply step kicking off automatically.

## Adjust Retry Logic

A change has been made to the procedure for retrying the apply object and apply transaction processing. In previous releases:

- Clicking Retry Objects from Apply Objects or Retry Transactions from Apply Transactions transitioned the data set to the respective state temporarily but then returned the data set back to Apply Objects or Apply Transactions. This would increment a retry counter used to detect that a retry has been requested.

- Note that clicking Retry Objects from Apply Transactions would simply transition the data set to Apply Objects (incrementing the retry counter). Clicking Apply Transactions from Apply Objects would transition from to Apply Transactions (incrementing the counter). If any transactions were in error, the same steps described below were required.

- After clicking either Retry Objects or Retry Transactions, the user needed to submit two batch jobs. First submit the appropriate batch (Object Monitor or Transaction Monitor) to move the objects/transactions in error back to the status of Approved (for objects) or Ready to Apply (for transactions). (The retry counter would be checked to control this). Then submit the appropriate Apply batch job.

In this release, the Retry Objects and Retry Transactions states are not transitory. This is to help with the effort to automate steps. It also eliminated the need for a retry counter. The steps for retrying are as follows:

- Clicking Retry Objects from Apply Objects or Apply Transactions or clicking Retry Transactions from Apply Transactions transitions the data set to the appropriate Retry state. When a user clicks Apply Transactions from Apply Objects, the system will check whether or not there are transactions in error and if so, automatically transitions to Retry Transactions.

- At this point the appropriate batch job (Object Monitor or Transaction Monitor) to move objects/transactions in error back to the appropriate state (Approved or Ready to Apply, respectively) should be run. As described in Provide Additional Event Driven Batch Events, each Retry state can be configured to automatically

submit the appropriate batch job. Once the object or transaction monitor is finished moving the data in error back to the appropriate state, the Data Set should be transitioned from the Retry state back to the appropriate "Apply" state. This can be done with the Data Set Monitor batch job. As described in Provide Additional Event Driven Batch Events, the Data Set Monitor can be automatically triggered by plugging in the appropriate batch control post processing event on the Object Monitor and Transaction Monitor.

- Once the data set is back in the appropriate Apply state, the corresponding Apply batch job should be run. As described in Provide Additional Event Driven Batch Events, the Apply states can be configured to automatically kick off their corresponding batch jobs.

### Ability to Migrate Individual Messages

In previous releases, CMA supported the ability to migrate a message category and all its messages. In this release, support now exists for migrating an individual message category (without its messages) and to migrate one or more specific messages within a category. Refer to Adjust Zones that Support Drag and Drop for more information.

## Miscellaneous Enhancements

This section describes miscellaneous enhancements.

### Manage Thread Pool Worker from WebLogic

In this release, threadpoolworkers are now deployed as Weblogic managed servers so that they can be configured, started and stopped from Weblogic.

### Support for Installation Options Maintenance through BO

In previous releases, the Installation Options maintenance object was marked to not support maintenance through a BO interaction.

In this release, that setting has changed and in addition, a base BO has been supplied to allow update of installation option configuration through this BO. This may be helpful if updates to the installation options need to be updated from an external system such as an automated testing system.

> Note: This change was also implemented as a HOT fix to the 4.2.0.3.0 code line via Bug 22722115.

### Populate Context Fields for MO and PK on Portal Based Pages

In this release, new portal context fields have been added for the maintenance object (MAINT_OBJ_CD) and the primary key (PK) field name and value. Up to 5 components are supported for the PK. The fields for the PK field name are PK_FLD_NAME1 through PK_FLD_NAME5. The fields for the PK value are PK_VALUE1 through PK_VALUE5.

The system will attempt to automatically populate the context for the current object being maintained. Refer to the description of business service F1-GetMoAndPrimeKeyFields for information about how the maintenance object is determined.

This functionality allows for portals to implement common functionality that is applicable across different maintenance objects.

# 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 includes the following:

*   New/Updated Application Services

*   Adjust Zones that Support Drag and Drop

*   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 |
| --- | --- | --- | --- |
| F1PRFTGT | Performance Target Portal | Inquire | New application service for Performance Target functionality. |
| F1-PERFTGT | Performance Target MO | Add, Change, Delete, Inquire | New application service for Performance Target functionality. |
| F1-PERFTGTTY | Performance Target Type MO | Add, Change, Delete, Inquire | New application service for Performance Target functionality. |
| F1PRTGTY | Performance Target Type Portal | Inquire | New application service for Performance Target functionality. |
| F1-PERFTGTB | Batch Performance Target BO | Add, Change, Delete, Inquire, Active, Inactive, Generate Objects | New application service for Performance Target functionality. |
| F1SVCCAT | Web Service Catalog Portal | Inquire | New application service for the web service catalog. |
| F1STATS | Statistics Control Portal | Inquire | New application service for the statistics functionality. |

| Application Service | Description | Access Mode | Comments |
|---|---|---|---|
| F1-STATS | Statistics Control MO | Add, Change, Delete, Inquire | New application service for the statistics functionality. |
| F1STCSNP | Statistics Snapshot Portal | Inquire | New application service for the statistics functionality. |
| F1-STSSNPSHT | Statistics Snapshot MO | Add, Change, Delete, Inquire | New application service for the statistics functionality. |
| F1-STATSBOAS | Statistics Control BO | Add, Change, Delete, Inquire, Active, Capture, Inactive | New application service for the statistics functionality. |
| F1-SNPSHTBOAS | Statistics Snapshot Root BO | Add, Change, Complete, Delete, Inquire, Pending | New application service for the statistics functionality. |
| F1MESSAGECATEGORY | Message Category MO | Add, Change, Delete, Inquire | New application service for the message category MO introduced for Ability to Migrate Individual Messages. |

## New/Updated Migration Plans/Migration Requests

The following changes were implemented to support the Ability to Migrate Individual Messages.

- New migration plan for specific messages: **F1-Message**.

- New migration plan for migrating a message category only (without its messages): **F1-MessageCategoryOnly**.

Note that the new migration plans have not been added to base delivered migration requests. That is because the delivered migration requests are intended for bulk migrations and as such the existing migration plan that includes message categories and its messages is appropriate for the migration request. The new migration plans are provided to support more targeted migrations for an implementation where a specific migration request will be used.

### Updated System Data Details

This section highlights miscellaneous changes to system data configuration.

- The XAI Inbound Service maintenance object (**XAI SERVICE**) has been enhanced to refer to an FK Reference that properly displays an XAI Inbound Service when clicked. The previously configured FK Ref for the MO would navigate the user to the maintenance page but only launch the search.

# Oracle Utilities Application Framework Deprecation Notices

This section provides information on functionality that has been removed or is no longer supported by Oracle Utilities Application Framework v4.3.0.3.0. This section includes the following:

- System Data Deprecation
- Deprecated Functionality

## System Data Deprecation

- The menus **CI_ADDCONTEXT** and **CI_GOTOCONTEXT** are not in use and have been removed in this release along with all related menu items and menu lines.

## 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**

  - 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 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.

### Desupport of Embedded Installation

WebLogic 12.1.3 is currently supported for both embedded and native installations. In future releases of Oracle Utilities Application Framework, using a later version of WebLogic, for example 12.2.*, embedded installations will be not be supported. Only the native installation will be supported.

# Oracle Utilities Application Framework v4.3.0.4 Release Notes

This section describes enhancements, system data details and deprecation notices in Oracle Utilities Application Framework version 4.3.0.4.0 including:

- System Wide Enhancements
- Configuration Tool Enhancements
- Batch Processing Enhancements
- Integration Enhancements
- Configuration Migration Assistant (CMA) Enhancements
- Miscellaneous Enhancements
- Oracle Utilities Application Framework System Data Details
- Oracle Utilities Application Framework Deprecation Notices

## System Wide Enhancements

This section provides information about enhancements that are system wide.

### Introduce New Menu Item Search Facility

In this release, the toolbar has been enhanced to include a search option to **Search Menu**. If a user wants to access a menu entry found on the Menu or the Admin menu, but does not want to use the menu navigation to find the entry, this search option allows the user to search for the menu entry and navigate directly to that page or BPA script.

A shortcut key is also provided for accessing the search: **Ctrl+Alt+F**.

### Introduce Shortcut Key for Bookmark Button

The shortcut key **Ctrl+Alt+B** has been enabled to access the Bookmark button.

### Minimizing the Dashboard Suppresses Refresh of Zones

In previous releases, when a user minimized the dashboard, dashboard zones would continue to refresh when the user performed any action that would trigger a refresh. This impacted system performance if there were many zones on the dashboard, users would need to wait for the zones to refresh even though the data was not visible.

In this release, the behavior has been changed to suppress the refresh of the content of the zones in the dashboard while the dashboard is minimized. Changes in the context values that drive the dashboard content are retained while the dashboard is minimized. When the user maximizes the dashboard, at that point all the zones are refreshed per existing behavior.

> **Note:** This behavior change means that opening a minimized dashboard will be slower than in previous releases because the refresh occurs at that point. However, users should see improved response if navigating the system with the dashboard minimized.

## Support Ability to Bypass the Home Page when Launching the Application

The system supports launching the system with additional configuration in the URL to automatically navigate to a page or launch a BPA script (or both). When a page is provided (using the 'location' attribute in the URL), the system navigates the user to that page. If a BPA script is also provided, the BPA script is executed after navigation. If a BPA script is supplied with no 'location' attribute, the system navigates to the home page prior to executing the script.

There are use cases where the application should be launched with a script that has logic to determine the appropriate target page. For example, the base script **F1-GotoPrtl** (Navigate to portal for an MO and key values) expects an MO code and primary keys to be supplied. Its logic determines the appropriate portal for this record and then navigates to that record. In this scenario, the system navigates to the user's home page prior to executing the script, which slows down the launching. It is especially problematic for users whose home page loads a lot of information by default.

In this release a new attribute has been provided to skip the navigation to the home page: **initNav=false**.

The following is an example of a URL with this setting:

```
<system-url>/cis.jsp?script=F1-GotoPrtl&mo=F1-
MIGRPLAN&pkValue1=F1-AlgorithmType&initNav=false
```

## Support URI Validation and Substitution

The following sections highlight enhancements related to defining a URI (URL, File Path, File URL).

### Restrict URI Reference Based on a Property Setting

In this release, the product has introduced the ability to define a whitelist of URI references in the product. A setting in the properties file is used to indicate whether URI references should be validated against the whitelist. The definition of the whitelist is done in a file called **whiteList.xml**.

> **Note:** Refer to the *System Administration Guide* for more information.
> Note that this was also implemented as a hot fix to 4.3.0.3.0.

Implementation of this functionality requires the code to identify the fields that are capturing a URI value and invoke an API to perform this validation both when configuring a field that captures this type of data and at runtime when using the URI. A new extended data type of URI has been added for the metadata Field and for the schema element syntax. For records that are business object (BO) driven, the validation of a URI element is automatically provided as long as the element is configured with a URI data type either directly or through its Field definition. However, records capturing URI that are not BO driven must include explicit code to call this new API. In all cases the code that uses the URI must be enhanced to invoke this API.

### Support the Use of Substitution Variables

In this release, the system provides support to allow fields that capture URIs to referencing a substitution variable for all or part of the URI definition. This allows the system administrators to define the proper URI locations in a properties file whereas the configuration users only need to know the variable name. The name of the XML file that holds the substitution variables is defined as a property setting. The system provides a template to generate a file with the name **substitutionVariableList.xml**. To define a

URI substitution, define the name of the parameter and the value. The name may then be used as the variable name surrounded by the symbol @ in configuration.

For example: When defining a location for an extract file in an extract batch job, instead of typing a file path of **h:\oracle\serverName\1.0.0.0\batch\extract\**, the batch user can enter @FILE_EXTRACT@, assuming there is an entry in the substitution variables file with a name of **FILE_EXTRACT**, and a value of **h:\oracle\serverName\1.0.0.0\batch\extract\**. Another example is that the batch user could enter @BATCH_FILES@\extract\, assuming that the URI variable for **BATCH_FILES** is defined as **h:\oracle\serverName\1.0.0.0\batch\**.

Each entry may also indicate whether child components may be added after the parameter name. If the configuration says that it's not allowed, the second example above, for example (@BATCH_FILES@\extract\) would not be allowed. The default is that child components are allowed.

The product supplies a pre-defined variable name for the location of the CMA files as described in Allow Master Configuration to be Optional. In addition, the 'advanced' menu in the system installation steps may prompt for installers to adjust the value of this pre-defined variable, if desired. Installations may opt to define additional substitution variables for various URI references. Refer to URI Substitution Variables in the planned deprecation section regarding product delivered variables that will be deprecated in a future release.

> **Note**: Refer to the *System Administration Guide* for more information. Note that this was also implemented as a hot fix to Oracle Utilities Application Framework 4.3.0.3.0.

Implementation of this functionality is covered by the API that is mentioned in the Restrict URI Reference Based on a Property Setting section.

## Adjust Zones that Support Drag and Drop

In a previous release, zones that support the configurable column logic (also referred to as "drag and drop") were enhanced to display a trash can image in the column heading. This was meant to support a quick click to remove the column, if desired. Columns were also removable by opening the configuration area, finding the column name and clicking the trash can adjacent to the column name.

In this release the trash can has been removed from the column header. Removing the column continues to be supported using the configuration area.

## Limit Height for Large Explorer Columns with a Width Setting

By default, the column width for results in a data explorer zone expands to fit the data. This may be overridden at the column level by configuring a width, which ensures that columns with a large amount of data do not cause a large horizontal scroll. Instead, the data wraps, expanding the output vertically.

In this release a change has been made to columns that include a 'width' configuration to limit the height to about 8 rows of text. If more than 8 rows exist, a scroll bar for that cell is included. This reduces the amount of unnecessary vertical scrolling for the entire set of data.

# Configuration Tool Enhancements

This section provides information about enhancements to the system configuration tools.

## UI Hint Sections May Be Configured to 'Float'

In previous releases, a section on the display map rendered in UI hints could be configure as half width, using the values of **left** or **right**. These positions are fixed and for pages where some sections may be hidden under certain conditions. This could produce odd results, such as several left sections shown but no right sections.

In the release a new option has been added to the **sectionColumn** UI hint: **float**. Sections with this configuration will render on either the left or the right side of the display based on available space. (This is available on **group** and **list** nodes as well).

## UI Hint Sections May Be Half Width on Maintenance

In previous releases, a section could be designated as full width or half width (indicating left or right) for a Display map, but not for a Maintenance map. The sections on a Maintenance map were always full width. In this release, a new UI Hint has been provided to allow for a section to be half width for maintenance rendering: **editColumn**. It supports values of **full** (the default), **left**, **right** and **float**. (This is available on **group** and **list** nodes as well).

## Enhance Groovy Scripting Capabilities

This section provides details about enhancements to Groovy scripting functionality.

### Groovy Library Scripts

In this release, the system has introduced support for creating libraries of common routines and methods written in the Apache Groovy programming language that may be invoked from other scripts.

The following points highlight more information about this enhancement:

- A new script type of **Groovy Library Script** has been added which provides a basis for creating groups of common methods. Scripts of this type must include only Groovy-based step types. The methods defined can accept arguments and return values of any type.

- A **Groovy Library Script** must include a new step type of **Groovy Library Interface** which lists the publicly available methods defined within the script.

- The system provides a new public method called **createLibraryScript** which is used to instantiate the interface for a Groovy library and enable other **Groovy Members** step types within the script to invoke any of the library methods.

Note that this functionality is only available to server based scripts which are able to configure **Groovy Members** steps. Refer to *The Big Picture of Server Based Scripts* topic in the *Defining Script Options* chapter of the *Administrative User Guide* for an overview of server scripts.

### Ability to Launch Groovy JavaDocs

For system protection, only a subset of system Java classes is accessible to Groovy code. In this release, a Groovy-specific Java Docs viewer is provided to allow users to view only the allowed classes. The viewer may be launched via a new **Groovy JavaDocs** button on the Application Viewer toolbar and also via a link in the context sensitive "Script Tips" dashboard zone.

### Ability to View Third Party Whitelist

The system restricts the third party Groovy classes that are accessible from within scripts for the same reasons as it restricts the system Java classes. In this release, the "Script Tips" dashboard zone now includes a link that displays the list of accessible (or "whitelisted") classes.

### Restrict SQL Functions Based on a Property Setting

In this release, a property setting has been provided to restrict the functions that may be used when defining an SQL either through a data explorer zone, through a Groovy script or through the Select Records plug-in algorithm for the plug-in driven batch programs. If the setting is enabled, then an error is issued at runtime if there are functions found that are not in the whitelist. The whitelist is documented in the managed content **F1-SQLFunctionWhiteList** (Whitelist of SQL functions). A link to view this whitelist is available in the Tips zone on the zone maintenance page.

# Batch Processing Enhancements

This section provides information about batch processing enhancements.

### Individual Security Added to Batch Control

In previous releases, an implementation was able to secure which users were able to submit a batch job (i.e. to create a Batch Job Submission entry) and which users were not. However, there was no ability to define more granular controls at the batch control level. In this release, application service has been added to the Batch Control, allowing an implementation to control which users are able to submit which batch controls. The user's security for a batch control's application service is checked when a batch job submission record referencing that batch control is created.

For base delivered batch controls, individual application services have been supplied for each batch control. Refer to the New/Updated Application Services section for a list of affected services.

Note the following for upgrade purposes:

- All user groups that currently have Add security access to the Batch Job Submission application service are granted access to all application services for all batch controls.
- Custom batch controls are updated with the F1-DFLTAPS application service. If implementations wish to provide more granular security for their custom batch

controls, they should determine or create an appropriate application service and update the appropriate batch controls.

## Additional Support for Ad-hoc Batch Parameters

In this release several enhancements have been included to provide access to ad-hoc batch parameters for various batch related plug-in spots.

### Plug-in Driven Batch Programs Support Adhoc Parameters

In this release, the two plug-in driven batch programs provided in the product have been enhanced to allow for ad-hoc parameters to be defined for a given batch control. These parameters are provided to the Select Records algorithm and Process Record algorithm, allowing the algorithms to use this information for processing. Note that the two "template" batch controls provided for these (**F1-PDBG** - Plug-in Driven Generic Template and **F1-PDBEX** - Plug-in Driven Extract Template) have been updated to use higher sequence numbers for the standard "system" parameters and for the extract related parameters. This allows for implementations to enter specific parameters (that are probably more business oriented) to have lower sequence numbers and therefore appear first.

For any adhoc parameters that you wish to use as bind variables for the SQL used to select the records for a plug-in driven batch, your select records plug-in may be used to identify the relevant batch parameter passed as input and populate the output bind variable appropriately. Refer to the Select Records Plug-in Enhanced to Support Field Name for Bind Variables section for information about defining a field name when returning custom bind variables for the Select Records plug-in spot.

### Additional Parameters Added to Several Batch Plug-in Spots

In this release, several batch control related plug-in spots have been updated to support additional hard parameters.

- Select Records includes the batch control parameters (defined in the parameter collection on the batch control page) as name/value pairs along with the batch code, run number, number of threads and batch business date.

- Process Records includes the batch control parameters (defined in the parameter collection on the batch control page) as name/value pairs along with the number of threads. (This plug-in spot already receives batch code, run number and batch business date.)

- Post-Processing includes the batch control parameters (defined in the parameter collection on the batch control page) as name/value pairs along with the number of threads and the batch business date. (This plug-in spot already receives batch code, and run number.)

### Select Records Plug-in Enhanced to Support Field Name for Bind Variables

In a previous release, the Select Records plug-in was introduced to support plug-in driven batch jobs. Algorithms for this plug-in spot define the SQL as the first parameter and in addition, the algorithm can return name/value pairs for defining custom bind variables for the SQL. In this release, the collection of bind variables now includes the appropriate field name (from the CI_MD_FLD table) that provides information about the data type and length. This information is important for the SQL binding logic to properly substitute the values using an appropriate length. Otherwise, the SQL may require 'rtrim' to be included to find the data, which may cause performance issues.

If your implementation has created any custom Select Records plug-in that return specific bind variables as name/value pairs, it is highly recommended that you consider updating the algorithm to provide a field name as well.

### Introduce Error Post-Processing Plug-in Spot

In a previous release, a Post-processing system event (plug-in spot) was introduced to support performing a task after all threads for a successful batch job are complete. In this release, a new system event (plug-in spot) has been provided for batch jobs that do not complete successfully. The system event, called **Error Post-Processing**, allows an implementation to configure an algorithm that automatically performs a task when a batch process fails.

### Support for Maintaining/ Administering the Oracle Scheduler

In this release, several business services have been included to allow implementations to dynamically maintain, monitor and execute application batch processes that are managed by Oracle Scheduler. These are just APIs (we are NOT delivering user interfaces). The business services are also exposed as REST API based services for integration with a management console, such as Oracle Enterprise Manager.

Refer to the *Server Administration Guide* for more information.

### Batch Run Tree - Change Label of Last Update Date

On Batch Run Tree, the last update date/time for the most recent batch run is displayed at the top of the page along with the Batch Control and Run information. The label had been Date Time, which is confusing because it may lead a user to associate this date and time with the current run being viewed. To be more explicit, the label has been changed to **Last Update Timestamp**.

# Integration Enhancements

This section provides information about integration oriented enhancements.

### Support for Multiple Security Policies

In this release, the system has added support for defining multiple security policies for an inbound web service (IWS).

The following points highlight the changes that were included:

- A sequence has been added to the Inbound Web Service/Annotation list. This allows an implementation to indicate the appropriate order for execution of the annotation policies.

- The base annotation type **F1POLICY** has been updated to include a parent annotation type (**F1POLICIES**). The parent annotation type is used at runtime when multiple annotations are found to properly build the array of annotations.

## Support OWSM Security Policies

In this release annotation types have been provide to allow Inbound Web Services to be protected by OWSM security policies. The base product supplies a new annotation type **F1-OWSM** - Annotation for OWSM Security Policy along with a parent annotation type **F1-OWSMS** - Parent for OWSM Policy.

## Enhanced the WS-Policy Annotation Type to Allow Direction Override

In this release, the **F1POLICY** annotation type (Annotation for Standard WS-Policy) has been enhanced to expose the 'direction' parameter so that implementations may override the default value, if desired.

## Support Password Encryption for Service Catalogue Configuration

The master configuration record Service Catalogue Configuration (**F1-ServiceCatalogConfig**) allows for an implementation to configure one or more subordinate servers along with authentication details (user/password). In this release support has been added to allow the password to be encrypted using the standard system support for encryption. Additional configuration is needed to define the **Encryption** feature configuration to fully support this functionality. Refer to the online help for service configuration for more details.

# Configuration Migration Assistant (CMA) Enhancements

The following sections highlight enhancements to CMA functionality.

## Allow Master Configuration to be Optional

In this release, the product has been enhanced to provide default values for the information configured on the Migration Configuration Assistant master configuration record. This allows an implementation to reduce the number of steps when provisioning a new environment that uses CMA to import new records.

The change relies on default export and import directories to be defined using the Substitution Variables, with the variable name **@F1_CMA_FILES@**. The system will default the export directory **@F1_CMA_FILES@\export**. The system will default the import directory to **@F1_CMA_FILES@\import**.

The file suffix is now defaulted to "cma" if not configured on the master configuration. This has been the recommended value.

Refer to the Support the Use of Substitution Variables enhancement for more information.

## Enhance Migration Requests to Facilitate Migration Requirements

This release includes several enhancements to the migration request to support common requirements for defining records to migrate. To support the enhancements, two new fields have been added to Migration Request to allow categorization/classification of the migration request records.

- Migration Request Class - this is an internal field that is used to support the new business objects that are described in subsequent sections below.

- Migration Request Category - this is an extendable lookup field and is provided to allow for the product or an implementation to categorize the migration request to aid in searching. The product provides one value as base: **Accelerator**. This may be used for migration requests that are defined to include data that is part of an accelerator. Records may be configured to indicate that a reference ID is required. However, this only applies to Entity List migration requests.

These fields have been added as search criteria to the migration request search zone.

## Introduce a Migration Request BO Specific to a List of Entities

A common use case for migration of data is to copy a specific list of records (entities) that are associated with a particular enhancement or 'sprint' or release. Rather than using selection criteria for a migration request instructions (which are useful for a "bulk" migration), users often prefer to explicitly list records. The Migration Request business object provided in a previous release allows a user to define specific keys. However, the user interface is not very friendly.

In this release enhancements have been provided to facilitate defining a migration request with an explicit list of records. The following points highlight what is provided for this functionality.

- A new migration request business object has been provided: Entity List Migration Request (**F1-EntityListMigrationRequest**). It is similar to the business object provided in a previous release (F1-MigrReq). However, its user interface only supports defining records explicitly. In addition, its user interface uses Maintenance Object rather than Migration Plan as the driver. The migration plan to use for the instructions is derived using an option on the maintenance object. Records created with this business object are assigned the migration request Class value of **Entity List**.

- A special zone has been provided for the migration request portal for **Entity List** migration requests to add records to the request. This zone is dynamic. The user chooses a maintenance object and other filter criteria to get a list of objects. One or more objects may be selected for inclusion into the migration request. The user may provide a reference ID to associate with the records along with comments.

- A special zone has been provided for the migration request portal for **Entity List** migration requests to view and remove records linked to the request.

As part of this enhancement, the F1-MigReq business object has been enhanced as follows:

- The description has been changed to **Criteria-based Migration Request**. This migration request is still useful for migration requests that select records based on selection criteria or selection algorithms or specific keys or a combination of any of the three.

- Records created with this business object are assigned the migration request Class value of **Criteria-based**.

Note that this business object has not been enhanced to allow for a reference ID or comments.

## Introduce the Ability to Group Migration Requests

In this release, Migration Request has been enhanced to support referencing one or more other migration requests. This allows for a product or an implementation to define separate migration requests that represent logical groupings of migration plan instructions for ease of maintenance, but to combine all the separate migration requests into a single "grouped" migration request for streamlined export/import purposes. Multiple levels of grouping are supported. In other words, one migration request may reference multiple migration requests, which in turn are grouping other migration requests.

The following enhancements are included to support this functionality:

- A new migration request business object has been provided: Group Migration Request (**F1-MigrationRequestGroup**). Records created with this business object are assigned the migration request Class value of Group. The product does not supply any business object that supports defining a combination of migration plan instructions and migration request references.

- The migration request search includes a new option to search by a referenced migration request.

- The migration request maintenance portal now includes a zone that appears if the migration request being maintained is referenced in a separate migration request. This zone lists the migration requests that reference this one.

In addition, the Framework product delivers a new Group migration request called Framework Configuration (F1-FrameworkConfig) to aid in wholesale migrations. This migration request groups other framework delivered migration requests. Some of these migration requests are also new to this release.

- General System Options (**F1-GeneralSystemOptions**) - This is an existing migration request. It includes most of the administration tables in framework that are considered more business oriented (rather than system configuration oriented). Refer to New/Updated Migration Plans/Migration Requests for details of changes to this migration request.

- Framework Integration Configuration (**F1-IntegrationConfig**) - This is a new migration request. It includes all the configuration tables that are used to define integrations with other systems. Refer to the migration request for more information.

- Migration Admin (**F1-MigrationAdmin**) - This is an existing migration request. It includes the CMA configuration records (migration plan and migration request).

- Security Configuration (Without Users) (**F1-SecurityConfigWithoutUsers**) - This is a new migration request. It includes all the security configuration tables, but does not include the user configuration. Refer to the migration request for more information.

- Framework System Configuration (**F1-SystemConfig**) - This is a new migration request. It includes all the configuration tables that are considered "system" data or "configuration tools" data. Refer to the migration request for more information.

Edge products and/or implementations may choose to include the **F1-FrameworkConfig** migration request into another grouping migration request so that framework objects are included in a migration without having to explicitly list them. This ensures that in the future, when new framework administration tables are introduced and included in one of the migration requests referred by **F1-FrameworkConfig**, no additional configuration is needed by edge products or implementations to start migrating that data.

## Provide the Ability to Mark Multiple Objects as Approved, Rejected or Needs Review

In this release, the following zones have been enhanced to allow for updating multiple objects to Approved, Rejected or Needs Review:

- On the **Migration Data Set Import** portal, the **Migration Data Set Impacted Object Summary** zone now includes the multi-select actions of Approve, Reject and Needs Review.

- On the **Migration Transaction** portal, the **Migration Transaction Objects** zone now includes the multi-select actions of Approve, Reject and Needs Review.

In addition, the **Migration Data Set Objects in Error** zone on **Migration Data Set Import** provides the ability to Reject one or more records.

## Provide More Detail for a Completed Migration Data Set Import

In a previous release, when a Migration Data Set Import has finished all its tasks, its status was set to Applied, even if some of the migration objects were in a status of **Cannot Apply**. In this release some enhancements have been done to provide more information for a user reviewing the results of an import:

- The description of the final status (APPLIED) has been changed from Applied to Completed.

- The Completed status is configured to support an optional Status Reason. The product supplies two base Status Reason values for this BO for the Completed state:

  - F1-NO-OBJ-APPL - No Objects Applied

  - F1-SOME-NOT-APPL - Some Objects Not Applied

- The algorithm that transitions a Migration Data Set Import record to the Completed status will review the status of the related migration objects and populate the status reason, if applicable. If all objects are in the Cannot Apply state, it populates a Status Reason of 'No Objects Applied'. If some objects are in

the Cannot Apply state, it populates the Status Reason of 'Some Objects Not Applied'. If no objects are in this state then the status reason is not populated.

- The display of a Migration Data Set Import record now includes the counts of Applied Objects and the number of objects in the Cannot Apply state.

  **Note**: This functionality was made available in 4.2.0.3.0 as a hot fix using bug 23228369.

## Enhance the Information for Migration Data Set Import

Previously, the Migration Data Set Import information string only showed the ID of the data set. In this release, the information string has been enhanced to include the Export description, the Status description, the status reason description (if populated) and the creation date and time.

> **Note**: This functionality was made available in 4.2.0.3.0 as a hot fix using bug 23228369.

## Enhance the Migration Data Set Import Query Results

In this release the results of the migration data set queries have been adjusted.

- The separate columns for migration data set id, status and export description have been consolidated into one column showing the migration data set import information string (that now includes all these fields). This column has been enabled to include the worklist capability.

- The Status Date/Time and Export Date/Time columns have been removed.

- New columns have been added showing various counts: number of Applied objects, number of objects in the Cannot Apply state and the number of objects that are Unprocessed (still in a non-final/non-rejected state).

## Enhance the Migration Data Set Detail Zones

In this release the zones on the Migration Data Set Import portal that show the Transactions and the Objects linked to the data set have each been enhanced to only show records in a non-final state by default. The existing user filter for Status has been enhanced to include an entry for limiting to non-final states as well as an entry to show records in all status values. This allows a user to choose to limit the search to records in a given state, or all states or to return to the default option of only non-final states.

## Support for Migrating Individual Lookup Values

In previous releases, the system supported migrating a Lookup and all its values. In this release, support is provided to migrate individual lookup values. To support this, a new Lookup Value MO has been provided. Along with that a migration plan to migrate specific lookup values has been provided. Note that this migration plan has not been included in any base migration requests as they are meant for "wholesale" migrations whereas this new migration plan is expected to be used for migrations that target an explicit list of records.

# Miscellaneous Enhancements

This section describes miscellaneous enhancements.

### Introduce New Business Service to Interrogate Warnings

The way the system handles warnings to an online user is that warnings are accumulated and issued altogether and the end of all the processing. All the updates are rolled back at this point. If the user Cancels, no further processing is needed. If the user clicks OK, all the processing is re-executed and all warnings are ignored.

For programs that perform logic that cannot be rolled back (such as sending a real-time message to an external system), ideally the logic should check to see if warnings are being accumulated and only perform the logic if warnings have not been accumulated. i.e., the logic should only occur once the user has clicked **OK**.

An API in Java exists for programs to check this condition. In this release a new business service has been provided to expose this information. The business service is **F1-CheckWarning**.

> **Note:** Processing that cannot be rolled back should be the last possible step in a logical transaction because there is no way to know if a warning may be issued after the logic is performed.

### Changes to Batch and User Logging

In this release, the system has been enhanced to limit the information that is captured in the logs that are visible by a user to suppress the information that is proprietary to the system. In addition, information that is captured in a more technical log that is reviewed by a system administrator suppresses customer data such as bind variables.

Refer to the *Server Administration Guide* for details of the formats.

# 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.

### 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 |
|---|---|---|
| The following services were added for the Individual Security Added to Batch Control enhancement. | | |
| F1-ARQPR | Request Monitor | E |
| F1-AVALG | Application Viewer - Extract Algorithms | E |

| Application Service | Description | Access Mode |
|---|---|---|

The following services were added for the Individual Security Added to Batch Control enhancement.

| Application Service | Description | Access Mode |
|---|---|---|
| F1-AVBT | Application Viewer - Extract Batch Control | E |
| F1-AVMO | Application Viewer - Extract MOs | E |
| F1-AVTBL | Application Viewer - Extract Table data | E |
| F1-AVTD | Application Viewer - Extract To Do Types | E |
| F1-BFCRL | ILM Crawler - Business Flag | E |
| F1-BSFLG | Business Flag Monitor | E |
| F1-BUNPR | Bundle Monitor | E |
| F1-DTDOM | Outbound Message Error To Do Entry Cleanup | E |
| F1-FCTRN | Fact Monitor | E |
| F1-FKVBP | Foreign Key Validator | E |
| F1-FLUSH | Flush All Caches | E |
| F1-ILMIN | ILM Crawler Initiator | E |
| F1-LANG | New Language | E |
| F1-LDAP | LDAP Import | E |
| F1-LKPIL | Standard Lookup Initial Load | E |
| F1-MGDIM | Migration Data Set Import Monitor | E |
| F1-MGDPR | Migration Data Set Export Monitor | E |
| F1-MGOAP | Migration Object Monitor - Apply | E |
| F1-MGOPR | Migration Object Monitor | E |
| F1-MGTAP | Migration Transaction Monitor - Apply | E |
| F1-MGTPR | Migration Transaction Monitor (Deferred) | E |
| F1-NDPUR | Notification Download Purge | E |
| F1-ORCRL | ILM Crawler - Object Revision | E |
| F1-OUCRL | ILM Crawler - Outbound Message | E |
| F1-PDBEX | Plug-in Driven Extract Template | E |
| F1-PDBG | Plug-in Driven Generic Template | E |
| F1-REQTY | Request Type Monitor | E |
| F1-REVPR | Object Revision Monitor | E |
| F1-SAKRQ | Sync Request Allocate Keys Monitor | E |
| F1-SICRL | ILM Crawler - Inbound Sync Request | E |

| Application Service | Description | Access Mode |
|---|---|---|
| The following services were added for the Individual Security Added to Batch Control enhancement. | | |
| F1-SRCRL | ILM Crawler - Sync Request | E |
| F1-SRLRQ | Sync Request Load Records Monitor | E |
| F1-STATSM | Statistics Control Monitor | E |
| F1-STCRL | ILM Crawler - Service Task | E |
| F1-STKDF | Service Task Monitor (Deferred) | E |
| F1-STKTR | Service Task Monitor | E |
| F1-SUBRQ | Request Monitor (Deferred) | E |
| F1-SYNEF | Sync Request Extract | E |
| F1-SYNIL | Sync Request Initial Load | E |
| F1-SYNRQ | Sync Request Monitor | E |
| F1-SYSRQ | Sync Request Monitor (Deferred) | E |
| F1-TDCRL | ILM Crawler - To Do Entry | E |
| F1-TDEER | To Do Entry External Routing | E |
| F1-TDPG | Purge Completed To Do Entries | E |
| F1-XMLPG | XAI Upload Staging Records Cleanup | E |

| Application Service | Description | Access Mode | Comments |
|---|---|---|---|
| F1-RETRCMASETTINGSSC | Retrieve CMA Configuration BS | E | Added for a new business service that may be used to retrieve CMA master settings. |
| F1NAVEMP | Launching Application | E | Special portal for Support Ability to Bypass the Home Page when Launching the Application. |

## New/Updated Migration Plans/Migration Requests

Migration plans have been added for the following maintenance objects in this release:

- ETL Mapping Control (F1-ETLMappingControl)
- Installation Options (F1-InstallationOptions).

   Note that in a previous release, the product supported installation algorithms only. This migration plan allows for copying of main fields on installation, the algorithm collection and the messages collection. In addition, this migration plan

includes a pre-compare algorithm that retains the value of the Environment ID and the License Key for the target installation record.

- Lookup Value (F1-LookupValue). This is for the functionality described in the Support for Migrating Individual Lookup Values section.

- Performance Target Type (F1-PerformanceTargetType)

- Performance Target (F1-PerformanceTarget)

- Statistics Control (F1-StatisticsControl)

- User Group - without users (F1-UserGroupWithoutUsers).

  In previous releases we had supplied a migration plan for User Groups that includes all collections for the user group. This migration plan allows an implementation to move a user group and its application service configuration without copying users (that may not be valid in the target region).

- Message Options (F1-MessageOption)

- JMS Queue (F1-JMS-Queue)

- JMS Topic (F1-JMS-Topic)

- JNDI Server (F1-JNDI-Server)

The following changes were made to the General System Options migration request (F1-GeneralSystemOptions).

- Migration plans for the following MOs were added:

  - Attachment

  - Bucket Configuration

  - Characteristic Type

  - ETL Mapping Control

  - Extendable Lookup

  - Installation Options

  - Managed Content

  - Performance Target

  - Performance Target Type

  - Report Definition

  - Request Type

  - Service Task Type

  - Statistics Control

  - To Do Type

- Migration plans for the following MOs were removed:

  - Installation Algorithms

# Oracle Utilities Application Framework Deprecation Notices

This section provides information on functionality that has been removed, is no longer supported by Oracle Utilities Application Framework V4.3.0.4.0, or is planned for removal.

## Deprecated Functionality

This section lists the functionality has been deprecated at the time of this release.

### Support for Abbreviated Time Zone Names

The time zone page includes a drop down for defining a Time Zone Name. In previous releases, 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 this release, the Time Zone name drop down no longer includes the abbreviated values.

> **Upgrade Note** - Please review your time zone records and set the Time Zone name to an appropriate valid value.

## Items Planned for Future Deprecation

The following items will be desupported in a future release.

### System Data

- Environment Reference - This administrative maintenance object was related to ConfigLab and Archiving, which are no longer supported. In a future release, the following will be removed:

  - Migration Plan **F1-EnvironmentRef** - Note that no base migration request references this plan. Implementations should ensure that no custom migration request references this plan.

  - Business Object **F1-EnvironmentRefPhysicalBO**

  - 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 database tables F1_IWS_SVC_OPER_L, F1_IWS_ANN_CHAR and F1_IWS_ANN_TYPE_CHAR will be removed in a future release.

### URI Substitution Variables
In a previous release several variables were provided out of the box however, no product functionality was using them. In a future release these variables will no longer be delivered as it was deemed confusing to supply variables that were not related to specific product functionality. The following variables will no longer be delivered:

- F1_BI_EXTRACTS
- F1_INTERNAL_FILES
- F1_CUST_APP_BASE
- F1_PROCESS_DIR
- F1_SVC_CATALOG_WSDL_DIR
- F1_PDB_EXTRACTS

The suggestion for implementations is to not use any of the above names. CM variable names should be used instead.

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

### CMA Import Algorithm
In a future release the CMA Import algorithm plug-in spot will be deprecated. 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.

### Desupport of Embedded Installation

WebLogic 12.1.3 is currently supported for both embedded and native installations. In future releases of Oracle Utilities Application Framework, using a later version of WebLogic, for example 12.2.*, embedded installations will be not be supported. Only the native installation will be supported.

### Removal of YUI Library Support

Due to the discontinued support of the open-sourced Yahoo! User Interface Library (YUI), all YUI components will be removed from the product in a future release. The recommendations for implementations is to review custom use of YUI library resources and plan to replace the resources accordingly.