

Oracle Real-Time Scheduler

Release Notes

Release 2.3.0.0.0

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Oracle Real-Time Scheduler, Release Notes, Release 2.3.0.0.0

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Preface

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

Audience

This guide is intended for anyone installing or using Oracle Real-Time Scheduler 2.3.0.0.

Related Documents

For more information, refer to these Oracle documents:

Installation, Configuration, and Release Notes

- *Oracle Real-Time Scheduler Release Notes*
- *Oracle Real-Time Scheduler Quick Install Guide*
- *Oracle Real-Time Scheduler Server Application Installation Guide*
- *Oracle Real-Time Scheduler DBA Guide*
- *Oracle Real-Time Scheduler Hybrid Mobile Application Installation and Deployment Guide*

User Guides

- *Oracle Real-Time Scheduler Server Application User's Guide*
- *Oracle Real-Time Scheduler Mobile Application User's Guide (Java-based)*
- *Oracle Real-Time Scheduler Hybrid Mobile Application User's Guide*
- *Oracle Real-Time Scheduler Hybrid Mobile Contractor Application User's Guide*

Implementation and Development

- *Oracle Real-Time Scheduler Hybrid Mobile Application Implementation and Development Guide*

Map Editor Installation and User Guides

- *Oracle Real-Time Scheduler Map Editor User's Guide*
- *Oracle Real-Time Scheduler Map Editor Installation Guide*

Supplemental Documents

- *Oracle Real-Time Scheduler Server Administration Guide*
- *Oracle Real-Time Scheduler Security Guide*

Abbreviations and Common Phrases

The following abbreviations are used throughout this and other documents provided with the product:

API	Application Programming Interface
CDI	Common Dispatching Interface
ETW	Effective Time Window
GPS	Geographic Positioning System
HTTPS	Hypertext Transfer Protocol Secure
MCP	Mobile Communications Platform
MDT	Mobile Data Terminal
MWM	Mobile Workforce Management
POU	Period of Unavailability
RPS	Resource Planning and Scheduling
SLA	Service Level Agreement
SMS	Short Message Services
UI	User Interface

The use of the word “Company” is used to describe the utility or field service organization that purchased the MWM product. The use of the word “Customer” is used to describe the end use customer of the utility or field service organization, or the entity receiving the service provided.

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.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Release Notes

This document provides general information about the Oracle Real-Time Scheduler 2.3.0.0 release including new functionality, known issues and other important information.

Prior to installing this release, it is important that you review all of the release notes and review your business processes as they relate to the new enhancements. There may be steps to complete or information to review before accepting the release. Refer to the quick install guide and installation guide for information regarding supported platforms and installation steps.

This guide includes the following:

- [Release Overview](#)
- [Integration Information](#)
- [New Functionality](#)
- [Known Issues](#)
- [End of Support Notices](#)
- [Demo Data Information](#)
- [Oracle Utilities Application Framework Release Notes](#)

Release Overview

The release includes all the components and features previously released in earlier service packs, plus a number of fixes tested and released together. Features introduced in this release are described in the [New Functionality](#) section.

- Refer to the *Quick Install Guide* for a full list of the media pack components and application components included with this release.
- Refer to the *Release Notes* available with previous service packs for functionality delivered with those versions.
- Visit My Oracle Support (<http://support.oracle.com>) for the most recent service packs and patches for this release to ensure you have the most current version of this product.

Supported Upgrades

This release supports update paths as indicated below. Please refer to the Oracle Real-Time Scheduler *Installation Guide* for release v2.3.0.0 included in this release for complete information.

- **Initial Install:** If you are installing Oracle Real-Time Scheduler for the first time, you can install v2.3.0.0 directly.
- **Upgrade Install:** Oracle Real-Time Scheduler v2.3.0.0 supports the following upgrade paths:
 - Upgrading from version 2.1.0.6 to version 2.3.0.0
 - Upgrading from version 2.2.0.3.5 to version 2.3.0.0
- **Oracle Utilities Application Framework:** Ensure that you have installed the latest version of Oracle Utilities Application Framework, v4.3.0.1, as indicated in the installation guide.

Supported Platforms Notice

See the Supported Platforms section of the Oracle Real-Time Scheduler *Quick Install Guide* for release v2.3.0.0 included in this release for an updated list of supported platforms.

Changes in Supported Platforms

The following platforms were newly certified in this release:

- Windows 2012 Server R2 (64-bit)

Changes in Supported Mobile Platforms

The following mobile platforms and devices were newly certified in this release:

- Android 5.1
- Dell Inspiron 13 7000 Series
- iOS

Database Changes

This release includes database changes. For more information about these changes, refer to the Oracle Real-Time Scheduler *Database Administrator's Guide*.

Integration Information

The following integrations are supported in this version of Oracle Real-Time Scheduler:

- **Oracle Utilities Analytics, 2.5.0**
Please note that the product name for Oracle Utilities Analytics 2.5.0 was formerly “Oracle Utilities Advanced Spatial and Operational Analytics” in previous versions.
- **Oracle Process Integration Pack for Oracle Utilities Field Work 3.1**
The Process Integration Pack for Oracle Utilities Field Work supports the creation and synchronization of field work records between Oracle Utilities Customer Care and Billing 2.4 and 2.3, Oracle Utilities Work and Asset Management 1.9.1, and Oracle Real-Time Scheduler.
- **Oracle Process Integration Pack for Oracle Utilities Field Work 12.1**
The Process Integration Pack for Oracle Utilities Field Work supports the creation and synchronization of field work records between Oracle Utilities Customer Care and

Billing 2.5 and 2.4 and 2.3, Oracle Utilities Work and Asset Management/ Oracle Utilities Operational Device Management 2.1.0.0.0, and Oracle Real-Time Scheduler.

- Oracle Utilities Network Management System 1.12.0.2.0
- Oracle Service Order Management 2.1.0.3

Please refer to integration documentation on the Oracle Technology Network for more information.

New Functionality

The following sections provide details on the new features implemented in this release with a summary of new user interface and functionality enhancements and some implementation and training information. While these notes provide high level configuration information, please refer to the *Server Application User Guide* and *Configuration Guide* for comprehensive guidelines on configuring and implementing the enhancements. You can also reference the [demo environment](#) for examples.

- [Crew Shift Enhancements](#)
- [Activity Enhancements](#)
- [Mobile Application Enhancements](#)
- [General Enhancements](#)

Crew Shift Enhancements

Reserve Capacity for Appointments and Emergencies

With this release, reserved capacity on a crew shift can be set aside for appointments and/or emergencies, in addition to one or more service classes. Now up to 10 Reserve Capacities can be set up on a crew shift (for example, 40% for Appointments, 30% for Emergencies, 10% for Preventative Maintenance Service Class, and 20% for Collections Service Class).

Fixed Breaks

A break can now be set up to not allow it to be scheduled outside the planned time window. If the break type is set up as “Strict Time”, the break will be scheduled to start at the break window start date and time. However, once the crew shift is started, the regular break functionality applies; the break is scheduled based on the offset to the shift start, can be deemed not necessary if the schedule does not warrant a break, and can move outside the break window based on the day’s schedule.

Activity Enhancements

Low Priority Activities are Displaced for Appointments

The Appointment Booking process is enhanced to ignore low priority activities when booking appointments. If an appointment displaces a low priority activity, the low priority activity will move to an alternate crew shift or date/time. This enables a company to load in low priority work (for example, preventative maintenance activities) in bulk, in advance, and still be able to provide higher priority appointments to customers.

Scheduler Configuration controls by default which non-appointment, non-emergency activities can be displaced (by scheduling priority) and controls the number of days threshold whereby a low priority activity will not be displaced because it is close to its expiration date. For example, all non-appointment activities with a scheduling priority of 3 or lower can be displaced until they get within 3 days of their expiration date.

The host may also send in the displacement parameters with the appointment request. This might be used for critical appointments that might be allowed to displace more work in order to complete them (for example, any non-appointments with a scheduling priority of 7 or less).

Distributed Depots

The product is enhanced to support multiple Schedulers (distributed scheduling) to manage depot-based activities.

Depot-based Activities for Capacity Contractors

With this release, capacity contractors can be eligible to be assigned depot-based work. The capacity contractor manages the trips to the depot (Depot Task) and the capacities of their vehicles.

Dispatcher Enhancements

Gantt Chart Improvements

This release introduces an HTML5-based Gantt Chart. The existing functionality is ported to the new Gantt, and features are added to dynamically resize the Gantt zone, to view crew shifts for different days horizontally on the same row, to display activity details upon cursor hover, to collapse display of empty hours, to add more visual clues when dragging and dropping activities, to animate Scheduler updates so you can see what is being moved, to add beacons and animated icons to be used to focus attention, and more.

Note: The default behavior or many aspects of the Gantt is now controlled by a new **Gantt Configuration** (M1-GanttConfiguration) extendable lookup. With this release, this is the only source of Gantt default setup; the use of Managed Content records for Gantt-related setup is no longer supported. If you have previously customized Gantt defaults using Managed Content records, you would need to apply these customizations to the corresponding Gantt Configuration extendable lookup.

Dispatcher Opt Out of Alerts

For dispatchers that are focused on future shifts, this release introduces the ability for a dispatcher to opt out of receiving alerts. Even if they do handle alerts, alert assignment will prefer dispatchers with the earliest scope that monitors the entity. In addition, the alert assignment rule to assign an alert to any logged on dispatcher is now optional.

Dispatcher Auto Logoff

Functionality is added to optionally automatically log off a dispatcher once their shift time has passed (in case they forget to log off at the end of the shift). This will avoid alerts being assigned to dispatchers that are no longer available. The normal length of a dispatcher shift can be configured and a dispatcher can optionally enter a shift end time when they log on to their shift. They will be automatically logged off at shift end time (defined either way) plus a grace period defined on the Auto Logoff Dispatcher algorithm.

Future KPIs and Alerts

A new set of Key Performance Indicators (KPIs) and alerts that focus on future crew shifts and activities are introduced (overtime planned on future shifts, future appointments in jeopardy, and future activities in jeopardy).

Mobile Application Enhancements

New Mobile Communications Platform (MCP)

This release provides a new HTML5-based Mobile Communications Platform (MCP). The new MCP supports disconnected mobile workers on Android, Windows 10, and iOS devices. All of the existing business processes and forms supported in the old MCP are included in the new MCP (also referred to as “Hybrid” within the documentation provided with this release). The new MCP forms are developed using standard JavaScript and HTML5.

Note: This release supports both the old MCP and the new MCP; support for the old MCP will be dropped in the next major release of ORS. The connected MCP mode is only available using the old MCP and will be deprecated when the old MCP is no longer supported.

General Enhancements

User Template

A new template user can be created that has the default set up for a type of user (for example, a mobile worker). This is mainly useful for Cloud clients that create Users through the use of Oracle Identity Management (IDM). The template user can be selected in IDM when creating new users of that type. A template user’s user id should not be granted access to the application.

Calendar Zones

All calendar zones are converted to utilize the new calendar zone type supported by the framework. The ADF-based calendar zones are no longer supported and with this enhancement the product no longer utilizes any ADF functionality,

Internet Explorer 11

Internet Explorer (IE) 11 is now supported without the need to run it in Compatibility Mode.

Configuration Migration Assistant (CMA)

Included with the product is Configuration Migration Assistant (CMA) which enables the migration of administrative data from one environment to another (for example, development environment to test environment, test to production). Migration Plans and typical Migration Requests for all of the applicable objects are provided.

Information Lifecycle Management (ILM)

Information Lifecycle Management (ILM) capabilities assist in managing the deletion of data or archival of data to other storage devices. ILM is sold as a separate item on the price list and the company must license this option to use it.

The following business entities are enhanced to support ILM functionality when enabled:

- Task
- Task Schedule
- Crew Shift
- Crew Shift Schedule
- POU
- Remote Message
- Alert

- Dispatcher Shift
- Mail
- Procedure
- Timesheet

Refer to the *DBA Guide* for more information about ILM configuration.

Known Issues

This section lists issues that were found but not resolved in both Oracle Real-Time Scheduler and Oracle Utilities Application Framework at the time of release.

Oracle Real-Time Scheduler Known Issues

The following table lists known issues in Oracle Real-Time Scheduler version 2.3.0.0 at the time of release.

Bug Number	Description
22862356	When in Tasks View mode on the CDI Gantt, collapsing and reopening the Gantt zone causes the display to break.
22909046	In a situation where the same worker or vehicle is planned to be part of different crews on different shifts, the system incorrectly allows multiple of these shifts to start simultaneously. This issue does not occur when the resource is actively added to the shift at logon time or as part of a crew allocation change.
22913207	On the mobile application, creating a field reference activity (FRA) does not work.
22893025	On the mobile application, the geographic map functionality does not work for Cloud installations.
22885830	On the Hybrid mobile application, navigating back to previous screen after adding an activity does not work.
22890954	On the Hybrid mobile application, when working a depot related activity that involves item management functionality, marking an item as delivered from the detailed item page does not work. Marking the item delivered using all other options works correctly.
21528065	When all activities that belong to a dispatched depot task are recalled and removed from the run the depot task itself still remains on the device when it should be canceled.
22831980	The Hybrid mobile application does not support right-to-left languages.

Oracle Utilities Application Framework Known Issues

The following table provides a list of known issues in Oracle Utilities Application Framework at the time of release.

Bug Number	Description
20579148	Under certain conditions use of the application's back button can cause data not to populate correctly.

Bug Number	Description
20609061	The UI Framework does not fully support right-to-left languages such as Hebrew and Arabic.
20634237, 20425891	There are alignment or sizing issues on certain grids and popups.
20576737	In Firefox, there is some inconsistency in the display of the filter icon in Explorer zones.
15841292	In Firefox, the display of Maintenance Objects in the Application Viewer do not render correctly.
10120730	Information displayed in the status bar does not appear in Firefox.

The following table lists bug fixes released for previous versions of Oracle Utilities Application Framework 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

Original Bug	Original Version	Description	4.3 Bug Fix
16418652 21125544	2.2.0	Printing a zone outputs in portrait instead of landscape.	21125562
20570324	4.2.0.1.0	Search window will not launch when the Internet Explorer 9 browser zoom is set to 150% magnification.	20570329
21104664	4.2.0.2.0	Label font color changed?spacing displayed in Chrome	21903486
21209873	4.2.0.2.0	Query zones with filter UI Maps do not restore input filters with defaults configured	21210495
21104765	4.2.0.3.0	Data grid shows extra column in Chrome	21294297
21243926	4.2.0.3.0	Filter values disappear on navigating back/forward in Chrome	21265682
21355708	4.2.0.3.0	The Orahandledependentdatetime function is not working for date time fields in list	21441766

Deprecation Notices

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

Legacy Mobile Application

This release supports both the Java based legacy MCP and the new Hybrid MCP; support for the legacy MCP will be dropped in the next major release of the product. Please be advised that by the next major release you would need to implement your custom mobile applications if any on the new Hybrid platform.

The connected MCP mode is only available using the old MCP and will be deprecated along with the legacy MCP.

End of Support Notices

No platforms were deprecated in this release.

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.

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

Please refer to the configuration guide for more information or contact Oracle Support.

Oracle Utilities Application Framework Release Notes

OAAF 4.3.0.0

This section describes new and enhanced features in Oracle Utilities Mobile Workforce Management Release 4.3.0.0, including:

- [User Interface Enhancements](#)
- [Miscellaneous Enhancements](#)
- [Configuration Tools Enhancements](#)
- [To Do Enhancements](#)
- [Portal/Zone Enhancements](#)
- [External System Integration Enhancements](#)
- [Security Enhancements](#)
- [COBOL No Longer Supported](#)
- [Application Viewer Changes](#)
- [XAI Update Details](#)
- [System Data Update Details](#)

User Interface Enhancements

The following topics highlight enhancements to the user interface.

Change to the Application Look and Feel

The general look and feel of the application has changed. The following points highlight some of the changes.

- The font size has been increased.
- New images have been introduced for many icons in the system.
- The color schemes have changed.

These changes make it easier to support accessing the application from different types of devices, where touching the screen is a common form of selecting and launching information.

Changes to the Actions/Navigation Area

Several changes have been made to the Actions/Navigation area in this release.

Changes to Menu Behavior

Several changes have been made to the behavior of the Main Menu and the Admin Menu.

- In previous releases, the menus were accessed using a vertical bar on the left side of the page area. The "active" menu available in the menu bar was chosen using a Menu dropdown in the Actions/Navigation area (where the user could choose to make the Main Menu or the Admin Menu the "active" menu). In this release, the menu bar is no longer used. In addition, rather than a menu dropdown to select Main Menu or Admin Menu, the Actions/Navigation area now includes separate icons for the two menus. Clicking the icon opens each menu directly.
- In previous releases, if a menu entry supported both "search" and "add" modes, the menu would be shown with a "plus" sign on the menu entry beside the menu label. The user would click the menu label to enter the page in "search" mode and would click the "plus" sign to add a new entry for the maintenance object represented by the menu entry. In this release, if both "search" and "add" are supported for a given menu entry, a submenu with the explicit choices of Add and Search appear for the user to choose. If a menu entry does not support Add, then the user simply clicks on the menu label to launch the page.

User Menu Created

In this release, the Preferences link and the Logout link, which used to be separate hyperlinks in the navigation area, are now entries in a dropdown under the logged in user's name. This is referred to as the User Menu.

In addition, the information is now defined using menu metadata. This allows an edge product or implementation to add additional menu entries to the user menu, if desired.

Page Title Moved

In previous releases the title of the page was positioned in the center of the actions and navigation area. In this release, the page title has been moved closer to the object display area, directly above the "Main" tab.

Actions Moved to Page Area

In this release, the following actions have been moved from the actions/navigation area:

- Save
- Duplicate
- Delete
- Clear
- Refresh
- Previous Item
- Next Item

These actions are now found in the Page title area. Also note that the **Previous Item** and **Next Item** were previously icons. In this release, they are now buttons with the text Previous Item and Next Item.

Next/Previous To Do Icons Moved to Current To Do Zone

In this release, the Previous To Do and Next To Do icons have been changed to buttons and are now found in the Current To Do dashboard zone.

Page Actions

In this release, some actions that were previously found in the header of a zone on a portal, such as Add and Go To Search, have been moved to be visible in the Page area where Clear and Refresh and other buttons are now shown.

This information is configurable using new Portal Options functionality. One of the base delivered option types is a Page Action Menu. In conjunction with this, a new menu type **Page Action Menu** has been introduced. The framework provided portals have been updated to include actions in the Page Action area that were formerly found in the header of one of the zones on the portal.

- In previous releases, the main zone of a standalone maintenance portal included a Go To Search hyperlink. Clicking it would navigate to the query page that is associated with the maintenance object. In this release the following portals have been updated to configure a **Search** button in the Page Action area and the Go To Search hyperlink has been removed from the zone header area. Also note that if any of the portal pages include a log tab, the **Search** button is also accessible from the Log tab. This is an enhancement from the previous release where the Log tab did not provide the ability to navigate to the Search portal directly.
 - Attachment
 - Bucket Configuration
 - Bundle Export
 - Bundle Import
 - Extendable Lookup
 - Inbound Web Service (and its Log portal)
 - Migration Data Set Export (and its Log portal)
 - Migration Data Set Import (and its Log portal)
 - Migration Plan
 - Migration Request
 - Request
 - Revision History
 - Sync Request (and its Log portal)
 - Web Service Adapter (and its Log portal)
 - Web Service Annotation Type

Note that in addition, the above maintenance portals have also been configured to include an Add button to allow a user to initiate adding a new record after viewing an existing record. This is an enhancement from the previous release where the maintenance portals did not provide the ability to Add. A user was required to navigate back to the query portal or use the menu structure to initiate adding a record. The exceptions to this are Revision History and Sync Request, which do not support adding a record in this way.

- In previous releases, the main search zone of a separate query portal included an Add hyperlink. In addition, All-in-One portals included an Add hyperlink in its List zone. In this release, the following portals have been updated to configure an Add button in the Page Action area and the Add hyperlink has been removed from the zone header area.
 - Attachment Query
 - Bucket Configuration Query
 - Bundle Export Query
 - Bundle Import Query

- Inbound Web Service Query
- Migration Data Set Export Query
- Migration Data Set Import Query
- Migration Plan Query
- Migration Request Query
- Request Query
- Request Type
- Web Service Adapter Query
- Web Service Annotation
- Web Service Annotation Type Query

Bookmarks Introduced

In this release, the product has implemented a Bookmark action in the Page Area. Clicking this button allows a user to bookmark the page along with the data that is displayed on the page. The user may choose to name the bookmark as desired.

Existing bookmarks are visible in a new Bookmarks dashboard zone. The zone allows you to navigate to the bookmarked page or delete the bookmark.

Users may also manage existing bookmarks on the user page using a new Bookmarks tab. The bookmark name may be modified; the sequence may be adjusted or the bookmark may be deleted.

Security. Note that the bookmark button and the bookmark dashboard zone are secured using an application service (**F1-BOOKMARKS**).

Implementations must grant access to this application service in order for their users to access this functionality.

Maintenance Portals Show Information String

As mentioned in [Portal Options](#), options have been added to the Portal. One of the base delivered option types is a Foreign Key reference. Configuring a portal with the FK Ref option populates the info string after the title.

The following portals were updated for this behavior:

- Attachment
- Bucket Configuration
- Bundle Export
- Bundle Import
- Inbound Web Service
- Inbound Web Service Log
- Migration Data Set Export
- Migration Data Set Import
- Migration Data Set Import Log
- Migration Data Set Export Log
- Migration Object Import
- Migration Object Log
- Migration Plan
- Migration Request

- Migration Transaction Import
- Migration Transaction Log
- Request
- Sync Request
- Sync Request Log
- Web Service Adapter
- Web Service Adapter Log
- Web Service Annotation Type

Note that All-in-One portals that show a zone with a list of records and then use the broadcast function to display a selected record were not configured with this capability.

Checkbox Support for UI Auto-rendering

In this release, UI auto-rendering logic has been enhanced to support displaying a checkbox for elements. This can be accomplished by defining an element with a data type of Boolean or referring to a field that is defined as a 'switch'.

Ability to Save Multiple Search Criteria for Queries

In previous releases, the explorer menu provided the ability for a user to "Save Preferences" for a query zone. This allowed a user to capture preferred filter values for a given query zone.

In this release the functionality has been expanded:

- Users may save multiple search preferences for a given query zone, providing meaningful names for each. Note that for a multi-query zone with several search options available in the dropdown, the list of saved searches is available at the "header" (multi-query zone) level allowing the user to choose a different saved search that will change the search option and load the filter criteria in one click.
- Users may designate one of those searches as the default search used when first entering the query zone from the menu.
- Users may choose to add the saved searches to a Favorite Searches dashboard zone. This allows for the user to drill to that query portal and load the desired saved search in one click.

Security. Note that the new favorite searches dashboard zone and the ability for a user to save searches on a query zone are secured using an application service (**F1_USRFAVSCH**). Implementations may choose to configure whether or not users are permitted to save searches (and have access to the favorite searches zone).

Upgrade Note. In the previous release the ability to "save preferences" was not secured. To maintain this capability for existing users, an upgrade script links this application service **F1_USRFAVSCH** to all user groups in the system. Implementations may review the user groups and remove the security if desired.

Note that the saved searches capability is not tied to a Profile User. If a user's portal preferences and/or favorite links/scripts are configured via a Profile User, they will still be able to save their own searches. This is a change from the "save preferences" functionality where a user would not be able to save their own search preferences if linked to a Profile User. In addition, in previous releases, the user would see the saved preferences of the Profile User. In this release, saved searches are unique to a user. No preferences from a profile user are inherited. As mentioned, security may be used to limit a user's ability to save their own preferences.

Miscellaneous Enhancements

The following sections highlight miscellaneous enhancements introduced in this release.

Time Zone Required on Installation Options

In previous releases, the time zone field on installation option was an optional field. However, for supporting external messages received from or sent to other application, the system's time zone is needed. Given that most implementations support external messages in some manner, validation has been added to require Time Zone on installation.

Script Detailed Description

A detailed description field has been added to the Script object allowing for more information about the purpose and behavior of a script.

Message Parameter Value Size Increase

In this release the message parameter size has been increased from 30 to 2000. This allows for parameters to contain longer text fields like a description or comments.

The following fields were impacted:

- MSG_PARM_VAL
- MESSAGE_PARM
- MESSAGE_PARM1
- MESSAGE_PARM2
- MESSAGE_PARM3
- MESSAGE_PARM4
- MESSAGE_PARM5
- MESSAGE_PARM6
- MESSAGE_PARM7
- MESSAGE_PARM8
- MESSAGE_PARM9

Any implementation that has included any of the above fields in a custom table will be required to perform an ALTER TABLE action. For example:

```
ALTER TABLE <table name> MODIFY (<field name> VARCHAR2(2000))
```

Support for Detection of Device in Use

In this release, the product provides support for determining the type of device being used to launch the application. For example, it detects if the device is a tablet, a desktop or a phone.

This functionality lays the groundwork for the ability to customize the look and feel of the user interface based on the type of device the user is connecting from.

Likeable Search Supported for Data Explorer Zone from a Business Service

A user filter in a data explorer zone supports configuration to indicate that the search should be "likeable". However, the configuration only applied with the zone was used via a portal where a user enters a filter value. If the zone was instead invoked via a "data explorer" business service, the likeable configuration was ignored. In this release, the **Likeable** configuration will now be applied when the zone is invoked from a BS.

Upgrade Note: If your implementation has any existing zones invoked from a business service where a user filter is configured as "likeable", this configuration will now be applied where it wasn't before. The assumption is

that this is an unusual scenario. If the "likeable" configuration was set, the assumption is that it was desired. If that setting is not desired, the zone should be updated accordingly.

New 'Number/Amount Formatter' Business Service

In this release, a new business service has been introduced that receives a number or amount and formats it according to the user's display profile. Refer to the detailed description of business service **F1-NumberAmountFormatter** for more information.

Configuration Tools Enhancements

The following topics highlight enhancements to various configuration tool object functionality.

Action Provided to BO Status Plug-in Spots

In this release, the action (A-Add, U-Update) is now passed to algorithms plugged into the BO Enter and BO Exit plug-in spots. This allows for algorithms to execute logic differently based on the action.

Extendable Lookup Usage Label

All base delivered extendable lookup business objects include a flag to mark the lookup value as Active or Inactive. The label of this field has been changed from "Usage Flag" to "Status".

Ability to Provide Prefix Path when Configuring Include Map in UI Hints

A UI map supports the ability to include a map fragment and optionally define an XPath prefix (using the `prefixPath` attribute). This causes the specified prefix to be appended to various XPath attribute values, including `oraField`, `oraLabel`, `oraList`, etc. (Defined in the Valid HTML attributes Tips from the UI Map page).

In this release, UI Hint syntax has been enhanced to also support a prefix path for the `includeMap` attribute.

To Do Enhancements

New 'Complete To Do' Business Service

In this release, a new business service has been provided **F1-CompleteToDoEntry**. Callers to the business service may indicate whether or not the user should be valid for one of the To Do entry's roles.

Portal/Zone Enhancements

In this release, several enhancements were made to portals and zones.

Portal Options

In this release, options have been added to the Portal maintenance object. They work in a similar way to MO options and BO / BO Status Options. The product may supply base owned options. Implementers may introduce options to base owned portals. Implementations may also introduce additional portal option types

The base product delivers some base option types for some specific purposes. Refer to the topics [Page Actions](#) and [Maintenance Portals Show Information String](#) for more information.

Charts

In previous releases, the product supported html to configure a graphical representation of an xml list, such as pie charts, line graphs, etc.

In this release enhancements have been made to the chart functionality.

The technical implementation of the chart functionality has been changed to use the Oracle Jet JavaScript library of components. This allows the product to leverage various features of that technology, including multiple browser compatibility; configurable legends, colors and tooltips; multi-lingual support for any text that is displayed and proper localization for display of dates, currencies and numbers.

The existing HTML attributes of `oraChart`, `oraChartSeriesN` and `oraChartBroadcast` will continue to be the mechanism used to implement the chart functionality.

The following points highlight the changes to the supported logic for defining the appearance of the chart (`oraChart` setting):

- The ability to configure an area chart has been added. This displays as series of data with values represented as lines with filled in areas.
- The ability to configure a "combo" chart has been added. This type of chart allows data to be configured using a combination of bars, lines or filled in areas.
- The configuration of the legend has changed. In previous releases there were two parameters for legend: legend position (left, right or center) and legend orientation (horizontal or vertical). In this release the legend orientation is no longer supported. The legend position supports **left**, **right**, **bottom**, and **top**. Setting the position to **left** or **right** will automatically render it vertically. Setting it to **top** or **bottom** will automatically render it horizontally. For upgrade purposes, the legend position of center will result in positioning on the right; the legend orientation will be ignored.
- The depth setting has been changed from a number to simply true / false. For upgrade purposes, if any existing chart references the number 0, it will be treated as **"false"**. A number greater than 0 will be treated as **"true"**.
- The settings margin Left and margin Right are no longer supported. In this release the margin is automatically controlled based on the size of the chart and the legend contents. If an existing chart configures this parameter, it will simply be ignored.
- A new attribute has been provided to support hover text to be displayed anywhere in the graph (not just when above a line). The **dataCursor** parameter setting of on/off controls this.
- A new attribute has been provided to allow certain types of charts to be oriented horizontally, rather than the default setting of vertical. The **orientation:horizontal** is supported for bar, line, area and combo chart types.

The following points highlight the changes to the supported logic for defining the source information of the chart (`oraChartSeriesN` setting):

- In the previous release, stacked cluster and line charts were restricted in that the x-axis information had to be a date. In this release that restriction has been removed. To support this, a new attribute x-axis Format has been added. The user can specify **date**, in which case the date in the user's display profile format will be displayed. Or the user may specify 'localDate' or 'string', in which case the data is displayed as provided.
- A new attribute has been added for combo charts to define the type of chart to use for each data element being defined.
- New attributes have been added to display a currency code. The chart may specify a currency directly (using a **'currency'** parameter) or may reference an XPath value to a field that contains the currency code to use (**currencyPath**).
- The various color parameters (**color**, **colorPath** and **pieColors**) have been enhanced to support a valid HTML color code (in addition to the support for an RGB value).

Override Zone Description

A zone description override field has been added to the Zone object allowing implementations to override the description of base delivered zones. This is especially useful for zones that are visible on portals as the zone description acts as the zone title on the user interface.

Multi-Query Zones Display the Help of the Selected Zone

In previous releases, a multi-query zone would only display the help text defined on the multi-query zone. If any of the individual zones linked to the multi-query zone included help text, this was ignored.

In this release, the system has been enhanced to display the help of an individual zone for a multi-query zone if the multi-query zone does not have help text defined.

Zone Header Action - Ability to Pass a Constant Value to a BPA

In this release, the Implementer Action and Override Action zone parameters have been enhanced to support passing a constant (or literal) value when invoking a BPA script. The "context=" setting now supports FIELD_NAME='Literal Value' to pass into the BPA.

Changes to Query and Info Zone Labels

In this release, the following miscellaneous changes were made to query and info zones:

- For zones with filter criteria (query zones and some info zones) the "Refresh" bar has been replaced with a "Search" button.
- For multi-query zones, the prompt for the dropdown to choose the query option has been changed from "Query Option" to "Search By".

Changes to Styles for Configurable Columns (Drag and Drop)

The following points highlight changes related to configurable columns, also known as "drag and drop".

- In previous releases, when a zone is configured to support drag and drop, the text of the active column headers was surrounded by a box. In this release, no special style is used for the active column headers. This applies to the results area and to the configuration area, where the active column headers are visible along with the potential column headers.
- In previous releases, the mechanism to remove an active column from the query results was to "drag" it to a "discard area", which was rendered as a bar with three red "X"s. In this release, active columns are shown in the configuration area with an adjacent trash can icon. The mechanism to remove an active column from the query results now is to click the trash can.
- In previous releases, the column configuration area was always shown below the search results. If a zone is configured to have a filter area, you are able to configure whether the filters are shown above or below the search results. When configured to show below the search results, the filter or the column configuration were shown (or neither) but never both at the same time. However, if the filter area was configured to display above the search results, the column configuration remained below. In this release, the column configuration area "follows" the configuration of the filter area. Either one or the other may be displayed (or neither) but not both.
- In previous releases, after performing any column configuration change (add column, remove column, rearrange column) the user clicked a "Refresh" bar visible above the search results and in the column configuration area. In this release, there is no longer a refresh bar above the search results. The user should click the Refresh button in the column configuration area.

Drag and Drop Column Capability Added to Query Zone Type

In previous releases, the two Info Data Explorer zone types F1-DE (Multiple SQLs) and F1-DE-SINGLE (Single SQL) supported the ability to add or remove columns in a result set. This is also referred to as "drag and drop" capability.

In this release, the Query Data Explorer zone type (F1-DE-QUERY) has been enhanced to allow drag and drop of columns. To support this functionality, the following parameters were added to zones of that type:

- **Configuration Area Display Options.** This parameter is used to indicate if Drag and Drop is applicable and if so, if the "drag and drop area" (that displays the possible columns) should be Open or Closed by default. If drag and drop is applicable, the "explorer" icon will be visible in the zone header area to allow for toggle of the drag and drop area. By default, Drag and Drop will not be applicable. Existing zones of this type will not see the drag and drop area or "explorer" icon.
- **Initial Display Columns.** This parameter is required if drag and drop is applicable. It indicates the columns that should be displayed initially when first entering the query.

The following points highlight some differences in behavior for a query zone that is configured for Drag and Drop:

- If multiple SQLs are defined in the query, all SQLs must define the same columns for display.
- The initial columns are display even before a search is performed. This allows for a user to already adjust the desired columns to include in the results prior to performing the query. This is different than queries that do not support drag and drop where the result columns are not displayed until the query is performed.

Ability to Pre-populate a User Filter

In this release, the user filter zone parameters have been enhanced to support configuration for pre-populating a value from context.

Ability to Populate Global Context with a Constant

A map zone can be configured to populate global context. In previous releases this value could only be the value of XPath from a schema read by the zone. In this release the global context may also be populated with a constant / literal value.

For example, imagine the map displays a record and that record could have a related record, such as an Approval Request or an Attachment that uses the Maintenance Object (MO) + PK1-5 as its link to the displayed object. If an edge product wants a dashboard zone to display the related Approval Request, the current record's MO can simply be populated from the zone parameter.

Navigate to a Specific Sub-Query Zone

In this release, navigation option has been enhanced to allow for a specific multi-query zone/sub-zone to be defined.

This allows for navigation (for example from a context menu) to a specific search option. Typically this would be used in conjunction with the enhancement to pre-populate user filters from context (described above).

New Calendar Zone Type

In this release, a new zone type has been introduced to support configuring a zone that shows events in a calendar format. This is similar to the existing Timeline zone type where events can be shown for a given period using a timeline representation.

The zone allows for a user to choose whether data for a month, week, or day is shown and allows the user to move forward or backward in time.

The configuration on the zone controls what data is displayed. Algorithms are used to retrieve the data and control configuration related to what information to display for each event (including 'hover' text to display on mouse over), whether the user can drill into the data (and where the user is taken) and whether the data supports broadcasting to another zone on the portal.

The zone supports up to 10 algorithms. Each algorithm is responsible for retrieving a certain type of data and receives the following information:

- One or more context key values (such as account ID or crew ID or device ID). The available keys depend on the configuration and behavior of the portal where the zone will be linked. The algorithm uses the input context information to retrieve the appropriate data.

- A date/time range based on what the user is requesting to view.

The calendar should return what type of data is being returned and an appropriate color to use. For each event in the date/time range, the algorithm can indicate its start/end date/time, a description, its MO/PK1-5, navigation details, broadcast details, and hover text.

Note that the framework does not supply any base algorithm types. Refer to your own product's release notes to determine if any base algorithm types and possibly pre-configured algorithms are supplied. If so, you may configure algorithms (or confirm the configured base algorithms) per your implementation's needs and then create a zone for this zone type referencing the algorithms. At that point, link the new zone to an appropriate portal.

External System Integration Enhancements

The following topics highlight enhancements related to functionality provided for communication with external systems.

Move to External Message Admin Menu

In the previous release, the portal pages related to IWS functionality were in a special sub-menu in the Admin Menu called Inbound Web Services. In this release, the IWS related pages have been moved to the External Message Admin sub-menu. This is only visible for implementations that configure their Admin Menu to be grouped Functionally rather than Alphabetically (via an installation option).

Rename Annotation Objects

In this release,

- Inbound Web Service Annotation Type has been renamed **Web Service Annotation Type**.
- Inbound Web Service Annotation has been renamed **Web Service Annotation**.

Implementations that use an **Alphabetic** grouping of the Admin Menu (via an installation option) will now find these pages under **W**.

Security Enhancements

The following topics highlight security related enhancements.

Attempting to View a BO Based Record with No Access Rights

For MOs that are governed by a business object and are maintained on a portal with zones, there are essentially three levels of security possible:

- MO level security. All maintenance objects have a security application service with the Add, Change, Delete and Inquire access modes. Users must be granted rights for an MO to be able to do any viewing or updating of a record in that MO.
- Portal level security. All portals have a security application service with the Inquire mode. Users must be granted rights for the application service to be able to use the portal.
- Business Object security. All business objects have a security application service. If the BO doesn't have its own lifecycle, the application service typically matches the MO's application service. However, a BO with a lifecycle will have an application service that includes the actions for its states. Implementations may choose to apply different application services to different business objects within the same maintenance object if there are certain types of records for an MO that one group of people can view and maintain but others can't.

In previous releases, if a user was attempting to view a record and had appropriate application security for the Maintenance Object and the Portal, but not the particular BO, the portal would display, but the main zone that shows the data would be empty. In this release, an enhancement has been introduced to issue an explicit error when trying to drill into a record via a hyperlink if the user does not have appropriate BO security for the record.

Browser Security

In this release, the application is configured to run using the secure HTTP. The digital certificate supplied by the product is only a demo certification. Implementations must configure the appropriate browser certification.

COBOL No Longer Supported

In this release, COBOL is no longer supported. All custom algorithm programs, batch programs, and other custom code written in COBOL must be converted to Java prior to upgrading to this release. Refer to your product support team for more information.

Label Changes

On the Field page, the Level 88 Cpybk field label has been changed to Value List. In addition, this field is only visible for Oracle Utilities Customer Care and Billing and Oracle Public Sector Revenue Management.

The following lookup value descriptions have been changed

Page	Field Label	Field Name	Lookup Value	Old Description	New Description
Algorithm Type, Batch Control	Program Type	PGM_TYPE_FLG	CBL	COBOL	Java (Converted)
Service Program	Service Type	MD_SVC_TYPE_FLG	COB	Cobol Based Service	Java (Converted)
Table	Audit Program	AUDIT_PGM_TYPE_FLG	CBL	COBOL	Java (Converted)
N/A	Variable Type	VAR_TYPE_FLG	CBCN	Cobol constant	Constant

Application Viewer Changes

The following points highlight changes to the application viewer in this release.

- The Group/Ungroup functionality in the MO Viewer was removed.
- The View Service Program icon on the MO Viewer was removed. This functionality was specific to COBOL based MOs and with the removal of COBOL in this release, it is no longer applicable.
- The COBOL Source Viewer functionality was removed.

XAI Update Details

XAI will continue to be supported for existing implementations. However it is not recommended for new implementations. In addition, existing implementations are encouraged to move their XAI functionality to newer external message functionality.

The following topics highlight some changes to the product with respect to the XAI functionality.

Rename XAI Sender

XAI Sender is still used for a small number of non-XAI features in the product for its configuration. To minimize confusion, the object has been renamed **Message Sender** in this release. In addition, in the Functional Admin menu grouping, it has been moved from the XAI sub-menu to the External Messages sub-menu.

Rename XAI Option

A small number of XAI Options are used for settings for non-XAI features in the product, namely Outbound Message settings and Real Time Email settings. To minimize confusion, the object has been renamed **Message Options** in this release. In addition, in the **Functional Admin** menu grouping, it has been moved from the XAI sub-menu to the External Messages sub-menu.

Rename XAI Class

Message Sender (formerly XAI Sender) references a class. To avoid confusion, the field has been renamed **Message Class**.

Move Application Services from ALL_SERVICES

The base user group ALL_SERVICES normally includes all the base application services and all their access modes so that new implementations can easily review base functionality in testing environments. It is not expected for implementations to use the ALL_SERVICES user group in production. Implementations should be defining appropriate user groups for their users based on appropriate business responsibilities. To avoid confusion for future implementations, the framework product does not include the application services for XAI functionality that is no longer recommended in the ALL_SERVICES user group. This should not impact existing implementation because the user groups defined are not affected. However, in case there are still testing regions still relying on the ALL_SERVICES configuration, the application services for functionality related to XAI are linked as CM-owned.

Note that your specific product may have chosen to configure the XAI-related application services as product owned in ALL_SERVICES if your product is still relying on XAI for base supported functionality.

System Data Update Details

BO Status Option Update

A BO Status Option value was introduced in version 4.2.0.2.0: F1AT with the short description "Auto Transition Required". In this release, the option description was changed to "Allow Manual Monitor" to more correctly reflect the functionality

Remove Description from General BI Configuration BO

The business object **F1-BIGeneralMasterConfig** (Generic BI Configuration) was introduced in a previous release. This BO included a description element mapped to the Master Configuration Data (CLOB) field. The description element is extraneous and is not mapped to a language based table. In this release the BO has been updated to remove the mapping. The description is no longer visible on the user interface or retrieved using "invokeBO" for this business object.

Batch Monitor Updates

The following monitor batch controls have been updated to populate the maintenance object parameter.

- F1-BUNBR Bundle Monitor: **F1-BUNDLE**
- F1-REVPR Object Revision Monitor: **F1-OBJ REV**
- F1-SYNRQ Sync Request Monitor: **F1-SYNC REQ**

The following batch controls was incorrectly released and has been removed:

- WX-NOTIF Self-Service Notification Monitor.

Messages

The message category 80000 is provided to support implementer messages (along with message category 90000). Two test messages that had previously been released in message category 80000 have been removed in this release:

- Message number 1: Testing terminate with error... Parm 1 is %1, Parm 2 is %2.
- Message number 2: The adjustment type's currency %1 differs from the installation's currency %2 (adj type: %3)

Inbound Web Service Deployment Portal

The portal was incorrectly configured to show on portal preferences. This setting on the portal has been updated to No.

In addition, this portal configured a zone that was not supported. This zone (F1-IWSUNSYNC - Inbound Web Services) has been removed from the portal and has been deleted from the application as it was not in use.

FK Reference

The following FK Reference was created in error and is not being used: F1-IWSVS. It has been removed in this release.

Main Menu Order Adjustment

In a previous release, the sequence numbers of the main menu entries for To Do, My Preferences, Batch and External Message (formerly XAI) were adjusted to be lower numbers (11, 25, 27 and 23 respectively). This change would not have impacted upgraded environments because the sequence number is a customizable field. Only new installations would have seen this order.

The sequences have been adjusted to 60 and higher. Depending on how your product has ordered other main menu entries, this should result in those menu entries being farther down on the list of entries.

Note that if your implementation has customized the order to something else, the order will not be adjusted.

Functionality Deprecation

Configuration Lab/Archiving & Purging Using DB Process

In this release the configuration lab and archiving and purging processes that are built using DB processes are no longer supported. Most changes are related to the products that supported this functionality in the past.

In the framework, the Maintenance Object page is impacted. The following fields are no longer applicable and have been removed:

Program Com ID. This was a program related to the maintenance object only used by ConfigLab.

Compare Method flag on the Table collection.

Embedded Help Portal

This portal was provided to help in defining inline or embedded help for UI maps. The tool is not widely used. It has been deprecated in this release.

Planned Deprecation

- The table usage flag (TBL_USAGE_FLG) on MD Table (CI_MD_TBL) and the field usage flag (FLD_USAGE_FLG) on MD Table Field (CI_MD_TBL_FLD) will be deprecated in a future release. The fields are not used by the product.
- 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 service program **EMAILSERVICE** (Email Service) is invalid and will be deleted in a future release. The service program **F1-EMAILSERVICE** is the valid one provided for the real-time email service functionality.

OUAF 4.3.0.1

This section describes new and enhanced features in this release of Oracle Utilities Application Framework v4.3.0.1, including:

- [System Wide Enhancements](#)
- [Online Help Enhancements](#)
- [Security Enhancements](#)
- [Configuration Tool Enhancements](#)
- [Batch Enhancements](#)
- [To Do Enhancements](#)
- [Miscellaneous Enhancements](#)
- [Extendable Lookup Enhancements](#)
- [Web Service Enhancements](#)

System Wide Enhancements

New Login Screen Images

In this release, the image visible in the Login screen for the application has been changed.

New Session Expiration Behavior

In previous releases, if a user's session had expired, the user was still able to perform some tasks that did not require interaction with the server. When the system attempted to interact with the server, the user was then returned to the login screen or was presented with an error.

In this release, the system has been enhanced to detect the timeout and show an alert that the session has expired, informing the user to login again.

Indicating Required Fields

In this release, required fields (elements) are marked using an asterisk. This is visible on the maintenance dialog objects defined using a business object that are maintained on a portal-based page (also referred to as 'new style'). It is not visible on objects maintained on a fixed page (also referred to as 'old style').

Required elements for a row in a child collection (list) are also marked with an asterisk. Note that the system does not have any visual marking to indicate that at least one row in a child collection is required. It is only able to highlight which elements must be populated for each row.

The system relies on the field or element configuration (table/field metadata and BO schema configuration) to display the asterisk. If there are elements that are required via an algorithm or some other procedural code, the system is not able to detect that condition in order to display the asterisk.

If an implementation does not wish to enable this functionality, it may be turned off via the properties file. To turn this functionality off, uncomment the following setting

`#com.oracle.ouaf.ui.disableRequiredFieldIndicators = true` in the `spl.properties.template` file.

Menu Behavior Enhancements

In the previous release, the menu behavior changed from the 4.2.x code line. In this release, some further changes have been made to the display of menus:

- Clicking the **Menu** or **Admin** button causes the first sub-menu to appear. If other sub-menu options are available, a right arrow is visible on the menu line, the user can mouse-over the menu line to show the sub-menu. The user may now click this menu line to lock the sub-menu. The right arrow image is replaced by a padlock image. If the user's mouse moves away from the menu area, the locked sub-menu remains visible. This resolves the usability issue of needing to keep the cursor lined up on the menu line as the mouse is moved toward the sub-menu to further select the desired option.

The user may now do one of the following:

- Click on or mouse over the desired sub-menu line to further open the next level and ultimately click the desired option.
- Click on a different menu line to lock that sub-menu instead.
- Click the **ESC** key or click on an area of the page outside the menu to close the menu.
- For menu lines that support **Search** and **Add** options, the **Search** option now appears before the **Add**. This is an effort to use the menu line and item metadata configuration to drive the display. The base product menu lines always configure the search menu item first, followed by the add menu item. The menu rendering now follows that.

Note: If your implementation has custom menu lines with multiple menu items where the add is configured as the first menu item and search as the second, then the menu rendering will reflect that.

- In the 4.2.x code line, the add option was rendered as an image (configured on the menu item). In 4.3.0.0, the menu rendering changed to use the word **Add** and an image is no longer used, however, the internal code still used the presence of the image reference in the menu item to signal which of the menu items is the 'add'. Because the image itself is not necessary, the code has been enhanced to cater for no image configuration. In this case, the system assumes that when a menu line has two menu items, the first menu item represents the search and the second represents the add.

Note. For backward compatibility, the system will continue to look for an image and assume that the menu item with the image is the add. If your implementation has custom menu lines with two menu items, where the add is first (but still refers to an image), no changes are needed. (However, note that in this case, the add will display before the search option.) If you wish to remove the image (that is no longer needed), be sure that the search menu item is the first in the sequence.

Menu Configuration Enhancements

In this release, the Label Long on the Menu maintenance object has been suppressed from the user interface. This field is not used by the system.

In previous releases, the Description on the Menu maintenance object was only enabled for the **Main** and **Admin** menu types and was used to build the menu bar prior to version 4.3.0.0. In this release, the description is now available for all menu types and may be used to provide information about the menu. The menu search has also been enhanced to search by the description and to return the description in the results.

Toolbar History Enhancements

In this release, when a user navigates to a portal that is configured to display its information string as part of the page title (via the FK reference on the portal options), that detail is also visible in the **History** drop-down in the application toolbar.

This functionality is only available for portal based pages. It is not available for navigating to fixed pages. Also note that the current product standard is not to configure all-in-one portals to reference the information string.

Component Install/Deploy

In previous releases, installation and management of individual components of the product was complex. In this release the installation has now been altered to identify the roles supported by the installation to optimize the configuration and management of each installation. In this release, the online, integration and batch roles are supported to optimize the components available for configuration and deployment. An environment identifier has also been introduced to group disparate installations, even across machines, into a single managed environment. The roles for an installation are typically determined at installation time, but this enhancement allows change of roles after installation without the need for re-installation.

Online Help Enhancements

Oracle Help for the Web

In this release, implementations using WebLogic will see a new help implementation using **Oracle Help for the Web** (OHW). Besides a slightly different look and feel for the table of contents and the topics, OHW provides the following capabilities:

- **Full text search** - If there is a term that you want to find help about, you can use the full text search to find topics that reference that term.
- **Combined index** - In previous releases, if an implementation included multiple products in the stack, each with its own help set that was included, the index was separated. A user needed to first select the product and then search for the index term. With OHW, the index terms are combined for all products providing their separate help topics, increasing usability.
- Various usability controls such as paging through topics
- The ability to provide feedback to the documentation team through a feedback form

Oracle Help for the Web is not available in WebSphere. Clients using WebSphere will continue to see the **Classic** online help visible in previous releases.

Framework Help Included in Edge Product Help

In previous releases, the online help that is specific to the framework product was installed separately from online help provided by each edge product. The table of contents for the help was visible side by side. In the **Classic** help view, the index entries were kept separate as well.

Starting with this release, the edge products will incorporate the help for Oracle Utilities Application Framework into its build of the help.

The following provides additional details:

- For the business process chapters, the framework topics **User Interface Standard Features, To Do Processing and Reports** are incorporated into the outline of the edge product help in a location appropriate for that product's help. For a business user, this removes the distinction of what functionality is provided by the framework layer and what functionality is provided by the edge product.
- The business process chapters for **Batch Processing** and **External Messages** have been moved to the corresponding chapters in the *Administrative User Guide*.

- The full set of Oracle Utilities Application Framework chapters are included in the *Administrative User Guide*, followed by the full set of chapters associated with the edge product.

Security Enhancements

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

Enhance User BO Used for External System Integration

In this release, changes have been made to the business object that is used to create Users from Oracle Identity Management (OIM) to support a template user.

In previous releases, in order to define a user from OIM, an implementation needed to define a Generic Technology Connector (GTC) to map information from OIM to the product. The implementation could choose to:

- Expose the information to the OIM administrative user to define the information when creating the application users. For example, for this new user, specify their Home Page or valid User Groups.
- Define standard values in the mapping file so that the OIM administrative user doesn't need to specify them for every user (for example the Language or the Time Zone).

In this release, the product provides the ability to use a template user in the application with appropriate configuration for users of that type. In OIM, the Generic Technology Connector (GTC) can be defined with the bare minimum needed to create a valid application user (such as their Name, Email Address and User ID) along with a template user from which all the other configuration data can be copied. This allows an implementation to define template users for standard roles. Each template user can define the appropriate User Groups, Home Page, Portal Preferences, To Do Roles, etc for users in that role.

The **F1-IDMUser** business object (User for External System Integration) now has a pre-processing algorithm that looks for a template user (defined as a characteristic). It retrieves the configuration from the template user. It creates the new user with a combination of the information passed in from OIM (such as name, User ID, Email Address) and the information from the template user.

Separately Secure Change to a User's User Groups

The ability to change the Enable / Disable flag on the user record requires special security. However in previous releases, all other attributes of a user could be modified by anyone with security for the **Change** access mode, including the user group configuration.

In this release a new access mode (**Administrator**) has been introduced to the User application service allowing implementations to separately secure the ability to change a user's user groups.

Upgrade Note: For backward compatibility, all user groups that have security for the Change access mode will be updated to also have security for the new System Administrator access mode. Implementations can then decide if they would like to take advantage of the new capability to limit which user groups should allow changes to the user's user group information.

Configuration Tool Enhancements

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

Schema Editor Enhancements

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

- **Enhancement to Map XML Element Definition**

In previous releases, the schema editor's Map XML Field provided a search to find the

appropriate field within the MO to use for the mapping. In this release, the field has been changed to a drop-down given the typically small number of CLOB or XML data type fields in a given MO.

- **Simple Field**

In this release, a new schema editor element type **Simple Field** has been introduced to help simplify the steps needed to create an element that is mapped using Map XML. This can be thought of as a type of wizard for a specific type of **Field** element. It exposes a subset of configuration available for the **Field** element type. In the Database Mapping section, only the Map XML Field element is exposed.

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

Scripting Enhancements

The XQuery processor for scripting engines 2 and 3 has been upgraded. It now supports the functions '**matches**', '**replace**' and '**tokenize**'. In addition, it is able to reuse more XPath expressions than before. As a result, implementations can reduce the XQuery LRU cache size in the spl properties file (com.oracle.XPath.LRUSize). The adjustment depends on your specific implementation. A rough recommendation is to reduce the cache size by about one-third.

Batch Enhancements

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

Batch Parameter Security

In this release, a new security flag has been added to the batch control parameter collection to indicate if there should be some security applied to the value of the parameter. The values of the security flag are **Encrypt** and **None**. The default is **None**. The configuration of the parameter value's security must be set on the batch control.

If the parameter value's security is set to **Encrypt**:

- Any default value set on the Batch Control will be stored in the database as encrypted
- When the batch job is submitted using Batch Job Submission, the value will be shown encrypted.
- In the log generated for the batch job, the parameter value will be written with asterisks.

Upgrade note: All existing base product owned batch controls have been updated to set the parameter to **None** to maintain backward compatibility. The configuration of any base owned batch control may be changed by an implementation. The recommendation for the **F1-LDAP** (LDAP Import) batch control is to configure the 'password' parameter value to **Encrypt**.

System Health Check

In this release, a new service has been provided to assess the health of the system. The current implementation of this service is to execute the batch control - level of service algorithms. It is possible that in the future additional health check types may be supported.

The service can return an overall status based on the details of the health check (for example based on the details of the level of service algorithm results).

- 200 indicates that everything is normal /healthy.
- 203 indicates that a non-critical function is degraded
- 500 indicates that one or more critical functions is degraded

- The health check service maps the following results returned by the level of service algorithms:
- If at least one algorithm returns a value of Error, an overall status of 500 is returned
- If no algorithm returns a value of Error and at least one returns a value of Warning, an overall status of 203 is returned
- If all algorithms return a value of Normal, an overall status of 200 is returned.

An Inbound Web Service **F1-HealthCheck** has also been provided allowing external systems to use a web service to retrieve this information.

In addition, the product provides a Health Check portal that shows the details of the health check. The output of each batch control's level of service algorithm is displayed.

To Do Enhancements

This section describes To Do related enhancements.

Allow Additional Sort Keys on Manual To Dos

In previous releases, the product allowed for a To Do Post Processing algorithm to populate custom sort keys. However, in the case the standard sort keys for a manual To Do (User ID, User Name and Subject) were not populated by the system.

In this release, the product ensures that the standard sort keys of User ID, User Name and Subject are populated on a manual To Do Entry even when custom sort keys are also populated. The To Do Type must define the standard sort keys for the manual To Do entry (as described in the Online Help).

Note: This functionality was originally implemented as a hot fix to the 4.2.0.2.0 code line via bug 20886978.

Miscellaneous Enhancements

Attachment Creation Enhancement

In previous releases, the procedure for creating an attachment was two steps: first choose the appropriate business object based on the type of attachment and enter a description; then upload the attachment.

In this release, the attachment creation has been streamlined to follow a more typical attachment dialog. Now when a user wants to create an attachment, first the user selects the file to upload. The system then determines the business object and prompts the user for the description (and any other fields that may get captured depending on your specific product). The uploaded attachment is then saved.

Upgrade note: If your implementation has created customized dialogs to create an attachment and call the base BPA **F1-AttchMain** (Attachment Maintenance), some minor changes are required to your custom BPAs to align the script's data areas with the **F1-AttchMain**.

In addition, if your implementation includes a custom BPA for uploading attachments and invokes the base UI Map **F1-AttachmentUploadPopup** following the pattern of the base BPA **F1-AtchUplod** the custom BPA will need to change how it invokes the Attachment Upload map to reflect the changes in the FW Attachment Upload BPA. The script step was changed from an Invoke Map step type to an Edit Data step type. It sets the target area as **Page Area** rather than **Pop-Up Window** and caters for the new Cancel action. Please contact Customer Support if you need more information.

Extendable Lookup Enhancements

This section describes enhancements to the extendable lookup.

Characteristics Added

In this release a standard characteristics collection has been added to Extendable Lookup. Extendable lookups may now be designed to capture additional information that may then be searchable by an algorithm or other internal process.

New CLOB Column Added

As previously delivered, the extendable lookup MO includes a standard CLOB column (**BO_DATA_AREA**) that is configured to be customizable. It means that if a product supplied an extendable lookup BO that defined additional information for each lookup value and supplied base values for the lookup with that additional information populated, an implementation could change the values of the additional information.

In this release, a new CLOB column has been added to the extendable lookup that is configured to not allow customization (**BASE_BO_DATA_AREA**). This allows product teams to define an extendable lookup BO that delivers base values and includes additional information that an implementation may not change.

For example, imagine a product defines a **Contact Type** extendable lookup that captures the addition information **Priority** and **Allow Extension**. In addition, imagine that the product supplied base values for the lookup and included delivered values for **Priority** and **Allow Extension**.

Code	Description	Allow Extension	Priority	Owner
C1-PHONE	Phone	Y	50	C1
C1-FAX	Fax	N	50	C1
C1-EMAIL	Email	N	10	C1

The design dictates that an implementation is allowed to change the Priority of the base record, but not the Allow Extension value. The design of the business object would look like this:

```
<lookupValue mdField="CONTACT_TYPE" mapField="F1_EXT_LOOKUP_VALUE"/>
<description mapField="DESCR"/>
<owner mapField="OWNER_FLG" dataType="lookup" lookup="OWNER_FLG"/>
...
<allowExtension mdField="ALLOW_EXT_SW" mapXML="BASE_BO_DATA_AREA"/>
<priority mdField="PRIORITY" mapXML="BO_DATA_AREA"/>
```

The Priority element is mapped to the customizable CLOB and the Allow Extension element is mapped to the non-customizable CLOB.

The following points should be noted about this functionality:

- An implementation may change the value of additional fields mapped to the customizable CLOB field (in the above example Priority). When upgrading to the next release of the product, the overridden value of Priority will be retained.
- An implementation may not change the value of additional fields mapped to the non-customizable CLOB field (in the above example Allow Extension). A user will receive an error when attempting to change the value via the application. If the value is changed in some other way, when upgrading to the next release of the product, the product's value for the elements will be restored.

Note: At this time the error issued to a user attempting to change an element mapped to the non-customizable CLOB will reference the label of the physical

column rather than the label of the element defined in the BO. Using the above example, the user will be told that you cannot change the value of Base BO Data Area rather than being told that you cannot change the value of Allow Extension.

- If allowed by the extendable lookup, an implementation may add new extendable lookup values and may define the values of all additional fields as necessary. (In the example, values for Priority and Allow Extension may be defined as appropriate.)

Upgrade Note: As part of this enhancement, the base lookup values for the Schema - Element Types (**F1-SchemaNodes**) extendable lookup have been updated to define the values of the Property Control element in the non-customizable column. This element may not be modifiable by implementations.

Override Description Visible in Extendable Lookup List

Extendable lookup supports an override description. In previous releases, if the override description was populated, it wasn't shown in the extendable lookup list zone. In this release, this has been fixed. The override description is now visible in the extendable lookup list zone.

Add Action Moved to Page Actions Area

In the previous release of the product, the **Page Actions** area was introduced and many portals adjusted their user interface to define the **Add** action in the page action area rather than as a hyperlink in the zone header. Extendable Lookup was not included in that update. In this release, the Add action for the extended lookup is now visible in the page actions area.

Validation Added to Several Base Extendable Lookups

In this release, several framework-owned extendable lookup business objects were enhanced to include a validation algorithm to issue an error if an implementation attempts to add a new lookup value. The functionality related to the extendable lookups does not support custom lookup values. This was true in previous releases as well, but there was no validation preventing custom records from being added. (Any custom records that may have been added were simply ignored). In this release, the explicit validation has been included to avoid confusion.

The following table highlights the list of extendable lookups that do not allow custom lookup values.

Extendable Lookup Business Object	Description
F1-BooleanValues	Generic Boolean Values
F1-SchemaActionValues	Schema - Action Values
F1-SchemaBoolTrue	Schema - Boolean True
F1-SchemaBooleanValues	Schema - Boolean Values
F1-SchemaDataTypes	Schema - Field Element Data Types
F1-SchemaDefaultSysVariables	Schema - Valid System Variables
F1-SchemaDefaultTypes	Schema - Default Key
F1-SchemaDispNoneKey	Schema - Conditionally Hide Key
F1-SchemaDispNoneOperator	Schema - Condition Operator
F1-SchemaElementSuppress	Schema - Suppress Element
F1-SchemaElementVisibleOn	Schema - Element Visibility Control
F1-SchemaFlatFieldRowValues	Schema - Flattened Field Row Values
F1-SchemaFlatRowType	Schema - Flattened Row Types

Extendable Lookup Business Object	Description
F1-SchemaListOrderBy	Schema - List Order By Setting
F1-SchemaNodes	Schema - Element Types
F1-SchemaPageActions	Schema - Page Actions
F1-SchemaProtectKey	Schema - Protect Key
F1-SchemaSearchBy	Schema - Search By
F1-SchemaSectColumns	Schema - Section Column Display
F1-SchemaSelectKey	Schema - Dropdown Select Key
F1-SchemaXMLNameSpaces	Schema - XML Namespaces

Manual Transition of Sync Request

In a previous release, logic was added to support the ability for a user to manually transition a sync request that is currently in a state with a deferred monitor.

In this release, the action button that appears has been changed from **Process Sync** to **Process Now**.

Support Currency Symbol on Number Fields

Elements defined for unit rates typically capture amounts that have a large number of decimal places. The display of these amounts should include a currency symbol. These types of elements cannot be defined as money data types, because the amounts capture in money data types are validated against their currency's decimal configuration.

In previous releases, to display the currency symbol for these types of fields, special logic was required and automatic UI rendering was not possible. In this release, schemas may now define a currency reference for number data types. Automatic UI rendering will include the currency symbol of the referenced currency. The system ignores the currency decimal configuration.

Refer to the **Schema Tips** on the business object, business service, data area and service script pages for more information.

Web Service Enhancements

This section provides information about web service oriented enhancements.

Support XAI Service Deployment via Inbound Web Services

For implementations using XAI inbound services for external messages, the product recommends moving to the inbound web service mechanism, which uses the J2EE Web Application Server to communicate with the product rather than the XAI servlet.

In this release, the product supplies an interim solution for XAI inbound services that use the Core Adapter. These are XAI inbound services that reference an underlying page service in the product. For these services, converting them to use inbound web services requires a business service to be created for the underlying page service (if one doesn't already exist). However, the resulting schema produces for a business service differs from the Request and Response schemas for the analogous XAI inbound service (which are created using the Schema Editor). This requires a change to the integration to cater for the deferent schema.

Moving all incoming messages over to use IWS instead of XAI is the product recommendation. However, to aid in implementations that have many integrations in place using the XAI inbound services that use the Core Adapter (or any adapter whose message class is **BASEADA**), the product provides the ability to deploy these types of XAI inbound services to the J2EE Web Application Server along with the Inbound Web Services.

To take advantage of this capability, you must define a feature configuration option. Under the **External Messages** feature configuration type, the **Support XAI Services via IWS** is used to indicate if this feature is supported. Setting the value to **true** turns on the feature.

Refer to Support XAI Service Deployment via Inbound Web Services in the External Messages chapter of the *Administrative User Guide* for more information.

MDB in Inbound Web Service

In the last few releases, the Message Driven Bean (MDB) was included in the online server and interfacing into XAI. In an effort to isolate messaging traffic from online traffic for capacity management, the MDB has been moved to the same server as Inbound Web Services to establish an effort to create an integration server. The MDB has been updates to use IWS within the same server. The existing MDB will be supported in this transition.

New System Data Details

This section provides information about new system data delivered in this release that may need to be reviewed for possible impact by implementations, including:

- [New / Updated Application Services](#)
- [System Data Update Details](#)

New / Updated Application Services

Application Service	Description	Access Mode	Comments
F1HEALTH	Health Check Portal	Inquire	Provided for the new System Health Check portal.
CILTUSEP	User	System Administrator	New access mode provided to allow implementations to secure changes to the user's user groups independently of other changes to the user.

System Data Update Details

This section highlights miscellaneous changes to system data configuration.

- The following maintenance objects updates were done to support Configuration Migration Assistant (CMA) functionality:
- Access Group (**ACCT GROUP**) - An option for the option type Non-Migrated Table was added with the value CI_ACC_GRP_DAR. This is a many-to-many relationship between this MO and the Data Access Group MO. For CMA purposes, the MO is now configured to copy this data across only with the Data Access Group.
- To Do Role (Without Users) (**TO DO RL SC**) - An option for the option type Non-Migrated Table was added with the value CI_TD_VAL_ROLE. This is a many-to-many relationship between this MO and the To Do Type MO. For CMA purposes, the MO is now configured to copy this data across only with the To Do Type.
- The maintenance object Service Task (**F1-SVCTASK**) was updated to configure its ILM Eligibility algorithm. This MO was enabled for ILM but did not have the eligibility algorithm configured.
- The maintenance object Web Service Annotation (**F1-IWSANN**) was updated to remove the table F1-IWS-SVC-ANN. This table was incorrectly included in that MO. Although it is a 'many-to-many' table between Inbound Web Service and Web Service Annotation, the information is only maintained on the Inbound Web Service.

- The lookup **F1_BATCH_LEVEL_OF_SERVICE_FLG** has been changed to be non-customizable. This was incorrectly marked customizable in a previous release. The product does not support additional values.
- The description of the lookup value **F1SU** for field **ACCESS_MODE** has been changed from Super User to System Administrator.
- The description of the feature configuration type **FIEM** was changed from Email Configuration to External Messages. This feature type may be used to define options for other functionality related to external messages.

Deprecation Notices

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

Deprecated Notices for Oracle Utilities Application Framework 4.3.0.1

- The table usage flag (TBL_USAGE_FLG) on MD Table (CI_MD_TBL) and the field usage flag (FLD_USAGE_FLG) on MD Table Field (CI_MD_TBL_FLD) will be deprecated in a future release. The fields are not used by the product.
- 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 metadata related to the legacy LDAP import functionality via XAI will be deprecated in a future release:
- XAI Inbound Service **LDAPImport**
- XAI Adapter **LDAPImport**
- Message Class (formerly XAI Class) **LDAPIMPRTADA**
- 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**

System Data Deprecation

The following points highlight system data deprecation in this release.

- The service program **EMAILSERVICE** (Email Service) is invalid and has been removed. The service program **F1-EMAILSERVICE** is the valid one provided for the real-time email service functionality.
- The lookup value **F1LR** for the algorithm entity flag lookup (ALG_ENTITY_FLG) is invalid and has been removed.
- The application services **F1BTCLSP** (Batch Cluster), **F1CLTHDP** (Batch Cluster Thread Details) and **F1CLUSTP** (Batch Cluster Portal) have been removed. They were not used for any base functionality.

- The following zones have been removed. **F1-CLSDETAIL** (Cluster Details), **F1-CLSMEMBER** (Cluster Members), **F1-CLSTHPOOL** (Cluster Thread Pools), **F1-CLUSJOBS** (Batch Jobs), **F1-CLUSTER** (Batch Cluster), **F1-CLUSTHRD** (Batch Threads). They were not referenced by any base functionality.