Oracle Real-Time Scheduler

Release Notes

Release 2.3.0.2.0

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Oracle Real-Time Scheduler, Release Notes, Release 2.3.0.2.0

Contents

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 2.3.0.2.

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 Administrative User Guide*
- *Oracle Real-Time Scheduler Business User 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*

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
ORS	Oracle Real-Time Scheduler
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.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Release Notes

This document provides general information about the Oracle Real-Time Scheduler 2.3.0.2 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

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 v2.3.0.2 included in this release for complete information.

- **Initial Install:** If you are installing Oracle Real-Time Scheduler for the first time, you can install v2.3.0.2 directly.

- **Upgrade Install:** Oracle Real-Time Scheduler v2.3.0.2 supports the following upgrade paths:

  - Upgrading from version 2.3.0.0 to version 2.3.0.2

  - Upgrading from version 2.3.0.1 to version 2.3.0.2

  Customers on 2.2.0.x will need to upgrade to 2.3.0 prior to installing 2.3.0.2.

- **Oracle Utilities Application Framework:** Ensure that you have installed the latest version of Oracle Utilities Application Framework v4.3.0.4 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 v2.3.0.2 included in this release for an updated list of supported platforms.

Changes in Supported Platforms

The following platforms were newly certified in this release:

- AIX 7.2

Changes in Supported Mobile Platforms

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

- Android 7.x

- iOS 10.3

- Windows 10

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 online Help and User Guides for details regarding configuration and implementation of the enhancements.

- Gantt Enhancements

- Scheduler Enhancements

- Crew Shift Enhancements

- Mobile Application Enhancements

- Performance Improvement Enhancements

- CMA Enhancements

- Miscellaneous Enhancements

Gantt Enhancements

This section provides information about enhancements related to the scheduling Gantt.

Navigate from Gantt to a New Browser Tab

As of this release, the "View Details" option from the task and menu right-click menus on the Gantt launches a new browser tab to display the requested information. This enhancement allows the dispatcher to navigate to the desired portal faster, review additional information, as well as take action as needed while keeping the main Gantt tab open. The dispatcher may launch multiple tabs this way to view and work on more than one issue concurrently.

Actions that took longer are now made faster and easier to use.

Scheduler Enhancements

This section provides information about enhancements related to the scheduler.

Depot Queuing

Depending on the nature of the operation at a depot, goods may only be handled in single queues at designated bays. The scheduling capacity of such a depot is then dependent on the availability of these bays.

In this release, the scheduler supports the complex scheduling involved in planning work based on the availability and constrains around depot bays. This functionality is supported in addition to the existing capacity based depot scheduling.

While the scheduler handles both depot scheduling modes, capacity based as well as queue based, a single crew shift may only be scheduled to visit depots that operate in one of these modes. Refer to Bays in the "Transfer of Goods" section in the *Business User Guide* for more information.

Support of HIP Map File

As of this release, the scheduling process relies on geographic map information to be in HIP format. For backward compatibility, the scheduler accepts HIP and MAL formats but automatically MAL format to HIP at start up time. It is recommended to manually convert your files to HIP to avoid this additional step at start up time.

Historic Traffic Patterns

By default the scheduler assumes road speeds are the same for all days of the week and times of day when it computes travel estimates. The existing Speed Profiles functionality may be used to adjust travel speed for a broad geographic area by day of week, time of day as well as specific dates. As of this release you may apply the HERE "Historic Traffic Patterns" product as part of the scheduler map file and update it annually. The scheduler then consults this information and bases travel estimates and routes on historical road-speeds for the day of week, time of day, and direction. Unlike Speed Profiles that apply to an entire area, historical road speed provide speed patterns at the road level.

By default the scheduler assumes the Speed Profiles approach is used. When historical traffic patterns are available a scheduler configuration parameter states which option should be used.

> **Note**. The additional traffic patterns product requires additional license.

The additional "Historic Traffic Patterns" product is provided in a .csv or relational database format and represents 3 years of history of average road speeds. In addition, a Holiday Appendix is provided to list a country's major holidays and surrounding days where the traffic patterns are impacted (for example, Memorial day in the US is the last Monday in May and there is less traffic due to the absence of work-day commuting, but more traffic due to recreational travel).

For performance reasons up to 5 traffic patterns can be defined as a template; each template is constructed by averaging the 15-min interval road-speeds over a user specified period of time on a specific day. The templates are then associated with specific dates and times at which they apply.

The following is an example of traffic pattern templates:

Template	Days	Dates	Time	Description
Weekday Morning Peak	Monday-Friday		07:00-09:00	Traffic jam during morning peak hours.
Weekday Afternoon Peak	Monday-Friday		16:00-19:00	Traffic jam during afternoon peak hours.

Template	Days	Dates	Time	Description
Sunday Market Hours	Sunday		10:00-13:00	Closed for cars traffic area.
Christmas Shopping Time		December 22-24	19:00-22:00	Slow Traffic due to extended shopping hours and increased traffic.

Refer to the *Map Editor User Guide* for more information on how to incorporate this information into the map file.

Chooser For Activities Referencing Multiple Depots

The "Chooser" request is enhanced to support activities associated with multiple depots. A shift is expected to be returned once with the best depot for the request.

Crew Shift Enhancements

This section provides information about enhancements related to crew shifts.

Warning About Future Shift

In this release, customers may optionally configure the system to issue an error if a mobile worker attempts to log on to a future shift too early. The amount of time that is considered too early is configured on the shift type. By default, if no value is set up on the shift type no restrictions apply when starting a shift early.

Shift Fixed End Time

By default, the scheduler assumes that a crew should end their shift at the planned end time even when they start their shift late but assumes the crew would end early if they started early. In this situation the scheduler incurs overtime cost earlier than the planned end time when the crew starts their shift early. This release allows customers to specify on the shift type whether or not the planned end time is fixed when the shift is started early. If the shift type is configured to consider the planned end time as fixed then the scheduler starts to incur overtime cost at the planned end time.

Example	Planned Start	Planned End	Actual Start	Overtime Starts At (Early Start Option = Fixed Duration, default)	Overtime Starts At (Early Start Option = Fixed End Time)
Early	8:00 AM	4:30 PM	7:30 AM	4:01 PM	4:31 PM
Late	8:00 AM	4:30 PM	8:30 AM	4:31 PM	4:31 PM

Mobile Application Enhancements

This section provides information about enhancements related to the mobile application.

Carryover Details from Partially Completed Assignment

As of this release, when the crew suspends their work for any reason, any partial activity specific completion information they may have entered is made available to them or to the next crew assigned to complete the activity.

In the same way, the latest completion information entered for a complex activity can be made available to the crew working on it on the next visit so they can continue from where the previous crew has left off. This carry over may be applicable to some types of complex work and not to others and is therefore configured on the complex activity type. By default, complex activity completion information is not carried over between visits.

Restrict Mobile Attachment File Size

As of this release, customers may restrict the size of attachments captured by the mobile application by specifying an attachment size restriction on their MDT type records. Different size limits may be configured for different types of mobile devices. If such limit is not specified on the MDT type, the mobile application does not restrict the size of attachments created in the field.

Automatically Activate A New Deployment

By default, a new deployment has to be manually activated on the deployment portal before it can be deployed to any devices. As of this release, a new parameter is introduced to the create deployment batch process (M1-DPLOY) that allows you to request that the new deployment be activated right away.

Expire Old Messages To Device

Messages queued for a specific mobile device that have not been delivered for a configurable amount of time are automatically canceled. The default value is set to 30 days and may be overridden as need on the "Expire Old Remote Messages" (M1-EXOLDRMMS) algorithm. Refer to the algorithm description for more information.

Performance Improvement Enhancements

This section provides information about enhancements related to performance improvements.

Shifts In Dispatcher Scope

The overall performance of the background process that builds the list of shifts in a dispatcher's data scope has been improved. The existing index MT100S1 on the crew shift table, as well as the SQLs used by the process were updated to better support the process.

Faster Scheduler Post Dispatch Updates

Scheduler updates to a task's work sequence and other significant schedule changes for an already dispatched task are now captured on dedicated physical fields allowing them to process faster and in a more efficient way.

Faster Scheduler Startup and Shutdown

The scheduler startup process has been tuned and takes less time to complete. In the same way the scheduler now responds faster to a request to shutdown.

CMA Enhancements

This section provides information about CMA related enhancements.

A Single CMA Migration Request For All Configuration Entities

With the support of "group" migration requests, the base product provides a single migration request that handles the migration of all configuration entities across the product stack.

Miscellaneous Enhancements

This section provides information about miscellaneous enhancements.

Web Services Statistics Portal

A new Web Service Statistics portal is added in this release to provide high level statistical analysis for key inbound web service calls related to appointment booking and interfacing activities from the host system.

Upgrade mapViewer to 12c

The mapViewer version used by the latest released version of the product is no longer supported. This release has upgraded mapViewer to version 12c.

Mark Base Status Reasons As Not Selectable By User

The base product may release a few status reasons as selectable by a user. In this release, you may override these status reason and mark them as not selectable if they are not relevant to your business.

New System Data Changes/ Details

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

New Application Services

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

Application Service	Description	Comments
M1LDCAT	Load Category Portal	Related to the "Depot Queuing" enhancement.
M1-TRNSFACTIVITYBOAS	Depot Transfer Activity BO	Related to the "Depot Queuing" enhancement.
M1-TRNSFASGNMTBOAS	Depot Transfer Assignment BO	Related to the "Depot Queuing" enhancement.
M1-TRNSFSHIFTBOAS	Depot Transfer Crew Shift BO	Related to the "Depot Queuing" enhancement.
M1WEBSVC	Web Service Statistics Portal	

The following dispatcher dashboard zones related application services were added in this release. The upgrade process automatically grants access to these zones to users that currently have access to them. Please review and adjust the allowed user groups as needed.

Application Service	Description
M1-ALTQUEUE	Alert Queue
M1-TOINSCPD	To Do In Scope
M1-BKPALTQUE	Backup Alert Queue
M1-MAILSUMRY	Mail Summary

The following application services were added for each batch control as part of the enhancement to secure batch submission. The upgrade process adds access to these application services to all

users that are allowed currently to submit any batch process online. Please review and adjust the allowed user groups as needed.

Application Service	Description
M1-ACTFX	Activity Fact Extract
M1-ACTIL	Activity Fact Initial Load
M1-ADRDX	Address Dimension Extract
M1-ALCRL	ILM Crawler - Alert
M1-ALMTR	Alert Monitor
M1-APTDX	Appointment Time Dimension Extract
M1-ATDDX	Appointment Time Of Day Dimension Extract
M1-ATDIL	Appointment Time Of Day Initial Load
M1-ATMTR	Alert Type Monitor
M1-BMCOM	Build Mobile Component Package
M1-CCSFX	Completed Shift Fact Extract
M1-CLMDT	Stale MDT and RSI Cleanup
M1-CREDX	Crew Dimension Extract
M1-CREIL	Crew Initial Load
M1-CRSDX	Crew Shift Dimension Extract
M1-CRSHF	Crew Shift Monitor
M1-CRTFX	Crew Task Fact Extract
M1-CSAIL	Completed Shift Address Initial Load
M1-CSCRL	ILM Crawler - Crew Shift
M1-CTUDX	Crew Time Usage Dimension Extract
M1-CTUIL	Crew Time Usage Initial Load
M1-DEPOTB	Depot Monitor
M1-DPLOY	Create Deployment
M1-DPTTW	Depot Time Window Monitor
M1-DPUTD	Deployment Evaluation and Purge
M1-DSCRL	ILM Crawler - Dispatcher Shift
M1-DSMTR	Dispatcher Shift Monitor
M1-ELTDX	Early Logoff Time Dimension Extract
M1-ELTIL	Early Logoff Time Dimension Initial Load
M1-LLTDX	Late Logon Time Dimension Extract

Application Service	Description
M1-LLTIL	Late Logon Time Dimension Initial Load
M1-LOCIL	Location Address Initial Load
M1-MAILB	Mail Monitor
M1-MAILSUMRY	Mail Summary
M1-MLCRL	ILM Crawler - Mail
M1-POCRL	ILM Crawler - Period of Unavailability
M1-POUB	Period of Unavailability Monitor
M1POUTSK	Period Of Unavailability Task Portal
M1-PRCRL	ILM Crawler - Procedure
M1-PRMTR	Procedure Monitor
M1-RESRC	Resource Monitor
M1-RMCRL	ILM Crawler - Remote Message
M1-RMMSG	Remote Message Monitor
M1-RSIBP	Remote Script Invocation Manager
M1-RTDDX	Response Time Deviation Dimension Extract
M1-RTDIL	Response Time Deviation Initial Load
M1-SBSDX	Shift BO Status Reason Dimension Extract
M1-SBSIL	Shift BO Dimension Initial Load
M1-SCHCF	Scheduler Configuration Monitor
M1-SCHED	Scheduler Monitor
M1-SERDX	Service Area Dimension Extract
M1-SERIL	Service Area Dimension Initial Load
M1-SFTIL	Completed Shift Initial Load
M1-SHWKT	Shift Weekly Template Monitor
M1-SM	Scheduler Manager Batch Job
M1-TADDX	Travel Distance Dimension Extract
M1-TADIL	Travel Distance Dimension Initial Load
M1-TBSDX	Task BO Status Reason Dimension Extract
M1-TBSIL	Task BO Status Reason Dimension Initial Load
M1-TDDDX	Travel DurationDeviation Dimension Extract

Application Service	Description
M1-TDDIL	Travel DurationDeviation Dimension Initial Load
M1-TKAIL	Task Address Initial Load
M1-TKTDX	Task Type Dimension Extract
M1-TKTIL	Task Type Dimension Initial Load
M1-TMCRL	ILM Crawler - Timesheet
M1-TMSHT	Timesheet Monitor
M1-TSCRL	ILM Crawler - Task
M1-TSKTR	Task Monitor
M1-TTWTR	Override Time Window Monitor
M1-WDDDX	Work Duration Deviation Dimension Extract
M1-WDDIL	Work Duration Dimension Initial Load

New/ Updated Migration Plans

The following migration plans have been updated to support the migration of their polygon boundary information:

- M1-Polygon - Polygon
- M1-GeographicArea - Geographic Area
- M1-SchedulerArea - Scheduler Area
- M1-ServiceArea - Service Area

New Migration Requests

The "MWM Configuration" (M1-MWMConfig) migration request has been added to the system to support a single export and import of all configuration entities.

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 2.3.0.2 at the time of release.

Bug Number	Description
27404988	While scheduling two or more runs from different depots to the same shift, the scheduler will collapse them into a single one. That collapsing mechanism does not take into account the overloading of the depot time window capacity.
27241077	If a shift completion message sent from a mobile device encounters errors such that by the time it is reprocessed the crew record is marked inactive, the message would fail to process automatically.
	The system raises a To Do entry, as usual, for a user to review this situation and manually cancel the message. The system should not fail such message in that situation.
27234813	A POU Template that is defined to expire by number of occurrences keeps generating an error at the time when no POUs have been generated yet by the time the template has expired. The generation algorithm should have transitioned the POU to expired state.
27128678	Various operations that involve access to the file system on the device may encounter an error: "FAILURE IN FILE API 12". This issue is only impacting Android 6.x.
24823046	A few minor issues related to the right-to-left translations exist.
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.

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
25898377	Java script error - user interface errors that may occur during application viewing.

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 continue through the end of Premier Support for this release (March 2021), or until any of the underlying technologies of the legacy MCP go out of support, which we have no

control over. Please start planning for this upcoming deprecation of the legacy MCP and convert your custom mobile applications, if any, onto the new Hybrid platform.

Connected MCP

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.

Oracle Utilities Application Framework v4.3.0.4 Release Notes

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

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

System Wide Enhancements

This section provides information about enhancements that are system wide.

Introduce New Menu Item Search Facility

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

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

Introduce Shortcut Key for Bookmark Button

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

Minimizing the Dashboard Suppresses Refresh of Zones

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

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

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

Support Ability to Bypass the Home Page when Launching the Application

The system supports launching the system with additional configuration in the URL to automatically navigate to a page or launch a BPA script (or both). When a page is provided (using the 'location' attribute in the URL), the system navigates the user to that page. If a BPA script is

also provided, the BPA script is executed after navigation. If a BPA script is supplied with no 'location' attribute, the system navigates to the home page prior to executing the script.

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

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

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

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

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

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

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

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

Support the Use of Substitution Variables
In this release, the system provides support to allow fields that capture URIs to referencing a substitution variable for all or part of the URI definition. This allows the system administrators to define the proper URI locations in a properties file whereas the configuration users only need to know the variable name. The name of the XML file that holds the substitution variables is defined as a property setting. The system provides a template to generate a file with the name **substitutionVariableList.xml**. To define a URI substitution, define the name of the parameter and the value. The name may then be used as the variable name surrounded by the symbol @ in configuration.

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

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

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

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

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

Adjust Zones that Support Drag and Drop

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

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

Limit Height for Large Explorer Columns with a Width Setting

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

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

Configuration Tool Enhancements

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

UI Hint Sections May Be Configured to 'Float'

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

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

UI Hint Sections May Be Half Width on Maintenance

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

Enhance Groovy Scripting Capabilities

This section provides details about enhancements to Groovy scripting functionality.

Groovy Library Scripts

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

The following points highlight more information about this enhancement:

- A new script type of **Groovy Library Script** has been added which provides a basis for creating groups of common methods. Scripts of this type must include only Groovy-based step types. The methods defined can accept arguments and return values of any type.
- A **Groovy Library Script** must include a new step type of **Groovy Library Interface** which lists the publicly available methods defined within the script.
- The system provides a new public method called **createLibraryScript** which is used to instantiate the interface for a Groovy library and enable other **Groovy Members** step types within the script to invoke any of the library methods.

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

Ability to Launch Groovy JavaDocs

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

Ability to View Third Party Whitelist

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

Restrict SQL Functions Based on a Property Setting

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

Batch Processing Enhancements

This section provides information about batch processing enhancements.

Individual Security Added to Batch Control

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

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

Note the following for upgrade purposes:

- All user groups that currently have Add security access to the Batch Job Submission application service are granted access to all application services for all batch controls.
- Custom batch controls are updated with the F1-DFLTAPS application service. If implementations wish to provide more granular security for their custom batch controls, they should determine or create an appropriate application service and update the appropriate batch controls.

Additional Support for Ad-hoc Batch Parameters

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

Plug-in Driven Batch Programs Support Adhoc Parameters

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

For any adhoc parameters that you wish to use as bind variables for the SQL used to select the records for a plug-in driven batch, your select records plug-in may be used to identify the relevant

batch parameter passed as input and populate the output bind variable appropriately. Refer to the Select Records Plug-in Enhanced to Support Field Name for Bind Variables section for information about defining a field name when returning custom bind variables for the Select Records plug-in spot.

Additional Parameters Added to Several Batch Plug-in Spots

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

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

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

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

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

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

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

Introduce Error Post-Processing Plug-in Spot

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

Support for Maintaining/ Administering the Oracle Scheduler

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

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

Batch Run Tree - Change Label of Last Update Date

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

Integration Enhancements

This section provides information about integration oriented enhancements.

Support for Multiple Security Policies

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

The following points highlight the changes that were included:

- A sequence has been added to the Inbound Web Service/Annotation list. This allows an implementation to indicate the appropriate order for execution of the annotation policies.
- The base annotation type **F1POLICY** has been updated to include a parent annotation type (**F1POLICIES**). The parent annotation type is used at runtime when multiple annotations are found to properly build the array of annotations.

Support OWSM Security Policies

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

Enhanced the WS-Policy Annotation Type to Allow Direction Override

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

Support Password Encryption for Service Catalogue Configuration

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

Configuration Migration Assistant (CMA) Enhancements

The following sections highlight enhancements to CMA functionality.

Allow Master Configuration to be Optional

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

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

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

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

Enhance Migration Requests to Facilitate Migration Requirements

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

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

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

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

Introduce a Migration Request BO Specific to a List of Entities

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

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

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

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

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

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

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

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

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

Introduce the Ability to Group Migration Requests

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

The following enhancements are included to support this functionality:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Provide More Detail for a Completed Migration Data Set Import

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

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

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

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

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

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

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

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

Enhance the Information for Migration Data Set Import

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

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

Enhance the Migration Data Set Import Query Results

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

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

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

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

Enhance the Migration Data Set Detail Zones

In this release the zones on the Migration Data Set Import portal that show the Transactions and the Objects linked to the data set have each been enhanced to only show records in a non-final state by default. The existing user filter for Status has been enhanced to include an entry for

limiting to non-final states as well as an entry to show records in all status values. This allows a user to choose to limit the search to records in a given state, or all states or to return to the default option of only non-final states.

Support for Migrating Individual Lookup Values

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

Miscellaneous Enhancements

This section describes miscellaneous enhancements.

Introduce New Business Service to Interrogate Warnings

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

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

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

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

Changes to Batch and User Logging

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

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

Oracle Utilities Application Framework System Data Details

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

New/Updated Application Services

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

Application Service	Description	Access Mode
The following services were added for the Individual Security Added to Batch Control enhancement.		
F1-ARQPR	Request Monitor	E
F1-AVALG	Application Viewer - Extract Algorithms	E
F1-AVBT	Application Viewer - Extract Batch Control	E
F1-AVMO	Application Viewer - Extract MOs	E
F1-AVTBL	Application Viewer - Extract Table data	E
F1-AVTD	Application Viewer - Extract To Do Types	E
F1-BFCRL	ILM Crawler - Business Flag	E
F1-BSFLG	Business Flag Monitor	E
F1-BUNPR	Bundle Monitor	E
F1-DTDOM	Outbound Message Error To Do Entry Cleanup	E
F1-FCTRN	Fact Monitor	E
F1-FKVBP	Foreign Key Validator	E
F1-FLUSH	Flush All Caches	E
F1-ILMIN	ILM Crawler Initiator	E
F1-LANG	New Language	E
F1-LDAP	LDAP Import	E
F1-LKPIL	Standard Lookup Initial Load	E
F1-MGDIM	Migration Data Set Import Monitor	E
F1-MGDPR	Migration Data Set Export Monitor	E
F1-MGOAP	Migration Object Monitor - Apply	E
F1-MGOPR	Migration Object Monitor	E
F1-MGTAP	Migration Transaction Monitor - Apply	E
F1-MGTPR	Migration Transaction Monitor (Deferred)	E
F1-NDPUR	Notification Download Purge	E
F1-ORCRL	ILM Crawler - Object Revision	E
F1-OUCRL	ILM Crawler - Outbound Message	E
F1-PDBEX	Plug-in Driven Extract Template	E

Application Service	Description	Access Mode
The following services were added for the Individual Security Added to Batch Control enhancement.		
F1-PDBG	Plug-in Driven Generic Template	E
F1-REQTY	Request Type Monitor	E
F1-REVPR	Object Revision Monitor	E
F1-SAKRQ	Sync Request Allocate Keys Monitor	E
F1-SICRL	ILM Crawler - Inbound Sync Request	E
F1-SRCRL	ILM Crawler - Sync Request	E
F1-SRLRQ	Sync Request Load Records Monitor	E
F1-STATSM	Statistics Control Monitor	E
F1-STCRL	ILM Crawler - Service Task	E
F1-STKDF	Service Task Monitor (Deferred)	E
F1-STKTR	Service Task Monitor	E
F1-SUBRQ	Request Monitor (Deferred)	E
F1-SYNEF	Sync Request Extract	E
F1-SYNIL	Sync Request Initial Load	E
F1-SYNRQ	Sync Request Monitor	E
F1-SYSRQ	Sync Request Monitor (Deferred)	E
F1-TDCRL	ILM Crawler - To Do Entry	E
F1-TDEER	To Do Entry External Routing	E
F1-TDPG	Purge Completed To Do Entries	E
F1-XMLPG	XAI Upload Staging Records Cleanup	E

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

New/Updated Migration Plans/Migration Requests

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

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

Note that in a previous release, the product supported installation algorithms only. This migration plan allows for copying of main fields on installation, the algorithm collection and the messages collection. In addition, this migration plan includes a pre-compare algorithm that retains the value of the Environment ID and the License Key for the target installation record.

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

- Performance Target Type (F1-PerformanceTargetType)

- Performance Target (F1-PerformanceTarget)

- Statistics Control (F1-StatisticsControl)

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

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

- Message Options (F1-MessageOption)

- JMS Queue (F1-JMS-Queue)

- JMS Topic (F1-JMS-Topic)

- JNDI Server (F1-JNDI-Server)

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

- Migration plans for the following MOs were added:
- Attachment
- Bucket Configuration
- Characteristic Type
- ETL Mapping Control
- Extendable Lookup
- Installation Options
- Managed Content
- Performance Target
- Performance Target Type
- Report Definition
- Request Type
- Service Task Type
- Statistics Control
- To Do Type
- Migration plans for the following MOs were removed:
- Installation Algorithms

Oracle Utilities Application Framework Deprecation Notices

This section provides information on functionality that has been removed, is no longer supported by Oracle Utilities Application Framework V4.3.0.4, or is planned for removal.

Deprecated Functionality

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

Support for Abbreviated Time Zone Names

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

In this release, the Time Zone name drop down no longer includes the abbreviated values.

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

Items Planned for Future Deprecation

The following items will be desupported in a future release.

System Data

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

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

- Business Object **F1-EnvironmentRefPhysicalBO**

- Maintenance Object **ENV REF**

- The To Do Type F1-SYNRQ (Sync Request Error) is not in use and will be deleted in a future release. Errors for the Sync Request Monitor (that also has the name F1-SYNRQ) are reported using the To Do Type F1-SYNTD (Sync Request Monitor Errors).

- The following algorithm types and algorithms provided for the current LDAP import functionality do not include any logic. They will be removed in a future release.

- Algorithm Type/Algorithm **F1-LDAPIMPRT**

- Algorithm Type/Algorithm **F1-LDAPPREPR**

- The lookup value CHAR_ENTITY_FLG / F1SE (Characteristic Entity / Sync Request Inbound Exception) is not in use and will be removed in a future release.

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

URI Substitution Variables

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

- F1_BI_EXTRACTS

- F1_INTERNAL_FILES

- F1_CUST_APP_BASE

- F1_PROCESS_DIR

- F1_SVC_CATALOG_WSDL_DIR

- F1_PDB_EXTRACTS

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

CMA Migration Requests

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

CMA Import Algorithm

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

BO Read in F1-MainProc when Pre-Processing Exists

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

In a subsequent release, to solve a UI Hints issue related to child BOs, a BO Read was included in F1-MainProc even if a pre-processing script existed. This solution introduced a problem only visible for specific scenarios and a different fix has been introduced. In the meantime the BO Read is no longer necessary in F1-MainProc. Because there are many pre-processing scripts that are properly performing the Read of the BO, ideally the BO Read should be removed from F1-MainProc so that multiple reads are not performed.

However, there may have been pre-processing scripts introduced after the BO Read was included in F1-MainProc that were coded to not perform a BO read in the pre-processing script. Because of this situation, the BO Read is still performed as part of the processing of F1-MainProc.

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

Desupport of Embedded Installation

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

Removal of YUI Library Support

Due to the discontinued support of the open-sourced Yahoo! User Interface Library (YUI), all YUI components will be removed from the product in a future release. The recommendations for

implementations is to review custom use of YUI library resources and plan to replace the resources accordingly.