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About this Document

This document describes the new features, enhancements, user interface and database level changes, supported platforms, framework upgrade, supported upgrades, and technology upgrade made in this release. It also highlights the discontinued features, bug fixes, and known issues in this release.

This document does not describe the functionality of Oracle Revenue Management and Billing or technical know-how on how to install or upgrade Oracle Revenue Management and Billing. For more detailed information, you can refer to the following documents:

Document Name	Description
<i>Oracle Revenue Management and Billing Licensing Guide</i>	<p>Lists different features which you can use when you acquire a license for the following products:</p> <ul style="list-style-type: none"> • Oracle Financial Services Revenue Management and Billing • Oracle Insurance Revenue Management and Billing <p>It also provides the licensing information about the third-party JARs and components which are included in the above mentioned products.</p>
<i>Oracle Revenue Management and Billing Quick Installation Guide</i>	<p>Provides information about the media packs which are available for the current release. It contains information about the supported platforms, space requirements, and release-specific documentation library. In addition, it contains high-level information on how to install ORMB and selected additional software.</p>
<i>Oracle Revenue Management and Billing Installation Guide</i>	<p>Provides an overview about the application architecture. It contains detailed information about the software and hardware requirements, supported platforms, application server and database space requirements, and application server pre-requisites for supported platforms. It explains the installation and configuration menu options which are available during installation and advanced menu options which are available post installation. It also explains how to configure WebSphere application server and how to install OUAF, OUAF rollup packs, ORMB, and ORMB patches or rollup packs.</p> <p>It contains appendices which lists ORMB rollup packs and notices about third-party JAR and other components.</p>

Document Name	Description
<i>Oracle Revenue Management and Billing Database Administrator's Guide</i>	<p>Provides information about the supported database platforms and explains how to install database with or without demo data. It contains the standards and conventions that should be followed while working with ORMB database. In addition, it lists various configurations and implementation guidelines with respect to tablespace, encryption, storage, compression, indexes, initialization parameters, listener, table partitioning, performance monitoring, memory resource management, optimizer statistics and segment advisors, etc.</p> <p>It contains various appendices which lists the new objects added in ORMB, application services configured for default user groups, new objects added in OUA, information about OUA system tables and ORMB rollup packs, notices about third-party JAR and other components.</p>
<i>Oracle Revenue Management and Billing Security Guide</i>	<p>Highlights what's new in security! Describes all the security features available in ORMB for authentication, authorization, user access, database access, LDAP and SSO integration, audit, encryption, web services, and JNDI access. It also describes how to provide support for data masking, Oracle cloud object storage, groovy, HTTP proxy, keystore, truststore, whitelist, federated architecture, and object erasure. In addition, it explains how to garble the customer information.</p>
<i>Oracle Revenue Management and Billing Server Administration Guide</i>	<p>Provides detailed information about the product architecture, native support, directory structures, environment variables, logs, etc. It explains various concepts related to the batch server and lists and describes the scripts required for installing and configuring ORMB. It explains how to monitor the system and configure Web browser, Web application server, business application server, inbound web services, and batch server. It explains how to provide Oracle Cloud Support and how to integrate and monitor Oracle Scheduler.</p> <p>It contains various appendices which lists and describes the parameters available in the ENVIRON.INI, Web.xml, spl.properties, hibernate.properties, submitbatch.properties, threadpoolworker, coherence-cache.config.xml, and tangosol-coherence-override.xml files.</p>
<i>Oracle Utilities Application Framework Business Process Guide</i>	<p>Explains how to get acquainted with the user interface. It explains the different types of pages or portals that you may come across in the application. It explains how to set the user preferences and how to create, manage, assign, and complete a To Do in the application. It also explains how to submit reports and view historic reports in the application.</p>

Document Name	Description
<i>Oracle Utilities Application Framework Administrative Guide</i>	Explains the general, security, user, designing, developing, and scripting options available in Oracle Utilities Application Framework (OUAF). It describes the user interface, database, configuration, and reporting tools available in OUAF. In addition, it provides information about the application viewer, how to configure incoming and outgoing messages, and how to integrate Lightweight Directory Access Protocol (LDAP), Oracle Identity Manager (OIM), and Batch Scheduler with Oracle Revenue Management and Billing (ORMB).
<i>Oracle Revenue Management and Billing Business Process Guide</i>	Explains how to maintain the demographic, geographic, and financial objects (i.e. accounts) of a customer. It explains how to manage a customer's bills, payments, adjustments, credits, collections processing, statements and deposits in Oracle Revenue Management and Billing (ORMB). It also describes the financial transactions, case management, sales and marketing functions, rates engine, quotations, loans, how to monitor and execute job streams, and how to manage workflows, notifications, and overdue processing. In addition, it explains how to extract the data from the system using an extract template. The features listed and described in this document can be used in both financial services and health insurance domains.
<i>Oracle Revenue Management and Billing Administrative Guide</i>	Explains how to configure various features and functionalities in Oracle Revenue Management and Billing (ORMB). For example, billing, payments, adjustments, financial transactions, credits, collections processing, loans, service credits, background processes, quotations, case management, security, overdue processing, batch scheduler, workflow, and notifications, etc. The information available in this document can be used in both financial services and health insurance domains.
<i>Oracle Revenue Management and Billing Banking User Guide</i>	Describes various features which are available for the financial services business. For example, customer registration, customer 360° view, invoicing group, pricing management, multi-currency accounts, currency conversion, construct based billing and settlement, trial billing, product lifecycle management, subscription billing, mass pricing update, accrual, foreign exchange gain loss, transaction feed management, upload validated payment and adjustment data, freeze payments on notification, payment request, offset request, funding request, hold request, refund/write off request, dispute request, upload request, earnings credit rate, payment agreement request, invoice request, deal management, etc. It describes all screens related to these features and explains how to perform various tasks related to the feature in the application.

Document Name	Description
<i>Oracle Revenue Management and Billing Insurance User Guide</i>	<p>Describes various features which are available for the following three lines of health insurance business – fully-insured group, self-funded, and individual. For example, customer registration, customer 360° view, pricing management, trial billing, transaction feed management, upload validated payment and adjustment data, freeze payments on notification, payment request, offset request, funding request, hold request, refund/write off request, upload request, payment agreement request, invoice request, inbound message processing, reconciliation, entity audit, premium repricing, etc.</p> <p>It describes all screens related to these features and explains how to perform various tasks related to the feature in the application.</p>
<i>Oracle Revenue Management and Billing Upgrade Path Guide</i>	Explains the path and pre-requisites for upgrading Oracle Revenue Management and Billing from one version to another.
<i>Oracle Revenue Management and Billing Upgrade Guide</i>	<p>Explains how to upgrade the ORMB application server and database from one version to another. It also explains how to migrate the ORMB data from one version to another and describes the additional tasks that you need to perform after upgrading from one version to another.</p> <p>It includes various appendices that contain information about new tables introduced in the current release, existing tables which are modified in the current release, dropped algorithms and algorithm types, dropped characteristic types, dropped algorithm parameters, dropped option types in feature configurations, ORMB rollup packs, and SQL statements used for data migration.</p>
<i>Oracle Revenue Management and Billing Direct Database Upgrade Guide</i>	Explains how to directly upgrade the ORMB database from 2.5.0.1.0 or any later version to the current release. It also highlights any known issues during direct database upgrade and how to handle these issues in the database.
<i>Oracle Revenue Management and Billing Transaction Feed Management - Batch Execution Guide</i>	<p>Explains the sequence in which the batches should be executed while performing various tasks in the Transaction Feed Management (TFM) module.</p> <p>It provides detailed information about each TFM batch and its parameters. It also indicates the restart and multi-threading ability of each batch. In addition, it recommends values for various parameters which can be used for tuning batch performance as per the available hardware.</p>

Document Name	Description
<i>Oracle Revenue Management and Billing Batch Guide</i>	Provides detailed information about various batches which are used in different modules, such as billing, payments, financial transaction, pricing management, funding request, offset request, hold request, upload request, inbound message, payment agreement request, accruals, earnings credit rate, ILM, deferred revenue recognition, reconciliation, garbling, repricing, entity audit, statements, etc. It also contains information about the batch parameters and the batch restart and multi-threading abilities.
<i>Oracle Revenue Management and Billing Chatbot Configuration Guide</i>	Explains how to integrate Oracle Digital Assistant (ODA) with Oracle Revenue Management and Billing.
<i>Oracle Revenue Management and Billing Chatbot User Guide</i>	Explains how to use the Menu Based Chatbot introduced in Oracle Revenue Management and Billing.

Change Log

Revision	Last Update	Updated Section	Comments
1.1	01-Nov-2022	Deal Discard through Inbound Web Service	Added Section
		Price Item and Hierarchy Entity Selection in a Deal Based on Characteristic Value	Added Section
		Terms and Conditions Selection in a Deal Based on Characteristic Value	Added Section
		Terms and Conditions Grouping in a Deal Based on Characteristic Value	Added Section
		Overriding Terms and Conditions in a Deal	Added Section
		Refreshing Terms and Conditions in a Deal	Added Section
		Invoice Extract in UBL Format	Added Section
		C1_CMO Feature Configuration	Moved Section
		C1-AccountFees Pricing Service	Moved Section
		Deal Management	Added Information
		Statements in TWIST Format	Added Section
		User Interface (UI) Level Changes	Added Information
		Customer Management	Updated Information
1.2	02-Nov-2022	Known Issues	Added Known Issues
1.3	03-Nov-2022	New Features (Generic)	Removed Section
		New Features (Specific to Insurance)	Added Section

Revision	Last Update	Updated Section	Comments
1.4	15-Nov-2022	Deprecation in This Release	Added Information
		Deprecation Planned for Future Releases	Removed Information
1.5	02-Dec-2022	About this Document	Added Information
		Known Issues	Added Information
1.6	15-Dec-2022	Redwood User Experience	Added Information
1.7	20-Dec-2022	New Features (Generic)	Added Section
		Account Level Refund/Write Off	Updated Information
		Refund/Write Off Adjustment at Bill Level	Updated Information
		New Features (Specific to Insurance)	Moved Section
		C1_CMO Feature Configuration	Updated Information
1.8	12-Jan-2022	Stop-Loss Insurance Billing	Updated Information
1.9	17-Mar-2023	Field Mapping	Moved Section
		Three-Step PUPL Processing	Moved Section
		C1-PAYFLUPLD Feature Configuration	Moved Section

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Prerequisites

If a customer is already using the Transaction Feed Management feature and wants to upgrade to Oracle Revenue Management and Billing Version 5.0.0.0.0, then the customer needs to ensure the following (before upgrading):

- All bills generated in the system are in the **Complete** status. In other words, there should not be any bills in the **Pending** status. If there are any bills in the **Pending** status or if any billable charge (generated through TFM) is not yet billed, disaggregation and cancellation of transactions which are uploaded using 4.0.0.0.0 will not happen successfully.
- Transactions which are uploaded using 4.0.0.0.0 must not be in the **Initial Product Determined (INPD)** status. They can be in the **Uploaded (UPLD)**, **Invalid (INVL)**, **Error (EROR)**, **Completed (COMP)**, or **Cancelled (CNCL)** status.
- Equal to (=) or tilde (~) symbol is not used in any existing price item parameter code and value. Otherwise, erroneous results might occur.

New Features (Generic)

This section describes the following new features added in this release which can be used in both financial services and health insurance domains:

- [Defer Upload Request Validation](#)
- [Audit Facility for Bill Reopen](#)
- [Account Level Refund/Write Off](#)

Defer Upload Request Validation

Until now, the system enabled you to upload data for the following using the Upload Request feature:

- Billable Charge (Adhoc and Regular)
- Hold Request
- Refund Request
- Write Off Request
- Derivation and Pricing Parameters for a Bill Group and Sort ID Combination

The system faced performance issues while validating a CSV file uploaded through the Upload Request feature when the CSV file had voluminous records. Therefore, now the system has introduced defer processing mechanism while validating a CSV file. The defer processing mechanism for the validation process is introduced for the following business objects:

- C1-BillableChargeUploadRequest
- C1-HoldUploadRequest
- C1-RefundUploadRequest
- C1-WriteOffUploadRequest
- C1-BillLevelUploadRequest

Two new statuses named **Validating** and **Deferred Validation** are added in the lifecycle of the above business objects. Now, when you click the **Validate** button, the system changes the status of the upload request to **Validating**. The system then invokes the **C1-DEFERVALD** algorithm which is attached to the **Validating** status. It checks whether the total number of records in the upload request exceeds the online record validate limit defined in the **C1-DEFERVALD** algorithm. If the total number of records in the upload request does not exceed the online record validate limit, all records in the upload request are validated immediately and its record status is changed to **Valid** or **Invalid** depending on whether it is successfully validated or not. Finally, the status of the upload request is changed to **Validated**.

However, if the total number of records in the upload request exceeds the online record validate limit, the status of the upload request is changed to **Deferred Validation**. On executing the **C1-UPLRQ** batch, the system checks whether there are any upload requests in the **Deferred Validation** status. If there is an upload request in the **Deferred Validation** status, all records in the upload request are validated in the deferred mode and its record status is changed to **Valid** or **Invalid** depending on whether it is successfully validated or not. Finally, the status of the upload request is changed to **Validated**.

Audit Facility for Bill Reopen

Until now, the system did not create an audit entry in the **CI_AUDIT** table when you reopen a bill. Now, if the **CI_BILL** table is configured for audit, the system will create an audit entry in the **CI_AUDIT** table when you reopen a bill. The following fields are audited when you reopen a bill – **Bill Date** (BILL_DT), **Bill Status** (BILL_STAT_FLG), and **Completion Date/Time** (COMPLETE_DTTM). On reopening a bill, the system deletes the bill date and completion date/time and changes the status of the bill from **Complete** to **Pending**. You can verify the audit entries created in the **CI_AUDIT** table either using the **Audit Query by User** or **Audit Query by Table/Field/Key** screen.

Account Level Refund/Write Off

Oracle Revenue Management and Billing enables you to create a refund/write off request at the account level. A new field named **Adjustment Level** is available while defining a refund/write off request. It allows you to control how the refund/write off adjustment should be created for the refund/write off request. It supports the following values:

- **Account** – Used when you want to create the refund/write off request at the account level. Here, the refund/write off adjustment is created against the netting contract of the account.
- **Bill** - Used when you want to create the refund/write off request for a bill. Here, the refund/write off adjustment is created against the netting contract of the account. This option is only applicable for the financial services domain.
- **Segment** - Used when you want to create the refund/write off request for a bill, bill segment, adjustment, or payment of an account. Here, the refund/write off adjustment is created against the bill segment, adjustment, or payment segment, respectively. If you select this option, the system behaves in the traditional manner.

If you do not specify the value for the **Adjustment Level** field, the system considers the value defined in the **Default Adjustment Level** option type of the **C1_REFWO** feature configuration. If you select the **Account** option from the **Adjustment Level** list, the system checks the account balance while creating the refund/write off request. If the account balance is zero, the system throws an appropriate error message and does not allow you to create the refund/write off request at the account level. However, if the account balance is in credit, the system allows you to create a refund request for the account. Similarly, if the account balance is in debit, the system allows you to create a write off request for the account.

While creating a refund/write off request at the account level, the system, by default, sets the total refund/write off amount to the account balance. You cannot edit the refund/write off amount. Even, the post processing algorithms cannot update the refund/write off amount in the refund/write off request.

Note: The **Bills** and **Payments and Adjustments** tabs do not appear in the **Refund Request** and **Write Off Request** screens when the refund/write off request is created at the account level.

Before creating the refund/write off request at the account level, you need to do the following:

- Attach the **C1-NTACBAL** algorithm to the **Netting Account Balance** system event in the **Algorithms** tab of the **Installation Options – Framework** screen
- Set the netting contract type on the respective refund/write off request type

The system invokes the **C1-NTACBAL** algorithm while processing the refund/write off request where the adjustment level is set to **Account**. The **C1-NTACBAL** algorithm creates transfer adjustments on the netting contract of the account. The transfer adjustment creation process slightly varies depending on the adjustment level that is selected while defining a refund/write off request.

If the adjustment level is set to **Account**, the system checks whether a netting contract created using the netting contract type (specified in the refund/write off request type) exists for the account. If so, the system considers the unmatched financial transactions of the account and then creates a transfer adjustment against each of them on the netting contract. However, if the netting contract does not exist for the account, then the system does the following:

1. Creates a netting contract using the netting contract type specified in the refund/write off request type
2. Considers the unmatched financial transactions of the account and then creates a transfer adjustment against each of them on the netting contract

You can opt to exclude unmatched financial transactions of contracts created using a particular contract type by setting the **Excluded Contract types for netting** option type of the **C1_CMO** feature configuration. You can exclude multiple contract types by defining the **Excluded Contract types for netting** option type multiple times (with unique sequence number) in the feature configuration. This option type is considered when the adjustment level is set to **Account**.

On submitting or approving a refund/write off request at the account level, the system validates whether the refund/write off amount matches the current account balance. If the refund/write off amount does not match the current account balance, the system does not allow you to process the refund/write off request. However, if the refund/write off amount matches the current account balance, the system creates the transfer adjustments and refund/write off adjustment on the netting contract of the account.

On voiding a refund request where the adjustment level is set to **Account**, the system cancels the transfer adjustments and refund adjustment on the netting contract of the account. And, on canceling a write off request where the adjustment level is set to **Account**, the system cancels the transfer adjustments and write off adjustment on the netting contract of the account.

To implement this feature, the following objects are newly introduced in this release:

Object Type	Object Name
Lookup	ADJ_LVL_FLG
Algorithm Type	C1-NTACBAL

In addition, the following objects are modified in this release:

Object Type	Object Name
Lookup	INS_ALG_ENTITY_FLG
Algorithm Type	C1-REFADJCRI, C1-WOAJCRT, C1-REFVOID, C1-WOCANCEL, C1-REFUNDSUB, C1-WOSUBMIT, C1-REFAPPRVD, C1-WOAPPROVD, C1-WODRAFT, C1-REF-DFT, C1-REFWOPOSP, C1-WOPOSP
Feature Configuration	C1_CMO

New Features (Specific to Financial Services)

This section describes the following new features added in this release which can be used in the financial services domain:

- [Different GL Accounting Currency](#)
- [Refund/Write Off Adjustment at Bill Level](#)
- [Deal Discard through Inbound Web Service](#)
- [Price Item and Hierarchy Entity Selection in a Deal Based on Characteristic Value](#)
- [Terms and Conditions Selection in a Deal Based on Characteristic Value](#)
- [Terms and Conditions Grouping in a Deal Based on Characteristic Value](#)
- [Overriding Terms and Conditions in a Deal](#)
- [Refreshing Terms and Conditions in a Deal](#)
- [Invoice Extract in UBL Format](#)

Different GL Accounting Currency

Until now, the system allowed you to create additional FT GL entries for a financial transaction in the **CI_FT_GL_EXT** table when the financial transaction currency was different from the division's base currency. The system enabled you to create additional FT GL entries for a financial transaction in either of the following two ways:

- While freezing a financial transaction from the user interface
- While assigning a GL account to a financial transaction through the **Assign GL Account to Financial Transaction (C1-GLASN)** or **Assign GL Account to Financial Transaction (GLASSGN2)** batch

There might be scenarios wherein an organization might want to create additional FT GL entries in the GL's reporting currency which is different from the division's base currency. Oracle Revenue Management and Billing enables you to define local currency for a division. A new field named **Local Currency** is added in the **Main** tab of the **Division** screen. You must specify the local currency only when it is different from division's base currency. It is not a mandatory field. You can also add the division's local currency in the **Invoice Currencies** tab and define its rounding method for accurate calculations. A new field named **Enable Local Currency** is available while defining a distribution code. It provides the ability to enable the FT GL entry creation in the local currency for the required GL account.

Now, while creating additional FT GL entries for a financial transaction, the system checks whether the financial transaction currency is different from the division's base currency or division's local currency (if specified). If the financial transaction currency is different from the division's base currency and if the local currency is not defined for the division or if the financial transaction currency is same as the division's local currency, the system creates additional FT GL entries for the financial transaction in the division's base currency. If the financial transaction currency is same as the division's base currency but if the financial transaction currency is different from the division's local currency, the system checks whether the **Enable Local Currency** option is selected in the respective distribution code.

If the **Enable Local Currency** option is selected in the respective distribution code, the system creates additional FT GL entries for the financial transaction in the division's local currency. However, if the **Enable Local Currency** option is not selected in the respective distribution code, the system does not create additional FT GL entries for the financial transaction in the **CI_FT_GL_EXT** table.

If the financial transaction currency is different from the division's base currency and division's local currency, the system checks whether the **Enable Local Currency** option is selected in the respective distribution code. If the **Enable Local Currency** option is selected in the respective distribution code, the system creates additional FT GL entries for the financial transaction in the division's base and local currencies. However, if the **Enable Local Currency** option is not selected in the respective distribution code, the system creates additional FT GL entries for the financial transaction in the division's base currency.

However, if the financial transaction currency is same as the division's base currency and if the local currency is not defined for the division or if the financial transaction currency is same as the division's local currency, the system does not create additional FT GL entries for the financial transaction in the **CI_FT_GL_EXT** table.

Earlier, you were able to view the financial transaction amount in the division's base currency in the **Financial Transaction** screen whenever additional FT GL entry was created for the financial transaction in the **CI_FT_GL_EXT** table. Now, depending on whether additional FT GL entry is created for the financial transaction in the division's base currency or division's local currency, you can view the financial transaction amount in the division's base currency or division's local currency, respectively, in the **Financial Transaction** screen.

To implement this feature, the following algorithm types are enhanced:

- FTFREZGLEXTN
- C1-GLCE

Now, these algorithm types provide the ability to create additional FT GL entries for a financial transaction in the GL's reporting currency (i.e. division's local currency).

Refund/Write Off Adjustment at Bill Level

Until now, you were able to create the refund/write off request for a bill or bill line item (i.e. bill segment or adjustment) of an account. On processing the refund/write off request, the system used to create refund/write off adjustment against the bill line item irrespective of whether the refund/write off is done at the bill or bill line item level. There was a requirement wherein the system should allow to create the refund/write off adjustment against the bill and not against the bill line items when the refund/write off is done at the bill level.

Now, Oracle Revenue Management and Billing enables you to create a refund/write off adjustment at the bill level. A new field named **Adjustment Level** is available while defining a refund/write off request. It allows you to control how the refund/write off adjustment should be created for the refund/write off request. It supports the following values:

- **Account** – Used when you want to create the refund/write off request at the account level. Here, the refund/write off adjustment is created against the netting contract of the account.
- **Bill** - Used when you want to create the refund/write off request for a bill. Here, the refund/write off adjustment is created against the netting contract of the account. This option is only applicable for the financial services domain.
- **Segment** - Used when you want to create the refund/write off request for a bill, bill segment, adjustment, or payment of an account. Here, the refund/write off adjustment is created against the bill segment, adjustment, or payment segment, respectively. If you select this option, the system behaves in the traditional manner.

If you do not specify the value for the **Adjustment Level** field, the system considers the value defined in the **Default Adjustment Level** option type of the **C1_REFWO** feature configuration. If you select the **Bill** option from the **Adjustment Level** list, the system checks the account balance while creating the refund/write off request. If the account balance is zero, the system throws an appropriate error message and does not allow you to create the refund/write off request for the account. However, if the account balance is in credit, the system allows you to create a refund request for the account. Similarly, if the account balance is in debit, the system allows you to create a write off request for the account.

Note: The **Payments and Adjustments** tab does not appear in the **Refund Request** screen when the adjustment level is set to **Bill** in the refund request.

Before creating the refund/write off request where the adjustment level is set to **Bill**, you need to do the following:

- Attach the **C1-NTACBAL** algorithm to the **Netting Account Balance** system event in the **Algorithms** tab of the **Installation Options – Framework** screen
- Set the netting contract type on the respective refund/write off request type

The system invokes the **C1-NTACBAL** algorithm while processing the refund/write off request where the adjustment level is set to **Bill**. The **C1-NTACBAL** algorithm creates transfer adjustments on the netting contract of the account. The transfer adjustment creation process slightly varies depending on the adjustment level that is selected while defining a refund/write off request.

If the adjustment level is set to **Bill**, then the system checks whether a netting contract created using the netting contract type (specified in the refund/write off request type) exists for the account and its contract balance is equal to zero. If both the conditions are met, the system considers the unpaid bill segments and adjustments of the bill and then creates a transfer adjustment against each of them on the netting contract. However, if the netting contract does not exist for the account, then the system does the following:

1. Creates a netting contract using the netting contract type specified in the refund/write off request type
2. Considers the unpaid bill segments and adjustments of the bill and then creates a transfer adjustment against each of them on the netting contract

And, if the netting contract exists for the account, but its contract balance is not equal to zero, the system throws an appropriate error message on the user interface.

You can opt to exclude unpaid bill segments and adjustments of contracts created using a particular contract type by setting the **Excluded Contract types for netting** option type of the **C1_CMO** feature configuration. You can exclude multiple contract types by defining the **Excluded Contract types for netting** option type multiple times (with unique sequence number) in the feature configuration. This option type is considered when the adjustment level is set to **Bill**.

On voiding a refund request where the adjustment level is set to **Bill**, the system cancels the transfer adjustments and refund adjustment on the netting contract of the account. And, on canceling a write off request where the adjustment level is set to **Bill**, the system cancels the transfer adjustments and write off adjustment on the netting contract of the account.

To implement this feature, the following objects are newly introduced in this release:

Object Type	Object Name
Lookup	ADJ_LVL_FLG
Algorithm Type	C1-NTACBAL

In addition, the following objects are modified in this release:

Object Type	Object Name
Lookup	INS_ALG_ENTITY_FLG
Algorithm Type	C1-REFADJCRI, C1-WOAJCRT, C1-REFVOID, C1-WOCANCEL, C1-RF-PROC, C1-WO-PROC

Deal Discard through Inbound Web Service

Oracle Revenue Management and Billing enables you to discard a deal and its versions through a web service. You can send a request to discard only one deal at a time. The **C1-DealCreationUpdateIWS** business service is enhanced to provide the ability to discard a deal. While discarding a deal, you need to:

- Specify the deal version ID or deal ID or deal identifier to determine the deal that you want to discard
- Set the action flag to **UPD** and the operation flag to **DSCR**

On processing the request, the deal is discarded. The status of the deal and its deal versions is changed to **DSCR**. The system does not allow you to discard a deal which is in the **Fully Orchestrated**, **Rejected**, **Finalized**, **Customer Accepted**, or **Partially Orchestrated** status. In addition, only the relationship manager of a deal can discard a deal through a web service.

Price Item and Hierarchy Entity Selection in a Deal Based on Characteristic Value

Earlier, the system, by default, selected the price items and hierarchy entities in the **Price Item Group Selection** screen when the following conditions were met:

- Deal was created for an existing customer or account

- Default commitments were not defined in the respective deal type

However, if the deal was created for a proposed customer or if the default commitments were defined in the respective deal type, the system did not select the price items and hierarchy entities, by default, in the **Price Item Group Selection** screen. You had to manually select the required price items and hierarchy entities in the **Price Item Group Selection** screen. Only then, the system considered the pricing and commitments of the selected price items in the deal.

Now, the system provides an alternative solution wherein the price items and hierarchy entities are automatically selected based on their characteristic in the **Price Item Group Selection** screen. Two new algorithm spots named **Price Item Group List Filter** and **Price Item Selection Validation** are available while defining a deal type. A new algorithm type named **C1-DPIG-ELIG** is introduced in this release. This algorithm checks whether the characteristic type specified in the parameter is defined on each price item and hierarchy entity. A new characteristic type named **C1_SEL_T** is shipped with the product. It has three predefined values – **Standard**, **Mandatory**, and **Optional**. On accessing the **Price Item Group Selection** screen of an entity for the first time in a deal, the system checks whether the **C1-DPIG-ELIG** algorithm is attached to the **Price Item Group List Filter** system event in the respective deal type.

If the **C1-DPIG-ELIG** algorithm is not attached to the **Price Item Group List Filter** system event in the respective deal type, the system behaves in the traditional manner. However, if the **C1-DPIG-ELIG** algorithm is attached to the **Price Item Group List Filter** system event in the respective deal type, the system checks whether the characteristic type specified in the **C1-DPIG-ELIG** algorithm is defined for each price item and hierarchy entity. If so, the system behavior for each price item and hierarchy entity varies depending on the value defined for the **C1_SEL_T** characteristic type on the respective price item and hierarchy entity. The following table explains the significance of each predefined characteristic value:

Characteristic Value	System Behavior
Standard	If the characteristic value is set to Standard , the system, by default, selects the check box corresponding to the price item or hierarchy entity in the Price Item Group Selection screen. The check box is editable. If the C1_SEL_T characteristic of a parent entity in the price item hierarchy is set to Standard , the system checks the C1_SEL_T characteristic of each child entity in the respective hierarchy and behaves based on the value defined for the C1_SEL_T characteristic type on the respective child entity.
Mandatory	If the characteristic value is set to Mandatory , the system, by default, selects the check box corresponding to the price item or hierarchy entity in the Price Item Group Selection screen. The check box is non-editable. If the C1_SEL_T characteristic of a parent entity in the price item hierarchy is set to Mandatory , the system checks the C1_SEL_T characteristic of each child entity in the respective hierarchy and behaves based on the value defined for the C1_SEL_T characteristic type on the respective child entity.

Characteristic Value	System Behavior
Optional	If the characteristic value is set to Optional , the system, by default, does not select the check box corresponding to the price item or hierarchy entity in the Price Item Group Selection screen. The check box is editable. If the C1_SEL_T characteristic of a parent entity in the price item hierarchy is set to Optional , the system does not check the C1_SEL_T characteristic of each child entity in the respective hierarchy and considers all the child and grandchild entities as optional.

The following table explains the above scenarios with the help of an example.

Level 1	Level 2	Level 3	Characteristic Value	Check Box Selected (Y or N)	Check Box Disabled (Y or N)
PG1	-	-	Standard	Y	N
	PG2	-	Mandatory	Y	Y
		PI1	Mandatory	Y	Y
		PI2	Optional	N	N
	PI3	-	Standard	Y	N
	PI4	-	Optional	N	N
	PG3	-	Optional	N	N
		PI5	Mandatory	Y	Y
		PI6	Standard	Y	N

If a user deselects a price item or hierarchy entity, the system deselects all the child entities including the mandatory entity (if any) in the respective hierarchy. However, if a user selects a price item (for example, PI1 in the above example which was deselected earlier), the system does the following:

- Checks the **C1_SEL_T** characteristic of other siblings (i.e. PI2) in the hierarchy and behaves based on the value defined for the **C1_SEL_T** characteristic type on the respective sibling entity.
- Selects the check box corresponding to the immediate parent and its grandparent hierarchy entities (i.e. PG2 and PG1) in the price item hierarchy
- Checks the **C1_SEL_T** characteristic of the child entities in the parent and grandparent hierarchies (i.e. PI3, PI4, PG3) and behaves based on the value defined for the **C1_SEL_T** characteristic type on the respective child entity.

However, if a user selects a hierarchy entity (i.e. PG2), the system does the following:

- Checks the **C1_SEL_T** characteristic of the child entities (i.e. PI1 and PI2) in the respective hierarchy and behaves based on the value defined for the **C1_SEL_T** characteristic type on the respective child entity.
- Selects the check box corresponding to the immediate parent and its grandparent hierarchy entities (i.e. PG1) in the price item hierarchy

- Checks the **C1_SEL_T** characteristic of the child entities in the parent and grandparent hierarchies (i.e. PI3, PI4, PG3) and behaves based on the value defined for the **C1_SEL_T** characteristic type on the respective child entity.

You can opt to validate the selection (if required) by designing a custom logic and then attaching the algorithm to the **Price Item Selection Validation** system event of the respective deal type. On clicking the **Save & View Pricing & Commitment** button, the system will invoke the algorithm attached to the **Price Item Selection Validation** system event and accordingly validate the price item and hierarchy entity selection of an entity in the deal.

Earlier, while using the search filter in the **Price Item Group Selection** screen, the system used to extract only those price items and hierarchy entities which met the search criteria. Now, the system highlights the price item hierarchies in the entire set with either the green or grey color. Two shades of grey are used – one highlights the entire price item hierarchy where none of price items or hierarchy entities meet the search criteria, and another highlights the price item hierarchy where one or more price items or hierarchy entities but not all meets the search criteria. The system highlights the price item hierarchy with the green color when all its price items or hierarchy entities meet the search criteria. Two new icons named **Up** and **Down** are available in the **Search Criteria** section which enable you to quickly jump from one search result to another (highlighted in the green color).

Now, on clicking the **Select All** button in the **Price Item Group Selection** screen, the system selects all the hierarchy entities and price items irrespective of the **C1_SEL_T** characteristic value. However, on clicking the **Deselect All** button in the **Price Item Group Selection** screen, the system deselects all the hierarchy entities and price items except the ones where the **C1_SEL_T** characteristic value is set to **Mandatory**.

Terms and Conditions Selection in a Deal Based on Characteristic Value

Earlier, the system, by default, did not select the deal, price item, or hierarchy entity level terms and conditions while creating a deal. You had to manually select the required terms and conditions for the deal, price items, and hierarchy entities.

Now, the system provides an alternative solution wherein the terms and conditions at the deal, price item, and hierarchy entity levels are automatically selected based on their characteristic in the **Terms and Conditions** screen. Two new algorithm spots named **Terms and Conditions Filter** and **Terms and Conditions Selection Validation** are available while defining a deal type. A new algorithm type named **C1-DEAL-TCFL** is introduced in this release. This algorithm checks whether the selection characteristic type specified in the parameter is defined on the deal, price item and hierarchy entity level terms and conditions. A new characteristic type named **C1_SEL_T** is shipped with the product. It has three predefined values – **Standard**, **Mandatory**, and **Optional**. While creating a deal, the system checks whether the **C1-DEAL-TCFL** algorithm is attached to the **Terms and Conditions Filter** system event in the respective deal type. If the **C1-DEAL-TCFL** algorithm is not attached to the **Terms and Conditions Filter** system event in the respective deal type, the system behaves in the traditional manner.

However, if the **C1-DEAL-TCFL** algorithm is attached to the **Terms and Conditions Filter** system event in the respective deal type, the system checks whether the selection characteristic type specified in the **C1-DEAL-TCFL** algorithm is defined for the deal, price item, and hierarchy entity level terms and conditions. If so, the system behavior for each terms and conditions varies depending on the value defined for the **C1_SEL_T** characteristic type on the respective terms and conditions. The following table explains the significance of each predefined characteristic value:

Characteristic Value	System Behavior
Standard	If the characteristic value is set to Standard , the system, by default, selects the check box corresponding to the deal, price item, or hierarchy entity level terms and conditions in the Terms and Conditions screen. The check box is editable.
Mandatory	If the characteristic value is set to Mandatory , the system, by default, selects the check box corresponding to the deal, price item, or hierarchy entity level terms and conditions in the Terms and Conditions screen. The check box is non-editable.
Optional	If the characteristic value is set to Optional , the system, by default, does not select the check box corresponding to the deal, price item, or hierarchy entity level terms and conditions in the Terms and Conditions screen. The check box is editable.

The following table explains the above scenarios with the help of an example.

Level	Terms and Conditions	Characteristic Value	Check Box Selected (Y or N)	Check Box Disabled (Y or N)
Deal	T1	Standard	Y	N
Deal	T2	Mandatory	Y	Y
Deal	T3	Optional	N	N
Price Item	T4	Standard	Y	N
Price Item	T5	Mandatory	Y	Y
Price Item	T6	Optional	N	N
Hierarchy Entity	T7	Standard	Y	N
Hierarchy Entity	T8	Mandatory	Y	Y
Hierarchy Entity	T9	Optional	N	N

If required, you can anytime deselect or select any standard or optional terms and conditions at the deal, price item, or hierarchy entity level. If the selection characteristic type is not specified in the **C1-DEAL-TCFL** algorithm or if the selection characteristic type is not defined for the terms and conditions, the system considers the terms and conditions as optional at the respective level.

You can opt to validate the selection (if required) by designing a custom logic and then attaching the algorithm to the **Terms and Conditions Selection Validation** system event of the respective deal type. On clicking the **Save** button, the system will invoke the algorithm attached to the **Terms and Conditions Selection Validation** system event and accordingly validate the terms and conditions selection at the deal, price item, or hierarchy entity level. Now, on clicking the **Select All** button in the **Terms and Conditions** screen, the system selects all the terms and conditions at the respective level irrespective of the **C1_SEL_T** characteristic value. However, on clicking the **Deselect All** button in the **Terms and Conditions** screen, the system deselects all the terms and conditions at the respective level except the ones where the **C1_SEL_T** characteristic value is set to **Mandatory**.

Terms and Conditions Grouping in a Deal Based on Characteristic Value

Oracle Revenue Management and Billing provides the ability to automatically group the terms and conditions at the deal, price item, and hierarchy entity levels based on their characteristic in the **Terms and Conditions** screen. Two new algorithm spots named **Terms and Conditions Filter** and **Terms and Conditions Selection Validation** are available while defining a deal type. A new algorithm type named **C1-DEAL-TCFL** is introduced in this release. This algorithm checks whether the grouping characteristic type specified in the parameter is defined on the deal, price item and hierarchy entity level terms and conditions. You need to create a characteristic type for terms and conditions grouping and define the group names as its predefined characteristic values.

While creating a deal, the system checks whether the **C1-DEAL-TCFL** algorithm is attached to the **Terms and Conditions Filter** system event in the respective deal type. If the **C1-DEAL-TCFL** algorithm is attached to the **Terms and Conditions Filter** system event in the respective deal type, the system checks whether the grouping characteristic type specified in the **C1-DEAL-TCFL** algorithm is defined for the deal, price item, and hierarchy entity level terms and conditions. If so, the system logically groups the terms and conditions at the deal, price item, and hierarchy entity levels based on the group name (i.e. based on the value defined for the grouping characteristic type). If the **C1-DEAL-TCFL** algorithm is not attached to the **Terms and Conditions Filter** system event in the respective deal type or if the grouping characteristic type is not specified in the **C1-DEAL-TCFL** algorithm, or if the grouping characteristic is not defined for a terms and conditions, the system does not group the terms and conditions under any head.

The following table explains the grouping logic with the help of an example.

Level	Terms and Conditions	Characteristic Value
Deal	T1	G1
Deal	T2	G2
Deal	T3	G1
Deal	T10	-
Deal	T11	-
Price Item	T4	G3

Level	Terms and Conditions	Characteristic Value
Price Item	T5	G3
Price Item	T6	G3
Hierarchy Entity	T7	G4
Hierarchy Entity	T8	G4
Hierarchy Entity	T9	G4

In the above example, the system will group T1 and T3 under G1 and T2 under G2 at the deal level. Note that the system will not group T10 and T11 under any head at the deal level. Similarly, the system will group T4, T5, and T6 under G3 at the price item level and T7, T8, and T9 under G4 at the hierarchy entity level.

Overriding Terms and Conditions in a Deal

Oracle Revenue Management and Billing enables you to override the default terms and conditions at the deal, price item, and hierarchy entity levels and add specific information related to the deal. The system maintains the edited version of terms and conditions separately from the default version for each deal. You can view both the default and edited versions of the terms and conditions in the **Terms and Conditions** (Used for Editing in Deal) screen. On subsequent edits, the system overrides the edited version of the terms and conditions. The system highlights the edited and non-edited versions of the terms and conditions with different color scheme.

Refreshing Terms and Conditions in a Deal

Oracle Revenue Management and Billing enables you to refresh the terms and conditions at the deal, price item, and hierarchy entity levels. On refreshing the terms and conditions, the system updates the terms and conditions based on their selection and grouping characteristics. Note that while refreshing the terms and conditions, the system loses the manual selection and deselection of terms and conditions and edited version of the terms and conditions. The adhoc terms and conditions are retained while refreshing the terms and conditions at the deal, price item, and hierarchy entity levels.

Invoice Extract in UBL Format

Oracle Revenue Management and Billing provides the capability to extract the invoices in the Universal Business Language (UBL) format. UBL is a structured XML format which contains all the information but in a defined and fixed structure. The invoice extract in UBL format simplifies the process of sending and receiving invoices internationally through an electronic standard to different e-invoicing systems, thereby reducing the data entry cost and manual data entry errors.

A new algorithm type named **C1-UBLBILEX** is introduced in this release. If you want to extract the invoice in the UBL 2.1 format, you need to attach the **C1-UBLBILEX** algorithm to the **Bill Extract Method** algorithm spot of the required bill route type. In this algorithm, you need to specify the extract template using which you want to extract the invoice data in the UBL format. An out-of-box invoice extract template named **C1-UBLINVOICEEXTRACT** is shipped with the product. You can specify either the out-of-box invoice extract template or a custom invoice extract template in the algorithm parameter. This algorithm will accordingly extract the invoice data using the **C1-InvoiceChargeExtract** business service and present it as per the field mapping defined in the invoice extract template.

On executing the **POSTROUT** batch, the system will invoke the **C1-UBLBILEX** algorithm and extract the invoice data in the UBL format.

New Features (Specific to Insurance)

This section describes the following new features added in this release which can be used in the health insurance domain:

- [Refund/Write Off Business Rules](#)
- [Automatic Refund/Write Off Creation](#)
- [FOP Reports](#)

Refund/Write Off Business Rules

Oracle Revenue Management and Billing enables you to define business rules for automatic refund and write off creation. A new category named **Refund/Write Off Business Rule** is introduced in this release. The refund/write off business rules are used for creating automatic refund and write off requests for accounts when the fully-insured group policy or individual membership is terminated.

While terminating a fully-insured group policy or individual membership, the system derives the refund/write off business rule for the fully-insured group policy or individual membership. While deriving the refund/write off business rule for a fully-insured group policy or individual membership, the system considers the business rules which are effective on the termination date. Once the effective business rules are identified, the system executes these business rules in the order of their priority. Once the criteria of the business rule are met, the business rule is stamped against the fully-insured group policy or individual membership. If two or more business rules have the same priority, the system sorts the business rules for execution based the business rule criteria sequence.

While defining the refund/write off business rule criteria, you can use the parameters which are defined on the following entities:

- Individual Membership
- Member Person of Individual Membership
- Health Plan
- Health Product
- Policy
- Account

You can define, edit, and delete a refund/write off business rule through the **Business Rule** screen. While defining a refund/write off business rule, you need to set its category to **Refund/Write Off Business Rule**. The refund/write off business rule enables you to define the following parameters:

- **Refund Threshold Amount** – Used to specify the threshold amount for refund. If the account balance is greater than or equal to the refund threshold amount, the system creates automatic refund for an account.
- **Defer Refund (in Days)** – Used to specify the number of days till when you want to defer the automatic refund for an account. It is used while calculating the automatic refund request creation date.

- **Write Off Threshold Amount** - Used to specify the threshold amount for write off. If the account balance is less than or equal to the write off threshold amount, the system creates automatic write off for an account.
- **Defer Write Off (in Days)** - Used to specify the number of days till when you want to defer the automatic write off for an account. It is used while calculating the automatic write off request creation date.

You can view the refund/write off business rules through the **Business Rule** screen.

Automatic Refund/Write Off Creation

Oracle Revenue Management and Billing enables you to create an automatic refund/write off instruction for an account when a fully-insured group policy or individual membership is terminated. On terminating a fully-insured group policy or individual membership, the system derives the refund/write off business rule for the fully-insured group policy or individual membership and stamps it against the policy or membership ID in the **C1_ENT_BUS_RULE** table.

If the fully-insured group policy is defined for a parent customer, the system derives all accounts of the parent customer and its bill groups and then creates an automatic refund/write off instruction for each account of the parent customer and its bill groups. However, if the fully-insured group policy is defined for a bill group, the system derives all accounts of the bill group and then creates an automatic refund/write off instruction for each account of the bill group. While deriving the parent customer and bill group of the fully-insured group policy, the system considers the **Parent Person Type** and **Bill Group Person Type** option types of the **C1-PERSTYPE** feature configuration. However, in case of individual membership, the system derives all accounts of the financially responsible person and then creates an automatic refund/write off instruction for each account of the financially responsible person.

Points to Note:

The system does not create a new automatic refund/write off instruction for an account when an automatic refund/write off instruction already exists for the account in the **Pending, Valid, Error, or Pending Completion** status.

If you want to create automatic refund/write off instruction for an account on terminating a fully-insured group policy, you need to ensure that the **C1-POTR-INS** algorithm is attached to the **Terminated** status of the **C1-POLICY** business object.

If you want to create automatic refund/write off instruction for an account on terminating an individual membership, you need to ensure that the **C1-IMTR-INS** algorithm is attached to the **Terminated** status of the **C1-IndMembership** business object.

The system calculates the wait date using the wait days specified in the **C1-POTR-INS** or **C1-IMTR-INS** algorithm, respectively. In case of a fully-insured group policy, the wait days is added to the policy end date to derive the wait date. However, in case of an individual membership, the wait days is added to the membership end date to derive the wait date. The wait date is later used to calculate the automatic refund/write off request creation date. A new screen named **Refund/Write off Instruction** is introduced in this release. It enables you to view the automatic refund/write off instructions of an account which are created on terminating a fully-insured group policy or individual membership. On creating an automatic refund/write off instruction, the status of the automatic refund/write off instruction is set to **Pending**. The following two batches are introduced in this release:

- **C1-RFWO1** – This batch is used to check whether there are any automatic refund/write off instructions in the **Pending** status. If there is an automatic refund/write off instruction in the **Pending** status, the system derives the business rule stamped against the fully-insured group policy or individual membership for which the automatic refund/write off instruction is created. If the business rule is not found for the fully-insured group policy or individual membership in the **C1_ENT_BUS_RULE** table, the system changes the status of the automatic refund/write off instruction to **Invalid**. In addition, the automatic refund/write off instruction reason is set to **INBR** (Business Rule Could not be Derived). However, if the business rule is found for the fully-insured group policy or individual membership in the **C1_ENT_BUS_RULE** table, the system derives the account balance. If the account balance is zero, the system changes the status of the automatic refund/write off instruction to **Invalid**. In addition, the automatic refund/write off instruction reason is set to **INZR** (Account Balance Is Zero).

If the account balance is greater than zero but less than the refund threshold amount, the system changes the status of the automatic refund instruction to **Invalid**. In addition, the automatic refund instruction reason is set to **INTH** (Account Balance Doesn't Meet Threshold Limit). However, if the account balance is greater than zero and greater than or equal to the refund threshold amount, the system does the following:

- Changes the status of the automatic refund instruction to **Valid**.
- Derives the refund request type from the automatic refund/write off field mapping which is specified in the **C1_REFWO** feature configuration.
- Calculates the automatic refund request creation date using the wait date (calculated earlier using the wait days) and defer refund days specified in the business rule.

If the account balance is less than zero but greater than the write off threshold amount, the system changes the status of the automatic write off instruction to **Invalid**. In addition, the automatic write off instruction reason is set to **INTH** (Account Balance Doesn't Meet Threshold Limit). However, if the account balance is less than zero and less than or equal to the write off threshold amount, the system does the following:

- Changes the status of the automatic write off instruction to **Valid**.
- Derives the write off request type from the automatic refund/write off field mapping which is specified in the **C1_REFWO** feature configuration.
- Calculates the automatic write off request creation date using the wait date (calculated earlier using the wait days) and defer write off days specified in the business rule.

Note: If the system is used for both the fully-insured group and fully-insured individual line of business, you need to define two separate field mappings of the **Automatic Refund/Write-Off** preference category – one for each line of business (i.e. fully-insured group business and fully-insured individual business). Once you define the field mapping for each line of business, you need to set them against the **Field Mapping Preference for Individual Membership** and **Field Mapping Preference for Policy (Small Group)** option types, respectively, in the **C1_REFWO** feature configuration.

If the netting contract type is not specified in the refund/write off request type, the system changes the status of the automatic refund/write off instruction to **Invalid**. In addition, the automatic refund/write off instruction reason is set to **NCTM** (Netting Contract Type Missing).

- **C1-RFWO2** – This batch is used to check whether there are any automatic refund/write off instructions in the **Valid**, **Pending Completion**, or **Error** status. If there is an automatic refund/write off instruction in the **Valid** or **Error** status and if the refund/write off request creation date in the automatic refund/write off instruction is earlier than or equal to the batch business date, the system verifies the account balance. Note that the automatic refund/write off instruction in the **Error** status are considered only when the **Select records in Error (Y/ N)** parameter in the batch is set to **Y**. If the current account balance does not match the account balance retrieved in the **C1-RFWO1** batch, the system cancels the automatic refund/write off instruction. The status of the automatic refund/write off instruction is changed to **Canceled** and the automatic refund/write off instruction reason is set to the reason code which is specified in the **Instruction Cancel Reason on Account Balance Change** attribute of the automatic refund/write off field mapping.

If the current account balance matches the account balance retrieved in the **C1-RFWO1** batch, the system creates the refund/write off request using the refund/write off request type (which is specified in the automatic refund/write off field mapping). While creating the refund/write off request, the adjustment level is set to **Account**. If the approval process is not configured on the refund/write off request type, the refund/write off request is created and processed immediately. On processing a refund/write off request, the system does the following:

- Creates transfer adjustments against the unmatched financial transactions of the account on the netting contract
- Creates one refund/write off adjustment against the netting contract
- Changes the status of the refund/write off request to **Processed**
- Changes the status of the automatic refund/write off instruction to **Completed**

If the approval process is configured on the refund/write off request type, the refund/write off request is created in the **Approval in Progress** status. The status of the automatic refund/write off instruction is then changed to **Pending Completion**.

Note: An approver can approve or reject the refund/write off request from the user interface. If the approver approves the refund/write off request, the system creates transfer adjustments against the unmatched financial transactions of the account on the netting contract and creates one refund/write off adjustment against the netting contract. Finally, the status of the refund/write off request is changed to **Processed**. However, if the approver rejects the refund/write off request, the system sets the automatic refund/write off instruction reason to the reason code which is specified in the **Instruction Cancel Reason on Rejecting Request** attribute of the automatic refund/write off field mapping.

In addition, if the refund process is on hold for the account, the refund request is created in the **Hold** status. The status of the automatic refund instruction is then changed to **Pending Completion**.

If an error occurs while creating a refund/write off request, the system does the following:

- Changes the status of the automatic refund/write off instruction to **Error**
- Sets the automatic refund/write off instruction reason to the reason code which is specified in the **Error Code on Processing Refund/Write Off Request** attribute of the automatic refund/write off field mapping.
- Creates a To Do using the **C1-ATRFWO** To Do type for the automatic refund/write off instruction

If there is an automatic refund/write off instruction in the **Pending Completion** status and if the refund/write off request creation date in the automatic refund/write off instruction is earlier than or equal to the batch business date, the system checks whether the status of the corresponding refund/write off request is **Processed**. If so, the system changes the status of the automatic refund/write off instruction to **Completed**.

On voiding a refund request created through an automatic refund instruction, the system cancels the transfer adjustments and refund adjustment on the netting contract of the account. And, on canceling a write off request created through an automatic write off instruction, the system cancels the transfer adjustments and write off adjustment on the netting contract of the account.

If a terminated fully-insured group policy or individual membership is reinstated, the system checks whether an automatic refund/write off instruction exists for the policy or membership. If an automatic refund/write off instruction exists for the policy or membership, the system behaves in the following manner:

Refund/Write Off Request Exists (Y or N)	Automatic Refund/Write Off Instruction Status	System Behavior
N	Pending or Valid	<p>The system does the following:</p> <ul style="list-style-type: none"> • Changes the status of the automatic refund/write off instruction to Canceled • Sets the automatic refund/write off instruction reason to the reason code which is specified in the Instruction Cancel Reason on Reinstatement attribute of the automatic refund/write off field mapping.
Y	Pending Completion	<p>The system does the following:</p> <ul style="list-style-type: none"> • Changes the status of the automatic refund/write off instruction to Canceled • Sets the automatic refund/write off instruction reason to the reason code which is specified in the Instruction Cancel Reason on Reinstatement attribute of the automatic refund/write off field mapping. • If the refund/write off request is in the Processed or Approval in Progress status, then <ul style="list-style-type: none"> ○ The appropriate log entry is added to the refund/write off request. ○ The status of the refund/write off request is changed to Rejected. ○ The automatic refund/write off instruction reason is set to the reason code which is specified in the Refund Request Reject Reason on Reinstatement or Write Off Request Reject Reason on Reinstatement attribute of the automatic refund/write off field mapping, respectively. • If the refund request is in the Hold status, then

Refund/Write Off Request Exists (Y or N)	Automatic Refund/Write Off Instruction Status	System Behavior
		<ul style="list-style-type: none"> ○ The appropriate log entry is added to the refund request. ○ The status of the refund request is changed to Voided. ○ The automatic refund instruction reason is set to the reason code which is specified in the Void Status Reason for Refund Request on Reinstatement attribute of the automatic refund/write off field mapping.
Y	Completed	<p>The system does the following:</p> <ul style="list-style-type: none"> ● If the write off request is in the Processed status, then <ul style="list-style-type: none"> ○ The appropriate log entry is added to the write off request. ○ The status of the write off request is changed to Canceled. ○ The status of the automatic write off instruction is changed to Canceled ○ The automatic write off instruction reason is set to the reason code which is specified in the Instruction Cancel Reason on Reinstatement attribute of the automatic refund/write off field mapping. ● If the refund request is in the Processed status, then no action is taken against the refund request and automatic refund instruction.

To implement this feature, the following objects are newly introduced in this release:

Object Type	Object Name
Lookup	REF_WO_INST_STAT_FLG, REFWO_INST_RSN_CD_FLG, INST_ENT_TYPE_FLG, REWO_OPT_TYP_FLG, ADJ_LVL_FLG
Feature Configuration	C1_REFWO
Algorithm Types	C1-POTR-INS, C1-IMTR-INS, C1-REJREQ, C1-PORI-INS, C1-IMRI-INS

In addition, the following objects are modified in this release:

Object Type	Object Name
Lookup	BUS_RULE_CAT_FLG, BUS_RULE_ENT_TYPE_FLG, FIELD_CAT_FLG, FIELD_NAME_FLG, C1CI_OPT_TYP_FLG, EXT_SYS_TYP_FLG, INS_ALG_ENTITY_FLG
Algorithm Type	C1-REFADJCRI, C1-WOAJCRT, C1-REFVOID, C1-WOCANCEL

FOP Reports

Oracle Revenue Management and Billing enables you to extract the response received for automatic payment clearing records from the auto clearing house along with the current payment status through an FOP report. While generating the automatic payment response report, you can specify the following parameters – Search By, Start Date, End Date, Division, Customer Class, Person Name, Person Identifier Type, Person Identifier, Account Identifier Type, Account Identifier, and Automatic Payment Response. The **Search By** filter enables you to extract the automatic payment clearing records either using the following values:

- **AUTOPAY_EXTRACTION_DATE** – If you set the **Search By** parameter to **AUTOPAY_EXTRACTION_DATE**, the system considers the automatic payment clearing records whose extract date falls within the start and end dates.
- **UPLOAD_DATE** - If you set the **Search By** parameter to **UPLOAD_DATE**, the system considers the automatic payment clearing records whose response from the auto clearing house is uploaded within the start and end dates.

The **Search By**, **Start Date**, and **Division** are mandatory. If you do not specify the end date, the system by default sets it to the system date. You can generate the automatic payment response report from the user interface or through a batch process in either PDF or Excel format. We have shipped the following automatic payment response reports in this release:

- **FOPAPAYHBPDF** - Used when you want to generate the automatic payment response report through the **C1-RPTGN** batch in the PDF format.
- **FOPAPAYHBXLS** - Used when you want to generate the automatic payment response report through the **C1-RPTGN** batch in the Excel format.
- **FOPAPAYHOPDF** - Used when you want to generate the automatic payment response report from the user interface in the PDF format.

- **FOPAPAYHOXLS** - Used when you want to generate the automatic payment response report from the user interface in the Excel format.

Enhancements (Generic)

This section lists the enhancements made to the following features which can be used in both financial services and health insurance domains:

- [Financial Transactions](#)
- [Automatic Refund through the APAYCRET Batch](#)
- [Upload Request](#)
- [Transaction Feed Management](#)

Financial Transactions

The following changes are made to the Financial Transactions feature:

- Earlier, while specifying the value for the **Division** parameter in the **Assign GL Account to Financial Transaction (C1-GLASN)**, **GL Download Staging (GLS)**, and **GL Download Extract (GLDL)** batches, you were able to specify only one division at a time. Now, you can specify maximum 20 divisions separated by a comma (,) symbol.

Note: You must specify the same set of parameters (for example, division, bill generation type, and trial billing batch run number) including the batch business date in the **C1-GLASN**, **GLS**, and **GLDL** batches during the batch execution cycle. Otherwise, erroneous results might occur.

Automatic Refund through the APAYCRET Batch

The following changes are made to the automatic refund creation process:

- A new parameter named **Adjustment Level For Credit Bill** is added to the **C1-AREF-CRET** algorithm type. It enables you to indicate whether a refund adjustment should be created at the bill level or at the bill line item level. The valid values are:
 - **BILL** – Used when you want to create a single refund adjustment for a bill.
 - **SEGT** – Used when you want to create refund adjustment for each bill line item.

This parameter is mandatory. If you do not specify the value for the **Adjustment Level For Credit Bill** parameter, the system considers the value defined in the **Default Adjustment Level** option type of the **C1_REFWO** feature configuration. If the value specified in the **Adjustment Level For Credit Bill** parameter is invalid or if the value is not defined for the **Adjustment Level For Credit Bill** parameter and the **Default Adjustment Level** option type, the system throws an appropriate error message.

Upload Request

The following changes are made to the Upload Request feature:

- While creating the refund and write off requests through the Upload Request feature, the system determines whether the refund or write off adjustment should be created at the bill or bill line item level using the **Default Adjustment Level** option type of the **C1_REFWO** feature configuration. If the value is not defined for the **Default Adjustment Level** option type in the **C1_REFWO** feature configuration, the system throws an appropriate error message.

Transaction Feed Management

The following changes are made to the Transaction Feed Management feature:

- The following new parameters are added to the **C1-TXNRB** batch:
 - **Entity Type** – Used to indicate whether you want to roll back transactions of the specific accounts or of all accounts of the specific persons. The valid values are:
 - **ACCT** – Used when you want to roll back transactions of the specific accounts.
 - **PERS** - Used when you want to roll back transactions of all accounts of the specific persons (where the person is the main customer of the account).

This parameter is optional. But, if you specify the entity ID, you need to specify the respective entity type during the batch execution.

- **Entity ID** – Used to indicate the account or person whose transactions you want to roll back. This parameter is optional. But, if you specify the entity type, you need to specify the respective entity IDs during the batch execution. You can specify maximum 20 account IDs or person IDs separated by a comma (,) symbol in the parameter value.

Enhancements (Specific to Financial Services)

This section lists the enhancements made to the following features which can be used in the financial services domain:

- [Billing Anomaly Detection with Artificial Intelligence \(AI\) and Machine Learning \(ML\)](#)
- [Automatic Refund Process](#)
- [C1-AccountFees Pricing Service](#)
- [Deal Management](#)
- [Statements in TWIST Format](#)

Billing Anomaly Detection with Artificial Intelligence (AI) and Machine Learning (ML)

The following changes are made to the Billing Anomaly Detection feature:

- The system allows you to restart the **C1-MLPRE** batch run which is in the **Error** status. But there might be situations wherein you want to restart the **C1-MLPRE** batch run which is in the **Complete** status. A new option type named **Allowed Previous Batch Run for Prediction** is added to the **C1-BRMLINOPS** feature configuration. The valid values for this option type are **Y** and **N**. If you set the option type to **Y**, the system allows you to restart the **C1-MLPRE** batch run which is in the **Complete** status. But, if you set the option type to **N**, the system does not allow you to restart the **C1-MLPRE** batch run which is in the **Complete** status.
- A new column named **Anomaly Reason** is added to the **Bill Segment Anomalies** zone in the **Diagnostic Central** screen.

Automatic Refund Process

The following changes are made to the Automatic Refund feature:

- A new parameter named **Adjustment Level For Credit Bill** is added to the **C1-IMREFCRET** algorithm type. It enables you to indicate whether a refund adjustment should be created at the bill level or at the bill line item level. The valid values are:
 - **BILL** – Used when you want to create a single refund adjustment for a bill.
 - **SEGT** – Used when you want to create refund adjustment for each bill line item.

This data is required when the **Immediate Refund On Credit Bill** parameter of the **C1-IMREFCRET** algorithm is set to **Y**. If you do not specify the value for the **Adjustment Level For Credit Bill** parameter, the system considers the value defined in the **Default Adjustment Level** option type of the **C1_REFWO** feature configuration. If the value specified in the **Adjustment Level For Credit Bill** parameter is invalid or if the value is not defined for the **Adjustment Level For Credit Bill** parameter and the **Default Adjustment Level** option type, the system throws an appropriate error message.

C1-AccountFees Pricing Service

Earlier, while calculating real time fees for different services availed by an account through the **C1-AccountFees** business service, the system used to fetch effective pricing for all price items (assigned to the account) where the price item usage is set to **Pricing**. Now, the following changes are made to the **C1-AccountFees** business service:

- Price item is a mandatory input parameter (which means you can calculate real time fees for a particular service at a time)
- Allows a price item where the usage is set to either **Pricing** or **Pricing and Billing**

Deal Management

The following changes are made to the Deal Management feature:

- Now, the system allows you to search for a deal using the deal characteristics. At a time, you can specify maximum five characteristics while searching for a deal. A new option named **Deal Characteristics** is added to the **Search By** list in the **Search Deal** zone.
- Now, the system provides advanced filters while searching for a deal using the **Deal Details** option. The **Advanced Search** link is available in the **Search Deal** zone. On clicking the **Advanced Search** link, the **Deal Effective Start Date**, **Deal Effective End Date**, **Proposed Revenue Filters**, **Template Deal**, and **Contracted Deal** fields appear in the **Search Deal** zone. The proposed revenue filter supports the following values:
 - **Between** - If you select the **Between** option from the **Proposed Revenue Filters** list, the **Minimum Revenue Amount** and **Maximum Revenue Amount** fields appear in the **Search Deal** zone. On specifying the maximum and minimum revenue amount, the system fetches all deals where the revenue in the deal level financial summary is within the specified range.
 - **Greater Than** - If you select the **Greater Than** option from the **Proposed Revenue Filters** list, the **Revenue Amount** field appears in the **Search Deal** zone. On specifying the revenue amount, the system fetches all deals where the revenue in the deal level financial summary is greater than the specified amount.
 - **Less Than** - If you select the **Less Than** option from the **Proposed Revenue Filters** list, the **Revenue Amount** field appears in the **Search Deal** zone. On specifying the revenue amount, the system fetches all deals where the revenue in the deal level financial summary is less than the specified amount.
- Now, you can search for all deals of the existing customers which are created by a particular relationship manager in the **Search Deal** zone.
- Now, you can select the deal level terms and conditions once the deal is created in the **Draft** status. The **Terms and Conditions** section is removed from the **Deal** zone. Instead, the **Terms and Conditions** link is added in the **Deal Information** zone.

Statements in TWIST Format

Until now, the system enabled you to generate statements in the TWIST format. Over a period, the TWIST BSB Version 3.1 standards have changed and therefore a new algorithm named **C1-STEX-TC** is introduced in this release. This algorithm extracts the details in the new TWIST format. You can attach this new algorithm to the **TWIST** statement route type. During the statement generation, the system will extract details from the bills in the TWIST format which is specified in the statement construct.

Enhancements (Specific to Insurance)

This section lists the enhancements made to the following features which can be used in the health insurance domain:

- [FOP Reports](#)
- [Self-Funded Pricing Rule Versioning](#)
- [Self-Funded Pricing](#)
- [Customer Management](#)
- [Inbound Message](#)
- [C1-ASOBLNG Feature Configuration](#)
- [Stop-Loss Insurance Billing](#)
- [Transaction Feed Management](#)
- [Accumulation Data](#)
- [C1_CMO Feature Configuration](#)
- [Field Mapping](#)
- [Three-Step PUPL Processing](#)
- [C1-PAYFLUPLD Feature Configuration](#)

FOP Reports

The following changes are made to the respective FOP report:

- **Specific Stop-Loss Report** – Earlier, you were able to extract the specific stop-loss charges which are billed to different bill groups of a parent customer for a particular period through the **FOPSSLHCBPDF**, **FOPSSLHCBXLS**, **FOPSSLHCOPDF**, and **FOPSSLHCOXLS** FOP reports. Now, you can do the following through these FOP reports:
 - Extract the specific stop-loss charges which are billed to different bill groups of a parent customer for a particular period
 - Extract the specific stop-loss charges which are billed to a particular bill group for a particular period

Earlier, while generating the specific stop-loss report, you were able to specify the following parameters – **Division**, **Parent Customer**, **Claims Billed Through**, **Policy Start Date**, and **Policy End Date**. In addition, earlier, the **Division** and **Parent Customer** parameters were mandatory. Now, while generating the specific stop-loss report, you can specify the following parameters – **Division**, **Person Identifier Type**, **Person Identifier** (i.e. parent customer or bill group identifier), **Claims Billed Through**, **Policy Start Date**, and **Policy End Date**. Now, the **Division**, **Person Identifier Type**, and **Person Identifier** parameters are mandatory. The **Claims Billed Through** parameter is mandatory when the **Policy Start Date** and **Policy End Date** parameters are specified.

- **Aggregate Stop-Loss Report** – Earlier, while extracting the aggregate stop-loss charges through **FOPASLHCBPDF**, **FOPASLHCBXLS**, **FOPASLHCOPDF**, and **FOPASLHCOXLS** FOP report, you were able to specify the following parameters – **Division**, **Parent Customer**, **Claims Billed Through**, **Policy Start Date**, and **Policy End Date**. In addition, earlier, the **Division** and **Parent Customer** were mandatory. Now, while extracting the aggregate stop-loss charges through **FOPASLHCBPDF**, **FOPASLHCBXLS**, **FOPASLHCOPDF**, or **FOPASLHCOXLS** FOP report, you can specify the following parameters – **Division**, **Person Identifier Type**, **Person Identifier** (i.e. parent customer identifier), **Claims Billed Through**, **Policy Start Date**, and **Policy End Date**. Now, the **Division**, **Person Identifier Type**, and **Person Identifier** parameters are mandatory. The **Claims Billed Through** parameter is mandatory when the **Policy Start Date** and **Policy End Date** parameters are specified.

Self-Funded Pricing Rule Versioning

The following changes are made to the Self-Funded Pricing Rule Versioning feature:

- Until now, while editing a self-funded pricing rule which is created using a primary pricing rule type, the system confirmed whether you want to update the related pricing rules (such as, specific stop-loss, aggregate stop-loss, and level funded pricing rules) manually. If you clicked the **No** button, the system automatically updated the related pricing rules based on the changes made to the primary pricing rule. Now, when you click the **No** button after editing an ancillary pricing rule, the system does the following, by default:
 - Considers all billable charge line types eligible for stop-loss while automatically updating any related specific stop-loss or aggregate stop-loss pricing rule.
 - Considers all billable charge line types for settlement while automatically updating any related level funded pricing rule.

Self-Funded Pricing

The following changes are made to the Self-Funded Pricing feature:

- While reapplying an ancillary pricing rule in a specific stop-loss and aggregate stop-loss pricing rule, the system, by default, considers all billable charge line types eligible for stop-loss in the specific stop-loss and aggregate stop-loss pricing rule. If you do not want to consider a billable charge line type for stop-loss, you can deselect the **Eligible for Stop-Loss** option corresponding to the billable charge line type.
- While reapplying an ancillary pricing rule in a level funded pricing rule, the system, by default, considers all billable charge line types for settlement in the level funded pricing rule. If you do not want to consider a billable charge line type for settlement through level funding, you can deselect the **Include in Settlement** option corresponding to the billable charge line type.
- A new field named **Reinsurer Account** is available while defining or editing an aggregate stop-loss pricing rule at the parent customer level. The list includes all accounts of the reinsurer person who is associated with the parent customer using the relationship type which is specified in the **Reinsurer Person Relationship Type** option type of the **C1-ASOBLNG** feature configuration.

You cannot update the reinsurer account when the reinsurer billable charges are already created for the accumulation group. Ideally, you should first cancel the reinsurer charges and then update the reinsurer account in the aggregate stop-loss pricing rule.

- A new field named **Reinsurer Account** is available while defining or editing a specific stop-loss pricing rule at the bill group level. The list includes all accounts of the reinsurer person who is associated with the parent customer (of the bill group) using the relationship type which is specified in the **Reinsurer Person Relationship Type** option type of the **C1-ASOBLLNG** feature configuration.

You cannot update the reinsurer account when the reinsurer billable charges are already created for the accumulation group. Ideally, you should first cancel the reinsurer charges and then update the reinsurer account in the specific stop-loss pricing rule.

Customer Management

The following changes are made to the Customer Management feature:

- You can create a reinsurer person (i.e. entity for insurance company) through a health care inbound message.
- A new value named **Reinsurer Person** is added to the **PER_OR_BUS_FLG** lookup field. Therefore, a new option named **Reinsurer Person** appears in the **Person Type** list of the **Person** screen.

Inbound Message

The following changes are made to the Inbound Message feature:

- Now, a health care inbound message enables you to define and edit a reinsurer person and its accounts.
- While creating a reinsurer person, the system associates the reinsurer person with the parent customer using the relationship type which is specified in the **Reinsurer Person Relationship Type** option type of the **C1-ASOBLLNG** feature configuration.
- While creating or editing an account of a reinsurer person, the system can create a default contract for the account using the contract type which is specified in the **C1-ASOACBPCN** algorithm. If you want to create default contract for a reinsurer account, you need to attach the **C1-ASOACBPCN** algorithm to the **Post Processing** system event of the **C1-ASOPolicy** business object.

C1-ASOBLLNG Feature Configuration

The following option type is newly added in the **C1-ASOBLLNG** feature configuration:

- **Reinsurer Person Relationship Type** – Used to indicate the relationship type using which the reinsurer person should be associated with the parent customer.

Stop-Loss Insurance Billing

The following changes are made to the Stop-Loss Insurance Billing feature:

- The system allows you to create the specific stop-loss and aggregate stop-loss charges for the insurance company (i.e. billable charges for the reinsurer person's account).

- Now, the **C1-ACSSL** batch is enhanced to support the stop-loss insurance billing to the reinsurer account. During the **C1-ACSSL** batch execution, the system checks whether the reinsurer account is specified in the respective specific stop-loss pricing rule. If so, the system sets the **REINSR_STATUS** column corresponding to the record in the **CI_ACCUM_SSL_AMT** table to **P**.
- Now, the **C1-ACASL** batch is enhanced to support the stop-loss insurance billing to the reinsurer account. During the **C1-ACASL** batch execution, the system checks whether the reinsurer account is specified in the respective aggregate stop-loss pricing rule. If so, the system sets the **REINSR_STATUS** column corresponding to the record in the **CI_ACCUM_AS_L_AMT** table to **P**.
- The following new batches are introduced in this release:

- **Calculate SSL Reinsurer Charges (C1-RISBC)** – This batch is used to create reinsurer charges for specific stop-loss. If you have configured reinsurer for specific stop-loss, you need to execute this batch after executing specific stop-loss accumulation batches.

This batch considers the SSL accumulation records from the **CI_ACCUM_SSL_AMT** table where the reinsurer status is set to **P** and the window start date is earlier than or equal to batch business date. It creates reinsurer billable charge with opposite amount on the reinsurer account which is specified in the respective SSL pricing rule and stamps the reinsurer billable charge ID in the **C1_ACCUM_REINSR_SSL_AMT** table. It stamps the parent level accumulation group ID and bill group level accumulation group ID as the characteristics on the reinsurer billable charges.

This batch is a multithreaded batch. The multi-threading is based on the bill group level accumulation group ID and chunks for multi-threading are created based on numerical distribution of bill group level accumulation group ID.

- **Calculate ASL Reinsurer Charges (C1-RIABC)** - This batch is used to create reinsurer charges for aggregate stop-loss. If you have configured reinsurer for aggregate stop-loss, you need to execute this batch after executing aggregate stop-loss accumulation batches.

This batch considers the ASL accumulation records from the **CI_ACCUM_AS_L_AMT** table where the reinsurer status is set to **P** and the window start date is earlier than or equal to batch business date. It creates reinsurer billable charge with opposite amount on the reinsurer account which is specified in the respective ASL pricing rule and stamps the reinsurer billable charge ID in the **C1_ACCUM_REINSR_AS_L_AMT** table. It stamps the parent level accumulation group ID as a characteristic on the reinsurer billable charges.

This batch is a multi-threaded batch. The multi-threading is based on the parent level accumulation group ID and chunks for multi-threading are created based on the numerical distribution of parent level accumulation group ID.

- **Cancel Reinsurer Charges (C1- CNREC)** - This batch is used to cancel reinsurer charges which are created for specific stop-loss and aggregate stop-loss. If the bill segments are generated for the reinsurer charges in the **Frozen** status, this batch cancels the bill segments and the reinsurer billable charges. If the bill segments are generated for the reinsurer charges in the **Freezable** status, this batch deletes the bill segments and the reinsurer billable charges. However, if bill segments are not generated for the reinsurer charges, this batch deletes the reinsurer billable charges. In addition, when the reinsurer billable charges are canceled or deleted, this batch removes the reinsurer billable charge ID from the **C1_ACCUM_REINSR_SSL_AMT** or **C1_ACCUM_REINSR_ASL_AMT** table, respectively.

This batch is a multi-threaded batch. The multi-threading is based on billable charge ID and chunks for multi-threading are created based on the numerical distribution of billable charge ID.

- A new parameter named **Bill Cycle** is added in the **C1-ACASL**, **C1-ACSSL**, **C1-BCSSL**, and **C1-BCASL** batches.

Transaction Feed Management

The following changes are made to the Transaction Feed Management feature:

- The **C1-PDTXN** and **C1-TXNCU** batches are enhanced to support disaggregation of reinsurer charges which are created specific stop-loss and aggregate stop-loss. Whenever these batches delete the specific and aggregate stop-loss billable charges of the employer, the system retrieves reinsurer charges created against the employer stop-loss charges and does the following:
 - If the bill segments are generated for the reinsurer charges in the **Frozen** status, the system cancel the bill segments and the reinsurer billable charges.
 - If the bill segments are generated for the reinsurer charges in the **Freezable** status, the system deletes the bill segments and the reinsurer billable charges.
 - However, if bill segments are not generated for the reinsurer charges, the system deletes the reinsurer billable charges.
 - In addition, when the reinsurer billable charges are canceled or deleted, the system removes the reinsurer billable charge ID from the **C1_ACCUM_REINSR_SSL_AMT** or **C1_ACCUM_REINSR_ASL_AMT** table, respectively.

Accumulation Data

The following changes are made to the **Accumulation Data** screen:

- A new option named **Billable Charge Details** is added to the **Search By** list in the **Search Accumulation Data** zone.
- Two new columns named **Reinsurer Billable Charge Information** and **Reinsurer Account Information** are added to the **Specific Stop-Loss Accumulation Amount** and **Aggregate Stop-Loss Accumulation Amount** zones.

C1_CMO Feature Configuration

The following option type is newly added to the **C1_CMO** feature configuration:

- **Excluded Contract types for netting** – Used when you want to exclude unmatched financial transactions of a particular contract type while creating transfer adjustments for a refund/write off request at the account level. You can exclude multiple contract types by defining the **Excluded Contract types for netting** option type multiple times (with unique sequence number) in the feature configuration. This option type is considered when the adjustment level in the refund/write off request is set to **Account** or **Bill**.

Field Mapping

The following changes are made to the Field Mapping feature:

- Two new preference categories named **Automatic Refund/ Write-Off** and **Configuration for Match Type - Handling Overpayment** are available while defining a field mapping using the **C1-FieldMapping** business object.
- You need to define and use a field mapping of the **Configuration for Match Type - Handling Overpayment** preference category to handle the multiple payment tenders of same payee account issue during the three-step PUPL batch processing.
- You need to define and use a field mapping of the **Automatic Refund/ Write-Off** preference category while generating automatic refund and/or write-off requests for the accounts during fully-insured group policy and individual membership termination. You should define two separate field mappings of the **Automatic Refund/ Write-Off** preference category – one for each line of business (i.e. fully-insured group business and fully-insured individual business).

Three-Step PUPL Processing

Until now, the PUPL batch failed when the CSV file had more than one payment record for the same payee account during the three-step batch processing. Now, the system enables you to handle this issue using a field mapping. A new preference category named **Configuration for Match Type – Handling Overpayment** is introduced in the **Field Mapping** screen. While defining a field mapping of the **Configuration for Match Type – Handling Overpayment** preference category, you need to specify the following attributes:

- **Match Type On Account (C)** – At present, there is no functionality built using this attribute. It would be used in the future release of ORMB.
- **Match Type Default Payment Distribution (D)** – Used to indicate the match types for which the system should behave in the following manner:

PUPL Batch Run	Then...
First	<p>The system does the following:</p> <ul style="list-style-type: none"> Processes the first payment record of each payee account and changes the status of the corresponding payment tender staging records to Pending. Does not process the subsequent payment records of each payee account and changes the payment tender staging record status of the subsequent payment records to Ignored. <div data-bbox="521 541 1412 741" style="border: 1px solid black; padding: 5px;"> <p>Note: Once the three-step PUPL batch cycle is completed, the status of the payment record is changed to Processed or Error in Staging depending on whether it is successfully processed or not. In addition, the status of the corresponding payment tender staging records is changed from Pending to Complete.</p> </div>
Second	<p>The system does the following:</p> <ul style="list-style-type: none"> Processes the second payment record of each payee account and changes the status of the corresponding payment tender staging records from Ignored to Pending. Does not process the subsequent payment records of each payee account and the payment tender staging record status of the subsequent payment records remains as Ignored. <div data-bbox="521 1058 1412 1257" style="border: 1px solid black; padding: 5px;"> <p>Note: Once the three-step PUPL batch cycle is completed, the status of the payment record is changed to Processed or Error in Staging depending on whether it is successfully processed or not. In addition, the status of the corresponding payment tender staging records is changed from Pending to Complete.</p> </div>

In each three-step PUPL batch cycle, the system considers and processes one payment record of a payee account at a time and therefore you need to repeat the three-step PUPL batch cycle until all payment records of the payee account are processed.

- **Match Type Overpayment Distribution (O)** - Used to indicate the match types for which the system should behave in the following manner:

PUPL Batch Run	Then...
First	<p>The system does the following:</p> <ul style="list-style-type: none"> Processes the first payment record of each payee account and match value combination and changes the status of the corresponding payment tender staging records to Pending. Does not process the subsequent payment records of each payee account and match value combination and changes the payment tender staging record status of the subsequent payment records to Ignored.

PUPL Batch Run	Then...
	<p>Note: Once the three-step PUPL batch cycle is completed, the status of the payment record is changed to Processed or Error in Staging depending on whether it is successfully processed or not. In addition, the status of the corresponding payment tender staging records is changed from Pending to Complete.</p>
Second	<p>The system does the following:</p> <ul style="list-style-type: none"> Processes the second payment record of each payee account and match value combination and changes the status of the corresponding payment tender staging records from Ignored to Pending. Does not process the subsequent payment records of each payee account and match value combination and the payment tender staging record status of the subsequent payment records remains as Ignored. <p>Note: Once the three-step PUPL batch cycle is completed, the status of the payment record is changed to Processed or Error in Staging depending on whether it is successfully processed or not. In addition, the status of the corresponding payment tender staging records is changed from Pending to Complete.</p>

In each three-step PUPL batch cycle, the system considers and processes one payment record of each payee account and match value combination at a time and therefore you need to repeat the three-step PUPL batch cycle until all payment records of each payee account and match value combination are processed.

- **Match Type Segment Level Overpayment Distribution (R)** - Used to indicate the match types for which the system should behave in the following manner:

PUPL Batch Run	Then...
First	<p>The system does the following:</p> <ul style="list-style-type: none"> Processes all payment records of the same or different payee account with the same or different match value and changes the status of the corresponding payment tender staging records to Pending. <p>Note: Once the three-step PUPL batch cycle is completed, the status of the payment record is changed to Processed or Error in Staging depending on whether it is successfully processed or not. In addition, the status of the corresponding payment tender staging records is changed from Pending to Complete.</p>

Note: You can specify maximum 20 match types separated by a comma (,) symbol for the above attributes in the field mapping.

Now, while executing the step-three PUPL batch, the system considers the field mapping which is specified in the **Field Mapping for Match Type** option type of the **C1-PAYFLUPLD** feature configuration whenever there are multiple payment records of the payee account in the CSV file. In the following scenarios, the system behaves in the manner as if the match type is set to the **Match Type Default Payment Distribution (D)** attribute:

- The value for the **Field Mapping for Match Type** option type is not defined in the **C1-PAYFLUPLD** feature configuration
- The value specified for the **Field Mapping for Match Type** option type in the **C1-PAYFLUPLD** feature configuration is invalid
- The match type received in the payment record is not specified against any of the attribute in the referred field mapping

To implement this change, a new status named **Ignored** is added in the **PAY_TND_STG_ST_FLG** lookup field.

C1-PAYFLUPLD Feature Configuration

A new option type named **Field Mapping for Match Type** is added to the **C1-PAYFLUPLD** feature configuration. It enables you to specify a field mapping which is created using the **Configuration for Match Type - Handling Overpayment** preference category. The system then considers this field mapping during the step-three PUPL batch execution whenever there are multiple payment records of the payee account in the CSV file.

User Interface (UI) Level Changes

The following table lists changes made to the existing screens in Oracle Revenue Management and Billing:

Screen Name (in 4.0.0.0.0)	Changes
Upload Request (Used for Searching)	<p>The following changes are made to this screen:</p> <ul style="list-style-type: none"> The Validating and Deferred Validation statuses are added to the Status list in the Search Upload Request zone.
Diagnostic Central	<p>The following changes are made to this screen:</p> <ul style="list-style-type: none"> The Anomaly Reason column is added to the Bill Segment Anomalies zone. The Bill Anomaly Search zone is renamed to Search Anomaly. The Bill Segment level Anomaly option is renamed to Bill Segment Anomalies in the Search By list. The Cancel option is renamed to Canceled in the Anomaly Status list. The Ignore option is renamed to Ignored in the Anomaly Status list. The Account Identifier Value field is renamed to Account Identifier in the Search Anomaly zone. The Is Trial Bill field is renamed to Trial Bill in the Search Anomaly zone. The Bill From Date field is renamed to Bill Created From in the Search Anomaly zone. The Bill To Date field is renamed to Bill Created Until in the Search Anomaly zone. The Priceitem Mismatch option is renamed to Price Item Mismatch in the Anomaly Reason list. The Amount Variation,Priceitem Mismatch option is renamed to Amount Variation and Price Item Mismatch in the Anomaly Reason list. The Amount Variation,Data Mismatch: %1 option is renamed to Amount Variation and Data Mismatch: %1 in the Anomaly Reason list. The Priceitem Mismatch,Data Mismatch: %1 option is renamed to Price Item Mismatch and Data Mismatch: %1 in the Anomaly Reason list. The Amount Variation,Priceitem Mismatch,Data Mismatch: %1 option is renamed to Amount Variation, Price Item Mismatch, and Data Mismatch: %1 in the Anomaly Reason list.

Screen Name (in 4.0.0.0.0)	Changes
	<ul style="list-style-type: none"> • The Anomaly caused due to Bill Segment option is renamed to Anomaly Due to Bill Segment in the Anomaly Reason list. • The To Do Info column is renamed to To Do Information in the Search Anomaly zone. • The Bill Segment Anomaly zone is renamed to Bill Segment Anomalies.
ML Jobs	<p>The following changes are made to this screen:</p> <ul style="list-style-type: none"> • The From Date field is renamed to Created From in the Search ML Job zone. • The To Date field is renamed to Created Until in the Search ML Job zone. • The Model Build option is renamed to Data Model Creation in the ML Job Type list. • The Cancel option is renamed to Canceled in the ML Job Status list. • The Complete option is renamed to Completed in the ML Job Status list. • The Data Synced option is renamed to Data Synchronized in the ML Job Status list. • The Force Stop option is renamed to Force Stopped in the ML Job Status list. • The Batch Job column is renamed to Batch Job Details in the Search ML Job zone. • The Create Date/Time column is renamed to Creation Date Time in the Search ML Job zone. • The Start Date/Time column is renamed to Job Start Date Time in the Search ML Job zone. • The End Date/Time column is renamed to Job End Date Time in the Search ML Job zone.
Field Mapping	<p>The following changes are made to this screen:</p> <ul style="list-style-type: none"> • The Automatic Refund/ Write-Off and Configuration for Match Type - Handling Overpayment options are added to the Preference Category list in the Search Field Mapping zone.
Field Mapping (Used for Adding)	<p>The following changes are made to this screen:</p> <ul style="list-style-type: none"> • Two new preference categories named Automatic Refund/ Write-Off and Configuration for Match Type - Handling Overpayment are available while defining a field mapping using the C1-FieldMapping business object.

Screen Name (in 4.0.0.0.0)	Changes
Refund/Write Off Request Type (Used for Adding)	The following change is made to this screen: <ul style="list-style-type: none"> The Netting Contract Type field is added in the Main section.
Refund/Write Off Request Type	The following change is made to this screen: <ul style="list-style-type: none"> The Netting Contract Type field is added in the Main section of the Refund/Write Off Request Type zone.
Refund Request (Used for Viewing)	The following change is made to this screen: <ul style="list-style-type: none"> The Adjustment Level field is added in the Main section of the Refund Request zone.
Write Off Request (Used for Viewing)	The following change is made to this screen: <ul style="list-style-type: none"> The Adjustment Level field is added in the Main section of the Write Off Request zone.
Select Request Type (Used for Adding Refund/Write Off Request)	The following change is made to this screen: <ul style="list-style-type: none"> The Adjustment Level field is added in this screen.
Business Rule (Used for Searching)	The following change is made to this screen: <ul style="list-style-type: none"> The Refund/Write Off Business Rules option is added to the Search By list in the Search Business Rule zone.
Business Rule (Used for Adding)	The following change is made to this screen: <ul style="list-style-type: none"> The Refund/Write Off Business Rule option is added to the Business Rule Category list.
Installation Options - Framework	The following change is made to this screen: <ul style="list-style-type: none"> A new algorithm spot named Netting Account Balance is added to the System Event list in the Algorithms tab.
Person	The following change is made to this screen: <ul style="list-style-type: none"> The Reinsurer Person option is added to the Person Type list in the Main tab.
Specific Stop-Loss (SSL) Pricing Rule (Used for Adding at the Bill Group Level)	The following change is made to this screen: <ul style="list-style-type: none"> The Reinsurer Account field is added in the Main section.
Aggregate Stop-Loss (ASL) Pricing Rule (Used for Adding at the Parent Customer Level)	The following change is made to this screen: <ul style="list-style-type: none"> The Reinsurer Account field is added in the Main section.
Pricing Rule (Used for Viewing at the Parent Customer Level)	The following change is made to this screen: <ul style="list-style-type: none"> The Reinsurer Account field is added in the Main section of the Aggregate Stop-Loss zone.

Screen Name (in 4.0.0.0.0)	Changes
Pricing Rule (Used for Viewing at the Bill Group Level)	<p>The following change is made to this screen:</p> <ul style="list-style-type: none"> The Reinsurer Account field is added in the Main section of the Specific Stop-Loss zone.
Accumulation Data	<p>The following changes are made to this screen:</p> <ul style="list-style-type: none"> The Billable Charge Details option is added to the Search By list in the Search Accumulation Data zone. The Reinsurer Billable Charge Information and Reinsurer Account Information columns are added to the Specific Stop-Loss Accumulation Amount and Aggregate Stop-Loss Accumulation Amount zones.
Division	<p>The following change is made to this screen:</p> <ul style="list-style-type: none"> The Local Currency field is added in the Main tab.
Distribution Code	<p>The following change is made to this screen:</p> <ul style="list-style-type: none"> The Enable Local Currency field is added in the Main tab.
Financial Transaction	<p>The following changes are made to this screen:</p> <ul style="list-style-type: none"> The Currency Code field in the Main tab is renamed to Currency. The Division Currency Code field in the Main tab is renamed to Division's Base Currency. The Exchange Rate field in the Main tab is renamed to Base Currency Exchange Rate. The Division Amount column in the Main tab is renamed to Amount in Base Currency. The Local Currency Exchange Rate and Division's Local Currency fields are added in the Main tab. The Amount in Local Currency column is added to the Main tab.
Deal Dashboard	<p>The following changes are made to this screen:</p> <ul style="list-style-type: none"> The Deal Characteristics option is added to the Search By list in the Search Deal zone. The following changes are available when you select the Deal Details option from the Search By list: <ul style="list-style-type: none"> The Advanced Search link is available in the Search Deal zone. On clicking the Advanced Search link, the Deal Effective Start Date, Deal Effective End Date, Proposed Revenue Filters, Template Deal, and Contracted Deal fields appear in the Search Deal zone.

Screen Name (in 4.0.0.0.0)	Changes
	<ul style="list-style-type: none"> ○ If you select the Between option from the Proposed Revenue Filters list, the Minimum Revenue Amount and Maximum Revenue Amount fields appear in the Search Deal zone. ○ If you select the Greater Than or Less Than option from the Proposed Revenue Filters list, the Revenue Amount field appears in the Search Deal zone. ● The Relationship Manager field is available in the Search Deal zone when you select the Customer Details option from the Search By list. ● The Deal Type and Status fields are available in the Search Deal zone when you select the Account Details option from the Search By list.
Deal Type (Used for Adding)	<p>The following changes are made to this screen:</p> <ul style="list-style-type: none"> ● The Price Item Group List Filter, Price Item Selection Validation, Terms and Conditions Filter, and Terms and Conditions Selection Validation algorithm spots are newly added to the System Event list in the Algorithms section.
Deal Information (Used for Adding)	<p>The following changes are made to this screen:</p> <ul style="list-style-type: none"> ● The Terms and Conditions section is removed from the Deal zone. Instead, the Terms and Conditions link is added in the Deal Information zone.

Database Level Changes

This section highlights the documents that you can refer for the following database level changes:

- [New Objects in the ORMB V5.0.0.0.0 Database](#)
- [New Objects in the OUAF V4.5.0.0.0 Database](#)
- [New Tables in the ORMB V5.0.0.0.0 Database](#)
- [New Tables in the OUAF V4.5.0.0.0 Database](#)
- [Existing Tables Modified in ORMB V5.0.0.0.0](#)
- [Existing Tables Modified in OUAF V4.5.0.0.0](#)
- [Algorithms and Algorithm Types Dropped in ORMB V5.0.0.0.0](#)
- [Parameters Added or Removed from Algorithm Types in ORMB V5.0.0.0.0](#)
- [Option Types Added or Removed from Feature Configurations in ORMB V5.0.0.0.0](#)
- [Characteristic Types Dropped in ORMB V5.0.0.0.0](#)
- [Default User Group Application Services](#)

New Objects in the ORMB V5.0.0.0.0 Database

To view the list of objects (such as tables, columns, algorithm types, business objects, and so on) which are newly introduced in Oracle Revenue Management and Billing Version 5.0.0.0.0, refer to the Appendix A: New Objects in the Oracle Revenue Management and Billing V5.0.0.0.0 Database in the *Oracle Revenue Management and Billing Database Administrator's Guide*.

New Objects in the OUAF V4.5.0.0.0 Database

To view the list of objects (such as tables, columns, algorithm types, business objects, and so on) which are newly introduced in Oracle Utilities Application Framework Version 4.5.0.0.0, refer to the Appendix D: New Objects in the Oracle Utilities Application Framework V4.5.0.0.0 Database in the *Oracle Revenue Management and Billing Database Administrator's Guide*.

New Tables in the ORMB V5.0.0.0.0 Database

To view detail information about the tables newly introduced in Oracle Revenue Management and Billing Version 5.0.0.0.0, refer to the Appendix C: New Tables Added in ORMB Version 5.0.0.0.0 in the *Oracle Revenue Management and Billing Upgrade Guide*.

New Tables in the OUAF V4.5.0.0.0 Database

To view detail information about the tables newly introduced in Oracle Utilities Application Framework Version 4.5.0.0.0, refer to the Appendix K: New Tables Added in OUAF Version 4.5.0.0.0 in the *Oracle Revenue Management and Billing Upgrade Guide*.

Existing Tables Modified in ORMB V5.0.0.0.0

To view the columns that are newly added, modified, or dropped from the existing tables in Oracle Revenue Management and Billing Version 5.0.0.0.0, refer to the Appendix D: Existing Tables Modified in ORMB Version 5.0.0.0.0 in the *Oracle Revenue Management and Billing Upgrade Guide*.

Existing Tables Modified in OUAF V4.5.0.0.0

To view the columns that are newly added, modified, or dropped from the existing tables in Oracle Utilities Application Framework Version 4.5.0.0.0, refer to the Appendix L: Existing Tables Modified in OUAF Version 4.5.0.0.0 in the *Oracle Revenue Management and Billing Upgrade Guide*.

Algorithms and Algorithm Types Dropped in ORMB V5.0.0.0.0

To view the algorithms and algorithm types which are dropped in Oracle Revenue Management and Billing Version 5.0.0.0.0, refer to the Appendix E: Algorithms and Algorithm Types Dropped in ORMB Version 5.0.0.0.0 in the *Oracle Revenue Management and Billing Upgrade Guide*.

Parameters Added or Removed from Algorithm Types in ORMB V5.0.0.0.0

To view the parameters which are newly added or dropped from the existing algorithm types in Oracle Revenue Management and Billing Version 5.0.0.0.0, refer to the Appendix F: Parameters Added or Removed from Algorithm Types in ORMB Version 5.0.0.0.0 in the *Oracle Revenue Management and Billing Upgrade Guide*.

Option Types Added or Removed from Feature Configurations in ORMB V5.0.0.0.0

To view the option types which are newly added or dropped from the existing feature configurations in Oracle Revenue Management and Billing Version 5.0.0.0.0, refer to the Appendix G: Option Types Added or Removed from Feature Configurations in ORMB Version 5.0.0.0.0 in the *Oracle Revenue Management and Billing Upgrade Guide*.

Characteristic Types Dropped in ORMB V5.0.0.0.0

To view the characteristic types which are dropped in Oracle Revenue Management and Billing Version 5.0.0.0.0, refer to the Appendix H: Characteristic Types Dropped in ORMB Version 5.0.0.0.0 in the *Oracle Revenue Management and Billing Upgrade Guide*.

Default User Group Application Services

Oracle Revenue Management and Billing provides the following default user groups - ALL_SERVICES, C1_BSERVICES, HCADMIN, and INADMIN. To view the application services configured for the default user groups, refer to the Appendix B: Application Services Configured for Default User Group in the *Oracle Revenue Management and Billing Database Administrator's Guide*.

Supported Platforms

The following table lists the operating system and application server combinations on which Oracle Revenue Management and Billing Version 5.0.0.0.0 is supported:

Operating System and Web Browser (Client)	Operating System (Server)	Chipset	Application Server	Database Server
<p>Microsoft Windows 10 (64-bit) with Chromium Edge v83, Firefox ESR 91.x, or Google Chrome Enterprise Version 81 or higher</p> <p>Note: Here, x represents the vendor supported version.</p>	<p>AIX 7.2 TL3+ (64-bit)</p> <p>Note: Version numbers suffixed with "+" are the MINIMUM version supported. That version and all future 4th digit updates will be supported.</p>	POWER 64-bit	Oracle WebLogic 12.2.1.4 (64-bit)	Oracle Database Server 19c
	Oracle Linux 8.x (64-bit)	x86_64	Oracle WebLogic 12.2.1.4 (64-bit) IBM WebSphere 9.0.5.6	Oracle Database Server 19c
	<p>Red Hat Enterprise Linux 8.x (64-bit)</p> <p>Note: Oracle Revenue Management and Billing is tested and certified on Oracle Linux 8.x. Oracle Linux is 100% user space-compatible with Red Hat Enterprise Linux, and therefore Oracle Revenue Management and Billing is supported on Red Hat Enterprise Linux.</p>	x86_64	Oracle WebLogic 12.2.1.4 (64-bit) IBM WebSphere 9.0.5.6	Oracle Database Server 19c

Operating System and Web Browser (Client)	Operating System (Server)	Chipset	Application Server	Database Server
	Microsoft Windows Server 2016+ (64-bit)	x86_64	Oracle WebLogic 12.2.1.4 (64-bit)	Oracle Database Server 19c

Note: We strongly recommend you install Oracle Revenue Management and Billing (ORMB) on Microsoft Windows platform only for non-production activities, such as User Acceptance Testing (UAT), development setup, and so on.

Technical Recommendations

To improve the overall batch performance on Windows and Linux platforms, we recommend you to make changes in the following files:

File Name	Change From	Change To
hibernate.properties	hibernate.c3p0.timeout = 300	hibernate.c3p0.timeout = 600
threadpoolworker.sh	MEM_ARGS="-Xms512m -Xmx1024m -XX:MaxPermSize=768m"	MEM_ARGS="-Xms512m -Xmx4096m -XX:MaxPermSize=768m"

Supported Upgrades

At present, we support upgrade from Oracle Revenue Management and Billing Version 4.0.0.0.0 to 5.0.0.0.0. For more information on how to upgrade, refer to the following documents which are available on OTN:

- *Oracle Revenue Management and Billing Version 5.0.0.0.0 Upgrade Path Guide*
- *Oracle Revenue Management and Billing Version 5.0.0.0.0 Upgrade Guide*

If you want to directly upgrade the Oracle Revenue Management and Billing database from 2.5.0.1.0 or any later version to 5.0.0.0.0, refer to the *Oracle Revenue Management and Billing Direct Database Upgrade from 2.5.0.1.0 to 5.0.0.0.0*. We recommend you follow the direct upgrade process while upgrading the ORMB database from 2.5.0.1.0 or any later version to 5.0.0.0.0 because it involves a smaller number of steps and saves time.

Unsupported Integrations

We are not supporting Oracle Documaker integration with Oracle Revenue Management and Billing Version 5.0.0.0.0. Alternatively, you can configure the bill and letter reporting feature so that you can generate bills and letters of a customer in the PDF format from ORMB. This reporting feature is built using native capabilities available in ORMB. For more information about the reporting feature, refer to the following documents which are available on OTN:

- *Oracle Revenue Management and Billing Reporting User Guide*
- *Oracle Revenue Management and Billing Reporting Installation Guide*
- *Oracle Revenue Management and Billing Bill and Letter Reports Configuration Guide*
- *Oracle Revenue Management and Billing Reporting SDK Guide*

Oracle Utilities Application Framework Version 4.5.0.0 Enhancements

The following enhancements are made in Oracle Utilities Application Framework (OUAF) Version 4.5.0.0.0:

- [Product Usability](#)
- [Integration Enhancements](#)
- [Data Export](#)
- [To Do Management and Processing Enhancements](#)
- [Batch Processing Enhancements](#)
- [Implementation Tool Enhancements](#)
- [Analytics](#)
- [Miscellaneous Enhancements](#)
- [Web Services](#)
- [Technical Upgrade Notes](#)

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

Product Usability

This section describes the following new and enhanced product usability features introduced in this release:

- [Redwood User Experience](#)
- [Unified Search](#)
- [Batch Day Dashboard and Batch Run Threads Portals](#)
- [Dashboard Portal Controls - User Preferences](#)
- [Display Domain Name in Toolbar](#)
- [Enhanced Button Web Component](#)
- [New Base Display Icon Images Provided](#)
- [Tabbed Display](#)
- [Issue Detail Collector Tool](#)
- [Switch UI View Option](#)
- [User Search Shows Enabled Users by Default](#)
- [Adjust Menu Sequences](#)
- [Entity Tags](#)
- [Field References](#)
- [Filter Area On Data Explorer Collapses After Search](#)

- [Inbound SOAP Web Service Debugging Improvement](#)
- [Menu Application Security Portal](#)
- [New Hot Keys for Navigation](#)
- [New User Experience](#)
- [Open API Specification Enhancements](#)
- [User Group Services Management - Filter User Groups by Entity Tag](#)
- [Ability to Configure a Warning when Downloading Data](#)

Redwood User Experience

Oracle's Redwood user experience introduces a new compact page header that takes up less vertical space to allow more page content to be displayed, as well as new portal tabs, buttons, background colors, borders, and fonts all updated to match the overall Redwood user experience found in other Oracle applications.

Oracle Redwood provides a consistent user interface experience across Oracle's latest solutions.

Steps to Enable

To enable the Redwood user experience, add the `redwood=true` parameter to your application or environment URL.

Note: Oracle Revenue Management and Billing Version 5.0.0.0.0 is not yet certified to use Oracle's Redwood user experience. You must set the value of the **User Interface Style** menu option (i.e. `USER_INTERFACE_STYLE`) to **OPE** during the ORMB installation to use the old-style user experience.

Unified Search

Oracle's Redwood user experience provides a single search box to quickly retrieve customer, account, and meter information such as customer name, premise address, account ID, badge/serial number, and more (where applicable). For more complex queries, you can use the link provided to navigate to a pre-configured advanced search portal. You can also search for Oracle Utilities application menu items using the same single search box.

Unified Search allows you to quickly find customer, account, and meter information without leaving the current page.

Steps to Enable

To enable the Redwood user experience, add the `redwood=true` parameter to your application or environment URL.

Key Resources

Refer to the **Unified Search** section of the *Oracle Utilities Application Framework Business Process Guide* for more information.

Batch Day Dashboard and Batch Run Threads Portals

The **Batch Day Dashboard** portal provides a high level summary of the batch jobs that ran for a given business date. It provides analysis by job status and job category using analytic charts. The batch jobs summary provides links to the Batch Run Threads portal and the Batch Run Tree for a selected batch run.

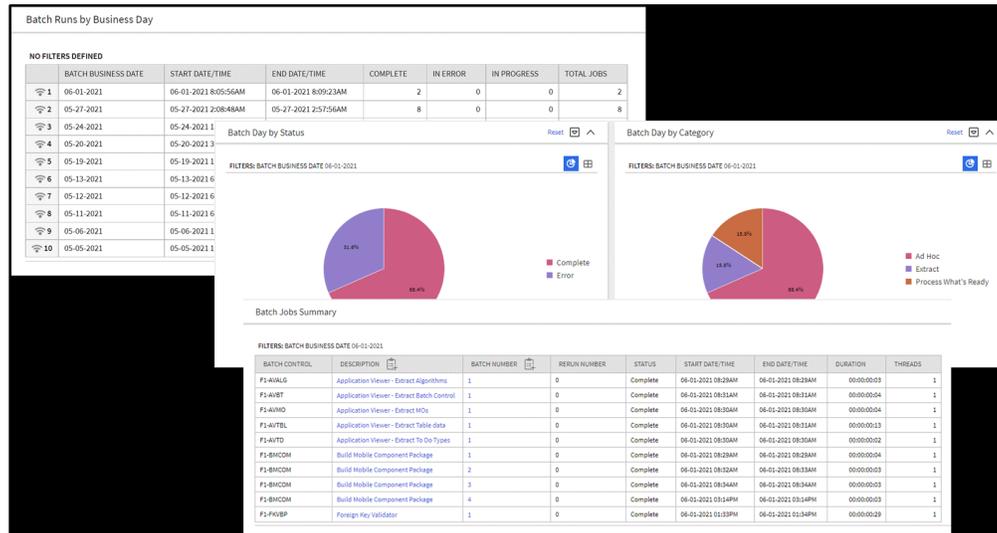


Figure 1: Batch Runs by Business Day Screen

The **Batch Run Threads** portal provides a high level summary of the threads for a given batch run. It provides analysis by various criteria using analytic charts. The portal is accessed via a link from the batch jobs summary zone on the Batch Day Dashboard portal.

An implementation may introduce additional zones to these portals as needed.

The introduction of the **Business Day Dashboard** allows you to quickly determine the state and performance information of your batch workloads using the Business Date as a key dimension. The portal contains zones to provide details about state and individual thread performance to assist in detecting data and performance issues with individual batch workloads.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

The following table lists the new application services for the portals:

Object	New Application Service
Batch Day Dashboard	F1BTCHDY
Batch Run Threads Portal	F1BTCHTH

Dashboard Portal Controls - User Preferences

Oracle's Redwood user experience enables you to set the following **Dashboard** portal control options according to your preferences:

- **Collapsed/Expanded Portal** - The system retains the collapsed **Dashboard** portal after your logged out and start a new session. Previously, when you ended your session with your **Dashboard** portal collapsed, the system displays an expanded **Dashboard** portal the next time you logged in to the application.
- **Portal Width** - You can resize or adjust the width of the **Dashboard** portal by using a slider and the system retains your preferred width even after logging out of the application. Previously, you needed to navigate to User Preferences to adjust the width of the **Dashboard** portal.
- **Vertical Position** - You can position the **Dashboard** portal on the left or right side of the screen. Previously, the portal's position is fixed on the right side of the screen.

Steps to Enable

To enable the Redwood user experience, add the `redwood=true` parameter to your application or environment URL.

Tips and Considerations

Refer to the **User Preferences** section of the *Oracle Utilities Application Framework Administrative Guide* for more information on defining the portal's location.

Display Domain Name in Toolbar

The system supports defining a domain name using an installation message. When using the Redwood user experience view, the text entered in the **Installation Message Text** for an Installation Message of type "Domain Name" is displayed in the title bar.

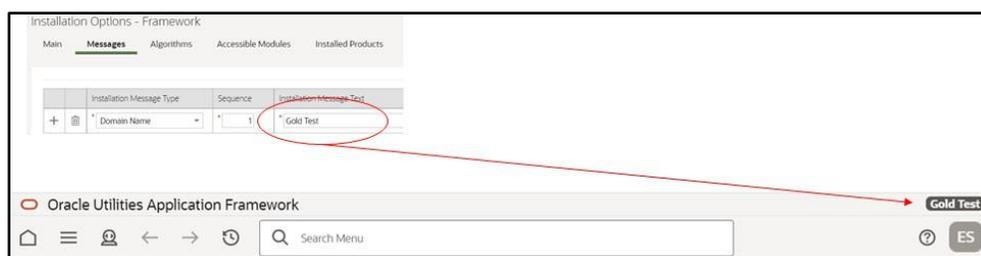


Figure 2: Defining a Domain Name

Implementations with multiple environments for development, testing, production, and others can easily identify their current environment using this name.

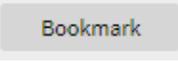
Note: This feature is only supported under the Redwood user experience view. Refer to online documentation for more information on Redwood user experience view.

Steps to Enable

To enable the Redwood user experience, add the `redwood=true` parameter to your application or environment URL.

Enhanced Button Web Component

The enhanced button web component (ou-button) provides a number of button formats:

Object	New Application Service
 or 	Icon buttons show only an image, such as the search and filter icons. This was previously the only button format supported.
 	Text buttons show text within a shape or outline.
	Text + Icon buttons show text aligned with an icon.
	Menu buttons show text and a down caret.
	Icon Menu buttons show an icon and a down caret.

In addition, the ou_button component supports the use of a Display Icon Reference instead of a direct reference to the image file and the ability to reference edge application owned images, including SVGs.

Steps to Enable

No steps are required to enable this feature.

New Base Display Icon Images Provided

Several additional SVG icons are provided for use in contextual insights and trees, and other user interface features that support SVG icons.

Icon	ID	Description
	F1ARRCL	Left Arrow - Circled
	F1ARRCR	Right Arrow - Circled
	F1BLDING	Building
	F1BOOK	Book
	F1CHK	Check
	F1CLOSE	Close

Icon	ID	Description
	F1CLOSEC	Close - Circled
	F1EVT	Event
	F1EVTN	Event Note
	F1KMBOOK	Knowledge Management
	F1NOIMG	Image Not Found
	F1REFNCE	Reference

Steps to Enable

No steps are required to enable this feature.

Tabbed Display

A new zone type is introduced that allows a single zone to display different panels of information using tabs.

Billing Graph	Detailed Usage	Financial History	Payment Arrangements	Credit & Collections			
Last Bill 10-01-2020, Due 10-14-2020	Next Bill Date 11/1/2020	Auto-Pay Source Wells Fargo - Checking	Deposit Amount \$100.00	Payoff Amount \$175.00	Payoff Balance \$175.00	Current Credit Rating 1000	Next Credit Review Date 03-23-2021
Arrears Date	Transaction Type	Amount	Resulting Balance				
10-01-2020	Secondary Text Tertiary Text	\$200.00	\$275.00				
	Secondary Text Tertiary Text	\$150.00	\$200.00				

Figure 3: Tabbed Display

The zone supports up to 50 zones as tabs with overflow support when the tab display exceeds the screen resolution available.



Figure 4: Overflow Support for Tabbed Display

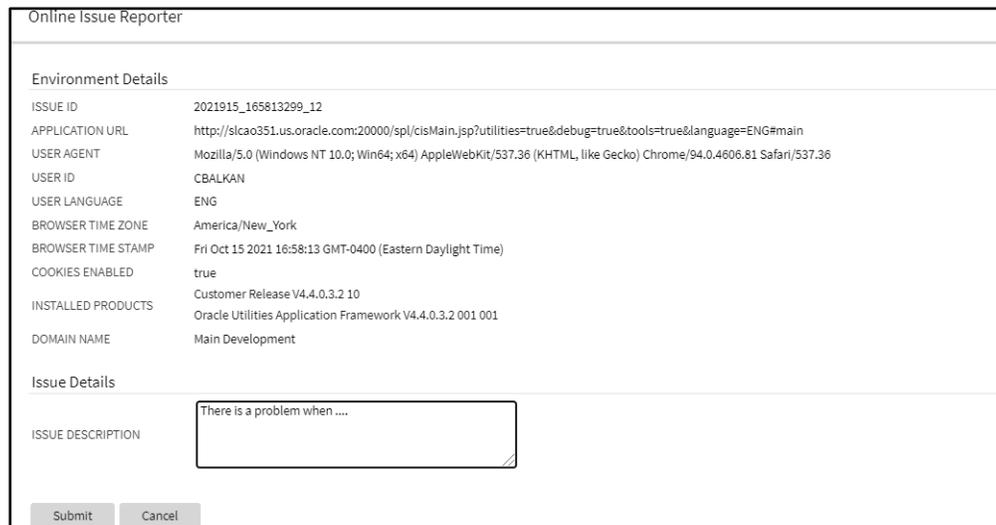
The **Tab Display** zone supports the display of complex information using tabs within a single zone. This allows you to stay within a context of a zone, but it allows for flexibility in the information available in that zone to reduce your time and costs.

Steps to Enable

No steps are required to enable this feature.

Issue Detail Collector Tool

When a user encounters an error with the product and submits a service request, information about the environment, release, and configuration of the user is often very helpful in understanding the cause of the problem. The issue collector script can be used to capture the environment details and issue description for reporting purposes. The script is accessed via the Prepare Issue Details item in the Main - Tools submenu. A popup window is provided to display the details that are being captured and allows the user to add additional text describing the specific issue.



The screenshot shows a window titled "Online Issue Reporter". It is divided into two main sections: "Environment Details" and "Issue Details".

Environment Details:

ISSUE ID	2021915_165813299_12
APPLICATION URL	http://slcao351.us.oracle.com:20000/spl/cisMain.jsp?utilities=true&debug=true&tools=true&language=ENG#main
USER AGENT	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/94.0.4606.81 Safari/537.36
USER ID	CBALKAN
USER LANGUAGE	ENG
BROWSER TIME ZONE	America/New_York
BROWSER TIME STAMP	Fri Oct 15 2021 16:58:13 GMT-0400 (Eastern Daylight Time)
COOKIES ENABLED	true
INSTALLED PRODUCTS	Customer Release V4.4.0.3.2 10 Oracle Utilities Application Framework V4.4.0.3.2 001 001
DOMAIN NAME	Main Development

Issue Details:

ISSUE DESCRIPTION:

At the bottom of the window, there are two buttons: "Submit" and "Cancel".

Figure 5: Online Issue Reporter Screen

When the details are submitted, they are added to the system log, together with a unique identifier, so the information can be searched when investigating the problem.

The menu item is secured so that implementations may choose which users have access to this capability.

Redwood Only: Note that for the Redwood user interface, the help menu on the toolbar includes a menu item for launching this window. If you are able to access this option through the **Main - Tools** submenu, you will also see the option in the **Help** menu.

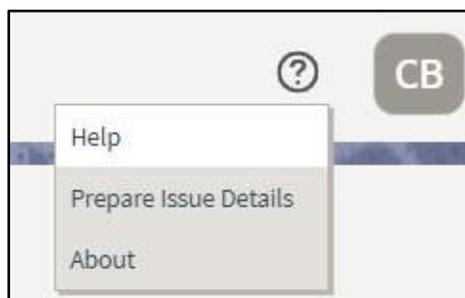


Figure 6: Help Menu

Steps to Enable

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

Role Information

System administrators should set grant users or grant access to the F1- PREPISUEDTLS application service for the Prepare Issue Details menu item.

Switch UI View Option

The User menu now includes a Switch UI View option that allows users to switch the user interface between the standard look and feel and the Redwood User Experience introduced in a previous release.

The Switch UI View option in the User menu can also be secured using the F1UIVIEW application service.

This option provides an easier method to switch between user experiences than manually changing the environment URL. Implementations may now control which users, if any, have the ability to toggle between the new Redwood look and feel and the standard look and feel.

Steps to Enable

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

Role Information

System administrators should grant access to the F1UIVIEW application service for those users who will be allowed to switch between user experiences.

User Search Shows Enabled Users by Default

The zone-based user search that is used for any portal-based user interface where a user record needs to be selected now shows only enabled users in the result by default.

Enabled users are those whose User Enable flag is set to "Enabled". If you want to include inactive users in your search criteria (users whose User Enable flag is set to "Disabled"), you can check the new "Include Inactive Users" filter.

Steps to Enable

No steps are required to enable this feature.

Adjust Menu Sequences

The system's menu configuration includes sequence numbers to allow control over the order of menu lines throughout the system. If sequence numbers of one or more entries are the same, the system orders those lines alphabetically. Unless there are special circumstances, the product standard is to use the sequence number 50 for all menu lines that are part of the Main Menu or Admin Menu configuration.

Several Oracle Utilities Application Framework-delivered menu lines have been updated to sequence 50 to align with this product standard. The My Preferences menu entry on the Main Menu has a higher sequence (80) so that its position is always last in that menu.

Steps to Enable

No steps are required to enable this feature.

Entity Tags

Entity tagging supports grouping of configuration, demo, and test related entities so they can better describe a logical function. Each group is represented by a "tag" and entities may be associated with multiple tags.

A **Tags** dashboard zone allows the user to add, remove, and review tags for an entity. The zone is secured by an application service so that it is only available to applicable user roles. The **Entity Tag** portal lists all entities linked to a tag and supports mass actions for associating configuration entities with a tag.

Steps to Enable

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

Role Information

System administrators should grant access to the following application services:

- F1-ENTYTAG application service for the Entity Tag maintenance object.
- F1ENTAG application service for the Entity Tag maintenance portal.
- F1ENTAGS application service for the Entity Tag query portal.
- F1-TAGS application service for the Tags dashboard zone.

Field References

A References tab is added to the Field portal to list application components that explicitly reference the field record. You can review all application references of a field record.

Steps to Enable

No steps are required to enable this feature.

Filter Area On Data Explorer Collapses After Search

The filter area now collapses when searching on data explorer zones in all cases. The Expand Filters button becomes visible, allowing you to adjust your search criteria, if desired.

Previously, this behavior only occurred if the query resulted in more than two records. The behavior is now consistent for all results.

Steps to Enable

No steps are required to enable this feature.

Inbound SOAP Web Service Debugging Improvement

If your inbound SOAP web service uses XSL transformation, the debug log now includes the details of the document before and after the XSL transformation. You now see more information in the debug output for inbound SOAP web services that use XSL transformation.

Steps to Enable

No steps are required to enable this feature.

Menu Application Security Portal

A user may require several application service grants to properly work with the application components associated with a specific menu line. A new **Menu Application Security** portal is provided to assist with maintaining application security for a user group and the application services associated with a specific menu line. The portal is accessible from a new **Menu Links** dashboard zone that is available when reviewing the Menu page.

The **Application Services Linked** and **Application Services Unlinked** zones now include a filter by entity tag, allowing you to refine the list of application services by logical function.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

An upgrade script updates all user groups that currently have access to the existing **Menu** page application service CILEMNUP to have the same access to the new portal application service F1MENU.

New Hot Keys for Navigation

The new hot key **Alt+[** allows you to quickly move the cursor focus to the next major page component. You can use **Shift+Alt+[** to reverse the navigation order. The major page components include:

- The menu or toolbar area
- The Dashboard
- The Page Title area
- The main Page Area, including the tabs for the current page and the display area of the current page

The new hot key **Alt+]** allows you to quickly move the cursor focus to the next zone. You can use **Shift+Alt+]** to move the cursor to the previous zone. For portal-based pages, this key navigates through zones in the portal and through the zones in the Dashboard. For fixed pages, the key applies to navigation of zones within the Dashboard portal.

Steps to Enable

No steps are required to enable this feature.

New User Experience

The product provides an updated user experience referred to as Redwood. The new experience includes a compact page header that takes up less vertical space to allow more page content to be displayed, as well as new portal tabs, buttons, background colors, borders, icons, and fonts. Previously, this user experience was only available by turning on a URL parameter. This parameter is no longer supported or necessary, and the experience has been enriched.

The following are highlights from the Redwood user experience:

- **Palette and Icons** - The color palette and icons reflect a more modern and streamlined user experience.
- **Unified Search** - There is a single search box to perform comprehensive searches for data relevant to your application, based on search options supplied by your specific product.
- **Dashboard Controls** - The default location for the dashboard is now on the left. User preferences allow you to configure it on the right, as before. In addition, the state of the dashboard (its width and whether it is open or closed) are captured in the user preferences and remain set until changed again.
- **Portal or Zone Configuration** - There is advanced configuration for portals and zone layout, including new width options and height options.
- **Domain Name Display** - Installation Options allow you to define a domain name for an environment. This information is displayed in the toolbar.

You can use the **Switch UI View** option in the user menu to revert the user experience to the previous one for the current session. This option is only visible if the user has been granted access to the appropriate application service.

Oracle is transitioning all its products to a new consistent user experience, branded the Redwood experience. Oracle Utilities Application Framework has implemented this experience to provide a more consistent and modern interface with new design elements including consistent color, layout, fonts, behavior and iconography.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

Note that to view the underlying HTML for a page, you should use the **Inspect** option rather than **View Source** or **View Frame Source**. With the Redwood user experience, the "view source" options no longer include the underlying HTML source code.

Open API Specification Enhancements

The Open API Specification document generated for an Inbound Web Service complies with up-to-date schema definition standards.

Note that the changes do not impact the request and response schemas used by the web service at run time and therefore should not cause upgrade issues.

The following sections describe the changes introduced in this release:

- Schema Reference

The primary changes is to how a schema is referenced using the \$ref attribute and how its root node is defined for when XML format is used.

Previously, the \$ref definition referenced the "root" element of the request and response schemas using a nested reference within the schema definition. This was needed to ensure that in XML format the same root node was included in the request and response schemas.

```
"$ref": "#/components/schemas/CREATEPERSON_request/properties/C1-CrePerson"
```

Schema Definition

```
"CREATEPERSON_request": {  
  "type": "object",  
  "properties": {  
    "C1-CrePerson": {  
      "type": "object",  
      "properties": {  
        "personId": {  
          "type": "string",  
          "maxLength": 10,  
          "description": "Person ID"  
        }  
      }  
    }  
  }  
}
```

This type of nested schema reference is no longer supported. Instead, a designated XML attribute is added to explicitly define the root node.

In this release, the schema reference is changed as follows:

```
"$ref": "#/components/schemas/CREATEPERSON_request"
```

Schema Definition

```
"CREATEPERSON_request": {  
  "type": "object",  
  "properties": {  
    "personId": {  
      "type": "string",  
      "maxLength": 10,  
      "description": "Person ID"  
    }  
  }  
  "xml": {  
    "name": "C1-CrePerson"  
  }  
}
```

- Reusing the Schema Definition for the Standard Error Response

Previously, the same error response structure was repeated as a separate schema for each IWS operation. This made the file large for no reason. In this release, a single copy of the error response schema is included in the document to make it smaller and simpler.

- Adjusting the "Tags" Attribute Text

The tags attribute is constructed as `<Resource Category description>/<IWS description>`. The IWS description part was used to include the detailed description of the service if any was defined, but tags should ideally be short and not involve detailed descriptions. In this release, the IWS description part is changed to include only the short description of the service, regardless of any detailed description that may be defined for the service.

Steps to Enable

No steps are required to enable this feature.

User Group Services Management - Filter User Groups by Entity Tag

The User Group Services Management portal provides zones to view the application services linked or unlinked to a chosen user group and the ability to remove or add services.

The Application Services Linked and Application Services Unlinked zones now include a filter by entity tag, allowing you to refine the list of application services by logical function.

Steps to Enable

No steps are required to enable this feature.

Ability to Configure a Warning when Downloading Data

You can configure the system to provide a warning to users when data is downloaded or exported locally, to remind them that it could contain sensitive or personal data that should be safeguarded.

A new property setting is provided to indicate that users should be warned whenever they perform an action that causes data to be copied to their local machine. The default text of the warning is as follows:

"This action copies a file to your local machine that might contain sensitive data. Be careful to follow your organization's guidelines for handling this type of information."

Your implementation may choose to override the text to align with your business practice. The message category and message number are 11001/6201.

The warning is displayed when the user performs any of the following actions:

- Chooses the Export to Excel action on any data explorer zone from the zone menu.
- Views an Attachment. (This actually downloads a local copy of the attachment data).
- Clicks a button that uses the `oraDownloadData` function from a UI map. This is dependent on specific page design. If a page has a UI map that uses this function to support downloading data, users get the warning when clicking the button. An example of this functionality is visible when editing a Bundle Export record.

Steps to Enable

To enable this feature, complete these steps:

1. Go to the [spl.properties](#) file and set the `spl.runtime.warning.dialog.before.download` property to `true`.
2. Optionally, if you would like to override the warning text, go to **Admin, System, Message** and search for message category 11002, message number 16201.
3. Edit the message and enter the desired text in the **Override Message Text** field.

Integration Enhancements

This section describes the following new and enhanced integration features introduced in this release:

- [Based Delivered External Systems and Message Senders](#)
- [Support for Generic Data Synchronization Functionality](#)

Based Delivered External Systems and Message Senders

In order to support pre-configured integration flows, the External System and Message Sender records are enhanced to be system-owned entities.

The base product can provide fully configured integrations.

Steps to Enable

No steps are required to enable this feature.

Support for Generic Data Synchronization Functionality

There is a new generic mechanism by which an entity can be synchronized with an external system in an ongoing fashion. The solution supports base product fully configured integrations that may be customized and new custom integrations.

The following points describe the new functionality:

- A new Data Synchronization Control extendable lookup defines a data synchronization configuration for a maintenance object and an external system.
 - If the status of the record is active the synchronization is enabled.
 - A synchronization script is referenced on the record to manage the integration business rules. The script is called in Check mode to determine whether the entity needs to be synchronized upon a change data capture event and it is also called in Process mode to prepare the data and send the outbound message to the external system.
 - There could be multiple configuration records for an entity and external system, allowing override by other products and customer where the configuration with the highest sequence is in effect.
- When an entity is changed, a designated Maintenance Object Audit rule consults all enabled integrations for the entity, as defined by the Data Synchronization Control extendable lookup, to determine whether the change should be synchronized or not. If the change should be synchronized, a generic data synchronization request process for each external system is initiated accordingly.
- The processing of a request to synchronize an entity with an external message is managed by a Generic Data Synchronization request business object that is processed later by batch.

Steps to Enable

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

Tips and Considerations

With this mechanism, introducing a new entity data synchronization involves the following artifacts:

- Implementing a synchronization script.
- Defining standard outbound message configuration including external system and message sender.
- Adding an entry in the Data Synchronization extendable lookup referencing the Maintenance Object, External System and corresponding Synchronization Script. When applicable, use a higher sequence number to override a base product configuration for the same entity and external system.
- Plugging-in the FW generic MO audit to initiate the generic data synchronization request if not already plugged in.

Role Information

System administrators should set grant users or grant access to the F1- GENDATSYNCBOAS application service for the generic synchronization request business object.

Data Export

This section describes the following new and enhanced data export features introduced in this release:

- [General Data Export - File Size Control](#)
- [General Data Export - Ongoing Export Enabled On-Premise](#)
- [General Data Export - Thread Allocation Control](#)

General Data Export - File Size Control

Generalized Data Export (GDE) batch processes produce a single file per thread by default. This may result in files that are too large to manage. An optional batch parameter Records in File has been added to the GDE batch processes to limit the number of records exported in a file. When specified, the batch process closes the current file when the number of exported records reaches the specified limit and a new file is opened for exporting the next set of records. This allows for multiple export files to be created for a single thread.

The **F1-GEXPI** (Generalized Initial Export Initiator) batch process has this limit set to 500,000 records per file but this value may be removed or adjusted by your implementation as needed.

The **F1-GEEXO** (Generalized Ongoing Export) batch process has been enhanced to better manage situations where the backlog of queued changes has become too large. In this situation, the next batch takes longer to export, which delays the downstream consuming step of the export files. The import step can only start once the manifest file is ready when the batch completes. In this release, the backlog can be cleared in smaller "chunks", allowing the downstream consuming process to import them as they are made available. To support this, an optional batch parameter Thread Processing Limit has been introduced to limit the number of records exported in a single run. Instead of waiting for the next scheduled batch run to process the next set of remaining entries, a new batch process may be automatically submitted if requested by the Automatic Backlog Clearance batch parameter. The batch process has this limit set to 500,000 records and enables automatic backlog clearance. These parameters may be adjusted by your implementation as needed.

Steps to Enable

No steps are required to enable this feature.

General Data Export - Ongoing Export Enabled On-Premise

The ongoing export feature of the Generalized Data Export functionality is enabled for on-premise installations. This provides on-premise installations with the ability to continuously export data as it changes.

Steps to Enable

No steps are required to enable this feature.

General Data Export - Thread Allocation Control

By default, each export batch submitted by the F1-GEXPI (Generalized Initial Export Initiator) batch process uses the number threads defined on the maintenance object's specific batch control record. This allows for a more optimal configuration of the number of threads to allocate to a specific batch based on the size of the corresponding maintenance object.

In this release, an optional batch parameter Override Number of Threads is introduced to override this value. When set to "Y" the default value is overridden with the number of threads the initiator batch is submitted with. This allows for a global number of threads allocation that does not require a specific value on each specific export batch control.

Note that this override capability only applies to master and transaction entities. Admin entities are of low volume and therefore should use their default value, which is typically a single thread.

Steps to Enable

No steps are required to enable this feature.

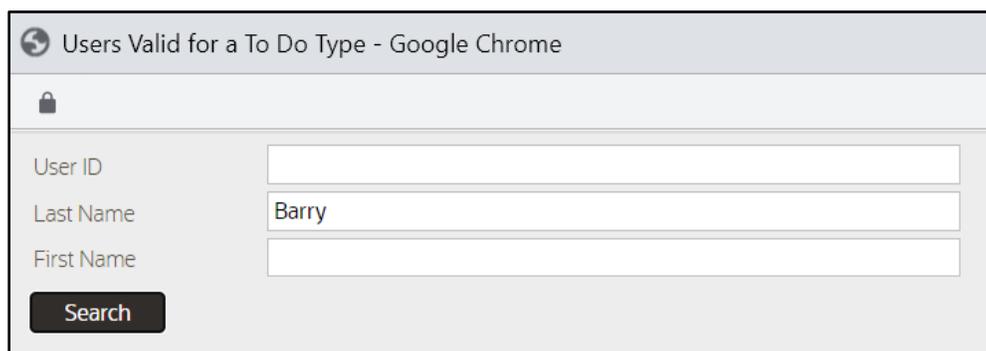
To Do Management and Processing Enhancements

This section describes the following new and enhanced To Do features introduced in this release:

- [Improved User Search for Assigning To Do Entries](#)

Improved User Search for Assigning To Do Entries

The search for users provided in the Forward action on the To Do Entry portal now allows you to filter the result list by the user ID and/or user name.



The screenshot shows a web browser window titled "Users Valid for a To Do Type - Google Chrome". The page contains a search form with three input fields: "User ID", "Last Name" (with the text "Barry" entered), and "First Name". Below the input fields is a dark "Search" button. The form is set against a light gray background with a lock icon in the top left corner.

Figure 7: User Search on the To Do Entry Screen

In addition, the results list has been enhanced to display counts of To Do Entries already assigned to this user for the same To Do Type ("Assigned - This Type") and across all To Do Types ("Total Assigned").

	User Name	User	To Do Role	Role Description	Assigned - This Type	Total Assigned
1	Balladares, Albert	SPLABX	F1_DFLT	System Default Role	0	0
2	Barry, Regina	SPLRXB1	F1_DFLT	System Default Role	0	4

Figure 8: To Do List of the User

In addition, the To Do Management portal's Assign action has been enhanced. If you are a supervisor using this action, you are prompted to choose the User to assign to.

Previously, this prompt used a drop-down. In this release, you now use the same enhanced search. This allows you to filter the search by User ID or user name, and it also provides you with information about each user's current work load.

Steps to Enable

No steps are required to enable this feature.

Batch Processing Enhancements

This section describes the following new and enhanced batch processing features introduced in this release:

- [Root Node Element Optional on Plug-in Driven Extract](#)
- [REST Service to Get Batch Job Details](#)
- [DBMS Scheduler Option for Defining Time Zone](#)
- [DBMS Submission Default Changed to Single Submission](#)

Root Node Element Optional on Plug-in Driven Extract

The plug-in driven extract batch program now supports configuration to suppress the inclusion of a Root Node Element by entering the word "suppress" in the **XML Root Name** parameter.

Steps to Enable

No steps are required to enable this feature.

REST Service to Get Batch Job Details

The **F1-SubmitJob** inbound web service is enhanced to have a new operation to Get the details of the batch job. It uses a new business service: **F1-GetBatchJobDetails** (Batch Job/Batch Run Details).

If the batch job does not have a batch run associated with it, the service returns information about the batch job only. If there is an associated batch run, the service also returns information about the batch run and its threads and instances.

For cases where an external system, such as an external scheduler, requires information about a batch job, you can use this REST service to return the detail of a given batch job ID.

Steps to Enable

No steps are required to enable this feature.

DBMS Scheduler Option for Defining Time Zone

If your implementation is in a time zone that is different from the database time zone, set the new DBMS Scheduler Option `set_sessiontz` option to true to ensure that the Start Date/Time on the Batch Job Submission record is set to the time based on installation time zone rather than the database time zone.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

Note that the Start Date/Time on the Batch Job Submission record is used as a way to delay the job's execution to a future date. It is not used as a timestamp to indicate when the job was created or executed. If the new option is not set or is set to false, there is no affect if your time zone matches the database time zone or if your time zone is after the database time zone. The setting is only relevant if your time zone is earlier than the database time zone. For those implementations, without this option set, the Batch Jobs are be created with the database time zone, which will cause a delay in the jobs being processed.

DBMS Submission Default Changed to Single Submission

The DBMS scheduler now uses the "single submission" setting as the default. This setting results in the creation of a single Batch Job Submission record for a given job regardless of the number of threads. The resulting records in the Batch Run maintenance object continue to keep track of the multiple threads using the Batch Thread and Batch Instance records. Previously, the default setting was that single submission was turned off.

This setting may be overridden globally or for a specific batch program. Turning off the "single submission" setting results in the creation of a separate Batch Job Submission record for each thread. However, there is no benefit to using this setting. For jobs with a large number of threads, this option results in an unnecessary proliferation of records to manage.

Steps to Enable

No steps are required to enable this feature.

Implementation Tool Enhancements

This section describes the following new and enhanced implementation tools introduced in this release:

- [Support Additional Zone Layout Options](#)
- [Support for Defining Links and List Standards in Schemas](#)
- [Explicit Imports in Groovy Scripts](#)
- [Web Component Syntax Change](#)
- [New Facility for Invoking Service Scripts or Business Services](#)
- [OJet Upgrade](#)

- [Script Syntax for Marking Lists in Error](#)
- [Admin Log Retrieval](#)
- [Explicit Imports in Groovy Scripts](#)
- [Improved Portal Zone Height Control](#)
- [New Base Display Icon Images Supplied](#)
- [Groovy Version 3.0.7 Upgrade](#)
- [Width Option for Contextual Insights](#)

Support Additional Zone Layout Options

Additional zone width options, zone height options, and layout options are now available. This allows portal designers to have finer-grained control over how the zones are laid out in a portal to optimize layout and reduce whitespace. Additional configuration options added include:

- **Row Start Layout** - You can start a new row containing one, two or three zones displayed vertically. In past releases, a row included a single zone in each column.
- **Increased Width Options** - In past releases, zones may be full or half width. You can add additional widths to take advantage of flexible row layouts.
- **Flexible Height Options** - You can configure additional options for the zone height to optimize the display of the zone.

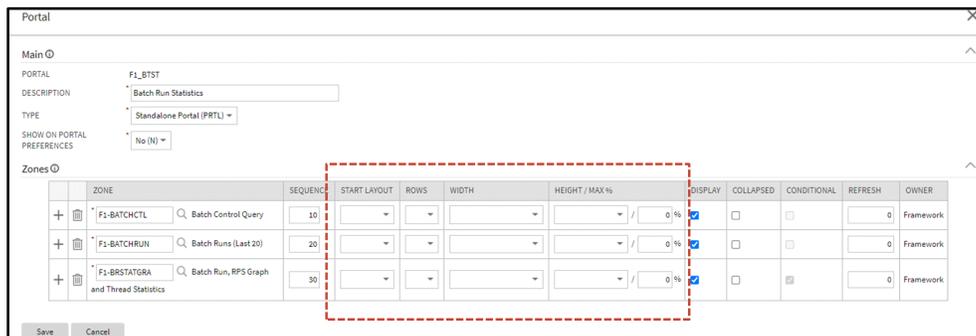


Figure 9: Zone Layout Options

Note: These options are only supported under the Redwood user experience view. Refer to online documentation for more information on Redwood user experience view.

The additional zone configuration options allow for more specialized design of portals to ensure that information is presented in the optimal way for the user. They also give designers more control of the configuration for better organization of zones in portals.

Steps to Enable

To enable the Redwood user experience, add the `redwood=true` parameter to your application or environment URL.

Support for Defining Links and List Standards in Schemas

Standards for published APIs related to standard REST operations can be defined in the API's operation schema. In some cases, the published API includes elements that are different from the internal schema or additional features on top of the internal schema. In this release, with the introduction of the external facing schema (IWS operation schema), syntax has been added to configure these features directly in the operation schema, allowing the internal schema to remain unaffected. Note that not all published REST APIs follow the standards below. Refer to the online help for more information about the types of APIs that follow the below standards.

Dynamic Links

There are use cases where the published API will include a "_self" element that includes the endpoint URL of the Get operation related to the data returned in the response.

Additionally, these same response payloads may include foreign keys and for those entities, the response includes a "_link" element that includes the endpoint URL of the GET operation for that entity (if it exists).

In this release, syntax is provided in the REST IWS operation schema to support building the runtime endpoint URL for the _self and _link. Besides dynamically building the static portion of the URL based on the current environment details, it also builds the dynamic portion of the URL, substituting the URL components for the operation and substituting the path parameters. The syntax allows you to define a specific IWS Operation or allows you to reference a maintenance object and at runtime for a REST call, and the system determines the appropriate IWS operation and builds the URL for this REST service.

Example of the syntax:

```
<_self getOperation="mo:'TO DO ENTRY';pk1:toDoEntryId;"/>
```

The following is the information returned for the above syntax when performing a Get operation for a To Do Entry with ID 17798129050729. The system determined the Inbound Web Service 'get' operation for To Do Entry and built the URL components for that operation.

```
"_self": "/rest/apis/common/toDos/toDoEntries/17798129050729"
```

To support dynamically determining the Get Operation for a maintenance object, the following metadata is introduced:

- IWS Operation is enhanced to reference a Maintenance Object code. This field may only be populated on GET operations for REST IWS.

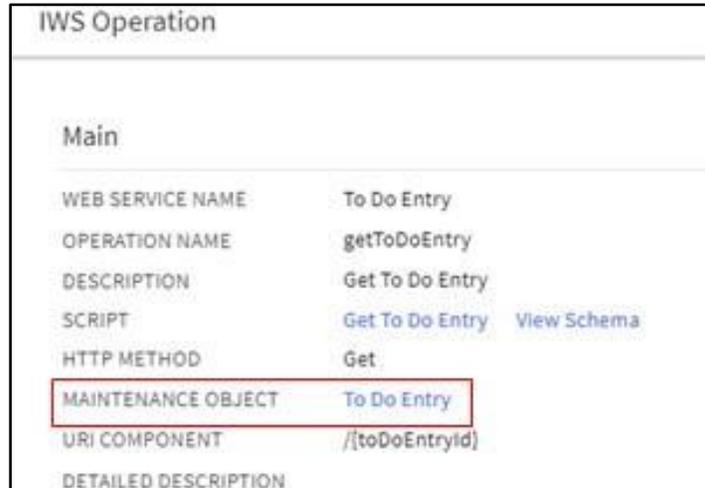


Figure 10: IWS Operation Details

- A new Maintenance Object (MO) Option type is added. It supports defining the IWS, operation name for the GET operation. This option allows for an implementation to override the default GET operation for an object, if needed.

OPTION TYPE	SEQUENCE	OPTION VALUE
* GET Operation	* 1	F1-ToDoEntry, getToDoEr

Figure 11: Maintenance Object (MO) Option Type

- A new Business Object (BO) Option type is added. The syntax is the same as the maintenance object option. This is useful for maintenance objects that support diverse business objects that may warrant specialized REST APIs.

When you use the "mo" syntax for the GET operation at runtime, the system takes the key of the entity and determines its business object. If it finds a specific GET operation as a BO option, that is used. Otherwise, if it finds a GET Operation configured as an MO option, that is used. Otherwise if it finds an IWS operation that references this MO as a foreign key, that is used. Finally, if it cannot determine a GET operation, it builds the text "Not available".

Foreign Key Group

As mentioned above, when this type of published API includes a foreign key in the response, besides returning the value of the foreign key, we should also return a "_link" with the endpoint URL of that object's 'Get' REST operation. To support that, the standard is that foreign keys are returned in a group.

Example:

```
<user>
  <user/>
  <_link/>
</user>
```

With the new features, the internal schema includes only the element for the data and the external schema includes configuration to build the group.

Internal Schema	Operation Schema Syntax
<pre>... <user/> ...</pre>	<pre>... <user role="FKGP"> <user/> <_link getOperation="mo:'USER';pk1:user;"/> </user> ...</pre>

Collection Lists of Data

When this type of published API returns a list of information, the standard is to use the element "_data" for the list grouping tag.

Example:

```
<drillKeys>
  <_data>
    <sequence/>
    <keyValue/>
    <description/>
    <version/>
  </_data>
</drillKeys>
```

With the new features, the internal schema includes the list as defined internally (which does not include the `_data` element). Syntax in the operation schema allows you to define the list using the `_data` element.

Internal Schema	Operation Schema Syntax
<pre><drillKeys type="list"> <sequence/> <keyValue/> <description/> <version/> </drillKeys></pre>	<pre><drillKeys role="COLL"> <_data mapTo="drillKeys"> <sequence/> <keyValue/> <description/> <version/> </_data> </drillKeys></pre>

Supporting syntax in the REST IWS operation schema for some standard features in our published APIs moves the burden of configuration to the object that needs the feature. The internal schema can therefore remain devoid of this configuration that is not applicable to the internal service. This is in the style of the Hypermedia as the Engine of Application State (HATEOAS) standard.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

To take advantage of this feature, service scripts used for REST operations should include the F1-WebServiceControl data area. This includes the HTTP method element and allows for future enhancements. Once added, the service script logic can be enhanced to check the value of the HTTP Method and perform different steps based on the value.

Explicit Imports in Groovy Scripts

Any scripts that include Groovy code should explicitly declare the Groovy classes to import using the Groovy Imports step type. The system includes a new `com.oracle.ouaf.groovy.skip.defaultImports=true` setting in the Properties file. If this is configured and the system detects that there are classes referenced in the script that are not explicitly defined when saving a script, it issues a warning and automatically adds import statements for the classes.

Previously, the system did not require explicit imports and had logic to import all callable classes available to Groovy at run time. Two issues were found with this practice.

- It was possible that the referenced class had the same name as a class in a different package and at runtime, the system would use a different class than what was intended. The non-unique name may not have been visible when writing the code, but rather would be found in a subsequent release (after a new class was introduced) or would be found in a different product layer.
- As the number of classes grew, the compilation time for Groovy scripts continued to increase.

To accommodate scripts written previously, the system compiles the Groovy script at runtime without the automatic import logic. If the script compiles, the system continues and runs the script. If the script does not compile, the system then performs the auto import of all callable classes.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

It is recommended that implementations review their existing custom Groovy scripts and proactively update the scripts to explicitly declare the imports.

Web Component Syntax Change

The attributes for Oracle Utilities Application Framework web components have been amended to make them easier to read and more similar to HTML. This will impact any existing `ou-tree` or `ou-insight` web component reference. The definition has been changed as follows:

- Supported value types are XPath and context.
XPath references must explicitly say `"x[..]"`. For example, `<ou-insights insightType="x[insightType]" mode="preview"></ou-insights>`. Previously, XPath was the default and did not need any mnemonic. For example, `<ou-insights insightType="insightType" mode="preview"></ou-insights>`.
The change applies to all XPath references. For example in the context values, `<ou-insights insightType="F1-RELATED-TODO" context="TD_ENTRY_ID:x[ToDoEntryId];"></ou-insights>`. Previously, the context values appear as `<ou-insights insightType="F1-RELATED-TODO" context="'TD_ENTRY_ID':ToDoEntryId;'></ou-insights>`.
- Note that in addition to the changes above, literals no longer need to be surrounded by single quotes. Single quotes will continue to be supported but will not be necessary. Refer to `F1-RELATED-TODO` and `TD_ENTRY_ID` in the examples.

This enhancement standardizes the interface using industry standard syntax and amends the default rules for the attributes passed into a web component to facilitate enhanced web component features.

Steps to Enable

No steps are required to enable this feature.

New Facility for Invoking Service Scripts or Business Services

The new service invocation function allows a developer to detail specific pieces of a data schema to be sent to the server when invoking a service. It also allows the definition of what needs to be handled when the service is returned. This can greatly reduce the amount of data being handled and therefore can provide a performance boost.

This invocation is also "asynchronous" and therefore will allow other JavaScript processes to continue while the server is processing the request.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

This is a new function and does not affect any existing service calls. It is only available for use inside a UI Map.

Key Resources

Refer to the [Oracle JET Developer Cookbook](#).

OJet Upgrade

This is an Oracle standard JavaScript library that provides many user interface components. It is updated regularly to include new and updated components inline with updated Oracle user interface standards (Redwood).

This upgrade allows access to new components and updated Oracle Redwood user experience standards.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

With this release, the former "ojcomponent" bind format is no longer valid. Any usage must be replaced with the newer OJet component code.

Key Resources

Refer to the [Oracle JET Developer Cookbook](#).

Script Syntax for Marking Lists in Error

The Edit Data 'terminate with error' syntax is enhanced to support marking an element in a list in error by referencing the variable used to loop through the list.

```
terminate with error( xxxx, yyyy element='$listVar/ element_name')
```

In this case, the \$listVar represents the variable used in the 'for' loop. For example, this validation includes a 'for' loop and uses the variable '\$key' to keep track of the list entry:

```
for ($key in "parm/hard/newBusinessObject/relatedBatches/ relatedBatch")
```

```
    if ("string($key/perfRelObjType) != 'F1PB") terminate with error (11022, 12104  
        element='$key/perfRelObjType');
```

```
    end-if;
```

```
end-for;
```

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

Note that in previous releases, the suggested mechanism for marking an element in a list in error was to concatenate the XPath with the list entry, as follows:

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

However this technique was found to have limitations in certain use cases. As such, it is no longer the recommended technique.

Any scripts that are using the previous technique for marking a list entry in error should be updated to use the new syntax.

Key Resources

Refer to the Edit Data Syntax section of the Oracle Utilities Application Framework Administrative Guide for more information.

Admin Log Retrieval

A new Advanced Show Log Option allows administrative users to fetch logs of other users. By default, a user can only retrieve their own user logs. The following are examples of when this capability is needed:

- Batch and integration logs are captured by special user codes created for this type of processing. These users typically do not represent a human and therefore would not access logs using "show user log." Instead, someone else would be accessing these logs.
- Customer administrators would like to retrieve logs for an end user for support reasons. An end user might not have technical skills to gather or assess the log, or they might not have the privileges necessary to access the logs for security reasons.

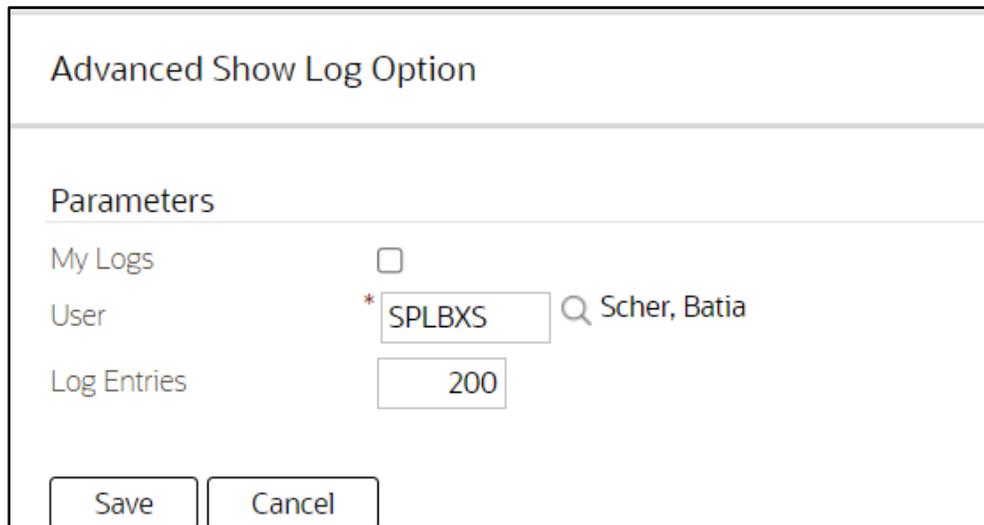
An Administrative (F1SU) access mode has been added to the existing Show User Log application service (F1USERLOG). Only users with access to the administrative access mode can view the logs of other users.

To a user with administrative access, the **Advanced Show Log Option** is offered as a drop-down button along with the **Show User Log** option.



Figure 12: Advanced Show Log Option

Clicking **Show User Log** in the drop-down list launches a window allowing you to select the user ID for the desired user logs. You can also adjust the number of log entries. If you realize you want your own logs after all, you can simply click the checkbox.



The screenshot shows a dialog box titled "Advanced Show Log Option". It contains a "Parameters" section with the following fields:

- My Logs**: An unchecked checkbox.
- User**: A text input field containing "SPLBXS" with a search icon and the text "Scher, Batia" to its right.
- Log Entries**: A text input field containing "200".

At the bottom of the dialog are two buttons: "Save" and "Cancel".

Figure 13: Advanced Show Log Option Window

Steps to Enable

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

Role Information

System administrators should set/grant users/grant access to the Administrative (F1SU) access mode of the existing Show User Log application service (F1USERLOG).

Explicit Imports in Groovy Scripts

When saving a script, if the system detects that there are classes referenced in the script that are not explicitly defined, it issues a warning and automatically adds import statements for the classes. Previously, you had to opt-in to this functionality using a property. In this release, this is now the standard product behavior.

When the script is executed at run time, the system uses the explicit imports to execute the script. Previously, the system had logic to import all callable classes available to Groovy at run time, which caused issues in certain cases. Because you may have custom scripts that still do not have the explicit imports, the system continues to fall back on the previous behavior to import all callable classes for scripts that do not compile with their explicit imports.

You should review your existing custom Groovy scripts and update the scripts to explicitly declare the imports.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

The background process F1-CAGVY that reports all scripts that required the automatic import step to successfully compile. You should run this batch program to identify and fix any scripts missing explicit imports.

Improved Portal Zone Height Control

Zone height configuration is simplified and now supports the following options:

- **Content (Unlimited Height)** - Allows the height to be determined by content.
- **Content (Limited Height)** - Allows the height to be determined by content up to a specified maximum limit.
- **Fixed Height** - Sets the zone at a specific height regardless of content.

You can use height limit options to achieve a more consistent portal layout, especially when a zone is rendered on long or small devices.

When a height option is not explicitly selected, zone height is unlimited and determined by content. However, for a data explorer zone, the results grid area itself (not the entire zone) is limited by the zone parameter "height of report" (which has a default value of 50%).

The following zone height options are deprecated and replaced as follows:

- **Content** - Zones configured with this option along with a maximum height limit are upgraded to reference the Content (Limited Height) option. If no limit is specified, the Content (Unlimited Height) option is used.
- **Full** - Zones configured with this option are upgraded to reference the Content (Limited Height) option with a 100% height limit.
- **Half** - Zones configured with this option are upgraded to reference the Content (Limited Height) option with a 50% height limit.

Steps to Enable

No steps are required to enable this feature.

New Base Display Icon Images Supplied

You can use additional SVG icons in contextual insights, trees, and other user interface features that support SVG icons.

Icon	ID	Description
	F1ACTADD	Activities - Add
	F1ARWODL	Arrow - Open - Down - Left
	F1ARWODR	Arrow - Open - Down - Right
	F1ARWOUL	Arrow - Open - Up - Left

Icon	ID	Description
	F1ARWOUR	Arrow - Open - Up - Right
	F1ARWSI	Arrows - In
	F1ARWSO	Arrows - Out
	F1ASAVE	Save - Arrows Out
	F1BOX	Cube
	F1CAL	Calendar
	F1CALL	Telephone
	F1CALLA	Telephone - Add
	F1CAREA	Area - Chart
	F1CBXOFF	Checkbox - Off
	F1CBXON	Checkbox - On
	F1CDWNR	Caret - Down - Right
	F1CHDOWN	Chevron - Down
	F1CHDWR	Chevron – Down - Right
	F1CIRCLE	Circle
	F1CLEFT	Caret - Left
	F1CLINE	Line Chart
	F1CLIST	Progress List
	F1CLPBC	Clear List
	F1CONSTD	Construction Design
	F1CPYTMP	Copy From Template
	F1CRAGG	Running Aggregate Chart
	F1CRCLE7	Progress Circle
	F1CREATE	Site - Add
	F1CRIGHT	Caret - Right
	F1CRPAGE	Page - Add
	F1DAREA	Draw Area

Icon	ID	Description
	F1DWNLD	Download
	F1EDIT	Edit
	F1EDITIN	Inline Edit
	F1EXACRO	Export Acrobat
	F1FHAND	Free Hand Draw
	F1HEXGN	Polygon - Hexagon
	F1HOUSE	House
	F1HRGS	Waiting Hourglass - Start
	F1LAYERS	Layers
	F1LINEI	Line - Inclined
	F1LINEST	Line - Staggered
	F1LOC	Location
	F1LOCW	Location Pin - Work
	F1LOCWA	Location Pin - Work - Add
	F1MENUE	Expand Menu
	F1MOVE	Move
	F1MSG	Message
	F1MULT	Multiply
	F1NOTIF	Notification
	F1NUMS	Numbers
	F1OVAL	Oval
	F1PINS	Location Pin - Solid
	F1RECT	Rectangle
	F1RFRSH	Refresh
	F1RUNNIG	Running
	F1SCLOSE	Close - Circled - Solid
	F1SFILE	Work Request - File Stage

Icon	ID	Description
	F1SHARE	Share
	F1STPED	Close - Circled - 2 Colors
	F1TAG	Tag
	F1TEXT	Text
	F1TRIUP	Triangle
	F1VIEW	View
	F1WRKOA	Gantt Chart - Add
	F1ZOOMIN	Zoom In

Steps to Enable

No steps are required to enable this feature.

Groovy Version 3.0.7 Upgrade

You can stay current with the version of Groovy supported by the product.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

Groovy introduced a change in behavior in this newer version. It is unknown whether this change in behavior is intentional or a defect.

Here is one example error:

```
[Static type checking] - Cannot find matching method
com.splwg.base.api.datatypes.Date#addDays(java.math.BigInteger). Please check if the
declared type is correct and if the method
exists.org.codehaus.groovy.control.MultipleCompilationErrorsException:
startup failed: C1FATYPALMSG: 47: [Static type checking] - Cannot find matching
method com.splwg.base.api.datatypes.Date#addDays(java.math.BigInteger). Please
check if the declared type is correct and if the method exists.
@ line 47, column 35.
Date referenceDate =
row.getDateTime("SCHED_DTTM").getDate().addDays(row.getInteger("DA
YS_ALERT_NBR"));
```

In the cases that we have, some simple changes can be made in the groovy scripts to resolve the compile issues.

For example:

```
Date referenceDate =  
row.getDateTime("SCHED_DTTM").getDate().addDays(row.getInteger("DA  
YS_ALERT_NBR").intValue());
```

Width Option for Contextual Insights

A new CSS helper class is available to the ou-insights web component: card-full-width. Adding class="card-full-width" to the ou-insights web component ensures that the width for a card insight adjusts to the width of the zone that contains it. Card insights that do not set this parameter use a fixed width.

Steps to Enable

No steps are required to enable this feature.

Analytics

This section describes the following new and enhanced analytics features introduced in this release:

- [Additional Business Flag Configuration Values](#)
- [Support Analytics Dimension Hierarchy Definition](#)

Additional Business Flag Configuration Values

The Confidence attribute on Business Flag records now includes a Missed option, which can denote a false negative or a condition missed by the analysis tool.

Additionally, numeric values from 10 to 90 replace the Low, Medium, and High options of the Priority attribute. For backward compatibility, an upgrade step will adjust existing Priority values of Business Flags and Business Flag Types to the following:

- From High to 10
- From Medium to 50
- From Low to 90

Steps to Enable

No steps are required to enable this feature.

Support Analytics Dimension Hierarchy Definition

The metadata needed to support hierarchical dimensions can now be captured as part of the definition of an analytics dimension.

Steps to Enable

No steps are required to enable this feature.

Miscellaneous Enhancements

This section describes the following new and enhanced miscellaneous features introduced in this release:

- [Analytics Publisher Report Uses External Reference](#)
- [Conversion Tool Support for Generic Foreign Key References](#)
- [Conversion Tool Support for Long Running Batch Processes](#)
- [Return Additional Details in DBMS Get Job Details Service](#)
- [Service to Maintain the Sequence Table](#)
- [Service Order Management Data in Local Time](#)
- [Update Customer Release Version Details](#)
- [Additional Elements Added to Installation Options BO](#)
- [Bundle Export Copy Feature Improvement](#)
- [REST Service to Maintain Customer Release Details](#)
- [Oracle Guided Learning Integration](#)

Analytics Publisher Report Uses External Reference

The algorithm F1-BIPR-INV uses the external report reference to generate the URL. Previously, the algorithm used the internal report code rather than the external reference.

Most sample reports provided by the product populated the same value into the Report Code and the External Reference. Implementations following that pattern will see no impact to this change.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

If your implementation uses Analytics Publisher for reports and uses this algorithm type to generate the URL, be sure that the External Reference on your existing report codes matches the Report Code value to ensure that the URL will continue to be built as before.

Conversion Tool Support for Generic Foreign Key References

The conversion step of inserting records to the production schema is enhanced to also resolve foreign key references that are captured in a generic set of fields that include the entity's maintenance object (MAINT_OBJ_CD) and its prime key values (PK_VALUE1- 5). Tables with more than one set of fields are not supported and all referenced maintenance objects on the table should be convertible.

The enhancement improves the support for complex conversion processes by providing the ability to convert tables with generic foreign key references.

Steps to Enable

No steps are required to enable this feature.

Conversion Tool Support for Long Running Batch Processes

The Override SQL Timeout batch parameter has been added to all conversion batch processes allowing them to set a different timeout limit than the default setting in the cloud. The parameter is set to three hours by default but can be supplied with a different time limit as needed when submitting the conversion batch process.

This provides the ability to extend the time limit set in the cloud for long running conversion batch processes.

Steps to Enable

No steps are required to enable this feature.

Return Additional Details in DBMS Get Job Details Service

More supporting information is provided about the steps related to DBMS job runs when calling the F1-DBMSGetJobs (DBMS Scheduler Job List) business service. The following information is now provided for steps in the job run, where the information is applicable for that step:

- Batch Code
- Batch Number
- Batch Rerun Number
- Error Details (if applicable)

In addition, adjustments were made to what is considered an "In Progress" job run and what is considered a "Completed" job run. Previously, if a step in the DBMS job failed, it was returned for both an In Progress job run request and a Completed job run request. This could become confusing because a job with a failed step was not ever going to continue unless manual intervention occurred, so it is not "in progress." The system now uses the following criteria (from top down) for considering a job run In Progress or Completed:

- If a DBMS Job run has at least one step that is Running, the job is considered In Progress.
- If at least one step is Failed, it is considered Completed.

- If at least one step is Not Started (and no steps are Failed), it is considered In Progress.

If none of the above is true (all steps are Completed), it is considered Completed.

Steps to Enable

No steps are required to enable this feature.

Service to Maintain the Sequence Table

A new business service (F1-DocumentSequenceAddUpd) has been provided to add or maintain records in the Sequence table (CI_SEQ). This service includes various actions to add, retrieve, update or delete a sequence which may be used for any business use case that requires a sequential number to be maintained (such as sequential document numbers in Oracle Utilities Work and Asset Management Cloud Service).

Steps to Enable

No steps are required to enable this feature.

Service Order Management Data in Local Time

The following portals now use and display the time in the Service Point or Installation Event time zone:

- Activities - SOM
- Activities - Command
- Appointment Booking

Previously, Service Order Management did not include a time zone component at the Activity Type level and used the application's default Installation Option time zone, which did not match the time zone of the local service point.

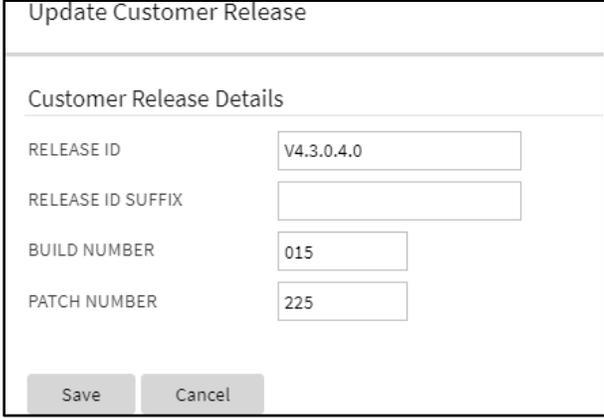
Steps to Enable

No steps are required to enable this feature.

Update Customer Release Version Details

You can update the Customer Release row in the Installed Products collection, allowing implementations to set a version, build, and patch level. This feature is useful for implementations that would like to use this information to manage their own release of customizable code or configuration.

There is a F1CustRelM (Customer Release Maintenance) BPA script that you may use when in a given environment to update the Customer Release information. The script could be linked to a menu entry or configured by appropriate users as a 'favorite script.' Implementation teams may wish to expose this as a REST- or SOAP-based service for integration into Continuous Integration and Continuous Delivery (CI/CD) tools.



Customer Release Details	
RELEASE ID	V4.3.0.4.0
RELEASE ID SUFFIX	
BUILD NUMBER	015
PATCH NUMBER	225

Save Cancel

Figure 14: Update Customer Release Window

Steps to Enable

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

Role Information

Users must have the Execute access mode for the Installation Options application service (CILTINSP).

Additional Elements Added to Installation Options BO

The F1-Installation business object is enhanced to retrieve all the elements on the main table of the Installation Options maintenance object. This provides a performance benefit for any code that needs information from the main table, such as the default currency, but does not require any of the data in the collections linked to the Installation Options maintenance object. Previously, this business object only included the owner flag element.

Additional elements added to the business object for Installation Options allow developers to use this artifact when they need main information from the installation option record.

Steps to Enable

No steps are required to enable this feature.

Bundle Export Copy Feature Improvement

In the Bundle Export object, when you have bundled your metadata, use the Copy to Clipboard action to copy the bundle detail properly, retaining spacing for text like the HTML for a UI map.

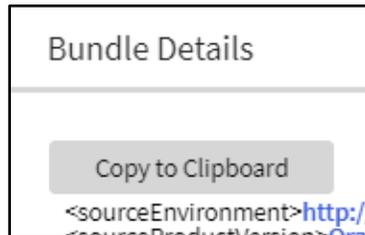


Figure 15: Bundle Export Copy Feature

In previous releases, the Bundle Details zone on the Bundle Export portal provided a "Select All" action to select the bundle details. You then needed to separately use the computer's generic copy function (Ctrl+C) to copy the information to your clipboard. The generic select and copy functionality was not able to retain spacing in objects like the HTML for a UI map. The new Copy to Clipboard action uses specific code to copy the information to the clipboard, retaining spaces.

As part of this feature, the Select All and Deselect All actions were removed. You can still manually select the bundle details manually, if desired.

Action to copy bundle export details retains proper spacing in copied artefacts.

Steps to Enable

No steps are required to enable this feature.

REST Service to Maintain Customer Release Details

The F1-InstallationOptions Inbound Web Service is introduced to provide operations to Get and Patch the release, build number and patch number details on the Customer Release record in the Installation Options installed products list. It uses an existing service script: F1CustRelMSS (F1CustRelMSS).

For cases where an implementation wants to track the version of the custom extensions, you can use this REST service to retrieve and update the Customer Release details. This is particularly useful for Oracle partners and utilities who want to update the customer version from CI/CD tools via curl commands.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

The security for these new operations is the same security for the Installation Options - Framework transaction. Users must have the Execute action for the CILTINSP (Installation Options) application service.

Key Resources

Refer to the Open API Specification for the F1-SubmitJob inbound web service for more information.

Oracle Guided Learning Integration

This integration provides a mechanism for customers of the Oracle Guided Learning Cloud Service to define their application identifier (to identify their tenancy) in a configuration parameter. This will automatically enable the learning widget to appear on the screen passing in the user details and the context to allow relevant content to appear.



Figure 16: Learning Widget

Points to Note:

This integration is to enable the definition of the application identifier and the display of the widget. No prebuilt content is available at this time. Customers using this facility are free to add their own content as necessary using the Oracle Guided Learning Cloud Service.

This integration only allows links to procedures and processes stored within Oracle Guided Learning. It does not support active workflow integration to Oracle Utilities products in this release.

Steps to Enable

Work with your Service Delivery Manager to complete the required configuration.

Web Services

This section describes the following new and enhanced web services features introduced in this release:

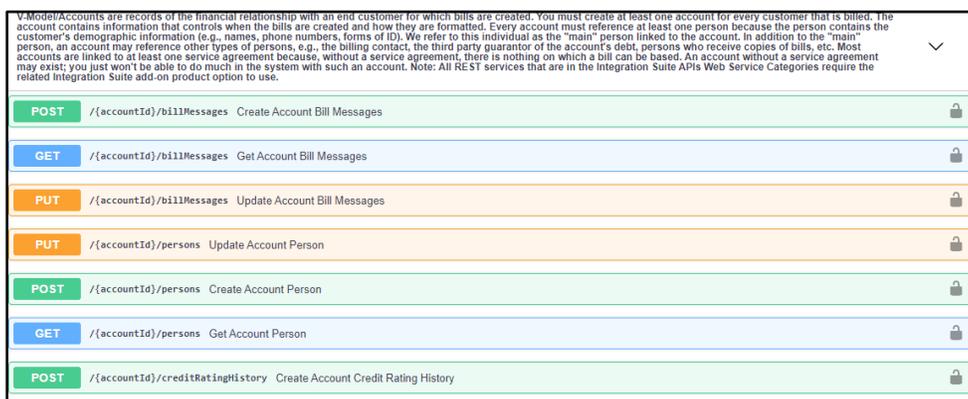
- [Additional Metadata to Support API Publishing](#)
- [Description Added to Inbound Web Service Operation](#)
- [HTTP Method Available to Internal Service Script](#)
- [Inbound Web Service Maintenance \(REST\)](#)
- [New Published APIs](#)
- [Outbound OAuth Client Credentials Grant Type](#)
- [Rootless Request and Response Schemas \(JSON\)](#)
- [Support for an External-facing Schema](#)

Additional Metadata to Support API Publishing

The following internal fields have been added to support publishing product-delivered APIs in the product catalog:

- Detailed description for a REST IWS operation. This new field allows for the product to provide information visible in the catalogue of published APIs.
- Help text is provided for individual elements in a given published API.
- Sample request and response documents may be defined using a new IWS Operation Options collection.
- Operations may be associated with a sequence number that controls the order in which they appear in the Open API Specification.

Previously, the above text was added later in a separate documentation process. The new fields streamline the internal publishing process. Note that this text is visible to implementations in the IWS user interface pages. The information may be added for custom owned IWS, but it will not be used by any product processes. Note that this text is not translated as the published catalogue documentation is in English language only.



The screenshot shows a table of REST API operations. At the top, there is a detailed description of the 'V.Mode/Accounts' entity. Below this, a list of operations is displayed, each with a colored header indicating the HTTP method (POST, GET, PUT) and a lock icon on the right. The operations include:

Method	Endpoint	Description	Lock
POST	/accountId/billMessages	Create Account Bill Messages	Yes
GET	/accountId/billMessages	Get Account Bill Messages	Yes
PUT	/accountId/billMessages	Update Account Bill Messages	Yes
PUT	/accountId/persons	Update Account Person	Yes
POST	/accountId/persons	Create Account Person	Yes
GET	/accountId/persons	Get Account Person	Yes
POST	/accountId/creditRatingHistory	Create Account Credit Rating History	Yes

Figure 17: IWS User Interface Page

This provides the ability to include a detailed description of a REST IWS operation and to support help text for individual elements to better describe the published API. This increases the usability of the API's provided for integration and interfaces to help reduce integration costs.

Steps to Enable

No steps are required to enable this feature.

Description Added to Inbound Web Service Operation

A language table has been added to the IWS operation and a description has been added. This description is included in the Open API Specification and may be included in the published API catalogue for published services. Previously, the operation description was taken from the internal service script, business service or business object. The internal description is not always relevant when publishing the service as an API.

The new description allows the system to use an internal description for the internal service and use the operation description for a description specific to the published API.

The description captured on a REST IWS operation allows for a description specific to the operation as compared to the internal service description. This increases the usability of the API's provided for integration and interfaces to help reduce integration costs.

Steps to Enable

No steps are required to enable this feature.

HTTP Method Available to Internal Service Script

When delivering REST operations for a given object, the logic to perform the operation is handled by a service script. In this release, the REST servlet populates the HTTP Method into a variable available to the invoked service script. This allows the product team and implementations the ability to use one service script to handle more than one HTTP method for an entity.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

To take advantage of this feature, service scripts used for REST operations should include the F1-WebServiceControl data area. This includes the HTTP method element and allows for future enhancements. Once added, the service script logic can be enhanced to check the value of the HTTP Method and perform different steps based on the value.

Inbound Web Service Maintenance (REST)

The definition of a REST IWS was enriched to include an external-facing schema and documentation options for each operation.

The following enhancements were made to streamline the maintenance of the additional information:

- A standalone **Inbound Web Service Operation** portal is provided for providing additional information about an operation.
- Operations are displayed in a separate zone on the **Inbound Web Service** portal. The zone lists operations in the order they appear in the Open API Specification and supports navigation to the new operation portal.
- Help text information to be shared across all operations of a web service is maintained on a new zone on the **Inbound Web Service** portal.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

Upgrade scripts ensure that users with access to the existing application service will have access to the new application service associated with the new portal. This table lists the existing and new application services.

Object	New Application Service	Access Added to Any User Groups with this Application Service/Read Access
Inbound Web Service Operation Portal	F1IWSOPR	F1IWSSVCP (Inbound Web Service Portal)
Inbound Web Service Operation Maintenance Object	F1IWSSVCOPR	F1IWSSVC (Inbound Web Service Maintenance Object)

New Published APIs

The following new APIs are provided:

- F1-ToDoEntry: A REST IWS for the To Do Entry object. In this release, GET operations are provided for To Do Entry and for To Do Entry Logs.
- F1-ExtendableLookup: A REST IWS for the Extendable Lookup object. In this release, a GET operation is provided.

Both REST services take advantage of the new external facing schema features.

New published APIs for To Do Entry and Extendable Lookup expand the catalogue of options provided for implementations.

Steps to Enable

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

Role Information

Users must be granted access to the following new application services in order to use this functionality.

REST IWS	Application Service	Access Mode
F1-ToDoEntry	F1-INTG-SUITE- API	F1EX
F1-ExtendableLookup	F1LEXTLKUP	F1EX

Outbound OAuth Client Credentials Grant Type

OAuth is an open standard token-exchange technology for verifying a client's identity across multiple systems and domains without risking the exposure of a password. The OAuth specification methods for acquiring an access token are known as grant types. This release adds support for outbound integration with REST APIs that are secured by the Client Credentials grant type.

The configuration of a message sender is extended to capture the following OAuth related context options:

CONTEXT TYPE	
*	OAuth Access Token URL
*	OAuth Client ID
*	OAuth Client Secret
*	OAuth Grant Type
*	OAuth REST API Scope
*	Sender Security Type

Figure 18: OAuth Related Context Options

You can use "OAUTH" for the Sender Security type and "client_credentials" for the grant type. You can configure the rest of these options based on the client information provided by the external system. Note that the Client Secret value is encrypted.

This supports outbound REST API integrations that are based on OAuth "Client Credentials" grant type and increases support within OAuth domains such as the Oracle Cloud Infrastructure and other external OAuth domains.

Steps to Enable

No steps are required to enable this feature.

Rootless Request and Response Schemas (JSON)

The configuration of an outbound message type on the External System page is enhanced to include a new JSON Conversion Method option, "Rootless JSON Conversion," that converts the internal XML-based request and response schemas to and from rootless documents. Previously, exchanging messages with an external system in JSON format required the request and response elements to be enclosed in a root node which is not a typical structure for REST service calls. This release also supports rootless JSON request and response schemas.

This supports standard message exchange with an external system in JSON format where the request and response schemas are rootless structures. It also reduces implementation costs by natively supporting rootless structures where interfaces require them.

Steps to Enable

No steps are required to enable this feature.

Support for an External-facing Schema

You can define a schema for a REST IWS operation. This allows a user to adjust the schema for an external-facing consumer. Previously, the schema of the underlying service (for example, service script) was also the schema for the REST IWS operation. The new IWS operation schema also supports some special configuration that allows additional features to be defined only for the IWS operation schema.

All references to the internal service below reference service script, but the same comments apply to business services and business objects, if that is what is referenced by the IWS operation:

- An element may reference a usage attribute, with values of Request Only, Response Only, Exclude and Both (the default). Previously, all elements in the service script schema were visible in both the request schema and the response schema (for HTTP methods that have both a request and response schema). This sometimes caused confusion or required additional documentation to clarify when the element is applicable.
- A different element name may be defined in the IWS operation schema, overriding the name in the service script. This allows the internal service script element name to more closely align to internal references to the element, if needed. The external-facing element name can be different allowing for a more readable schema.

The external schema for REST operations allows for more configuration to benefit the published API and helps reduce costs in integration. This increases the usability of the API's provided for integration and interfaces to help reduce integration costs.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

If you have existing REST IWS operations, there is no requirement to take advantage of this feature. It is useful if you have elements that you would like to suppress or if there are elements you would like to appear in only the Request or only the Response.

Application Security

This section describes the following new and enhanced security features introduced in this release:

- [Consolidation of Default Application Services](#)
- [New Application Service for Master Configuration Maintenance Object](#)

Consolidation of Default Application Services

The product has consolidated the default application services that are required for basic application security.

- F1-DFLTTS now serves as the single 'default' application service. All user groups should have access to this application service and all its access modes.
- F1-DFLTAPS was previously used for business services and service scripts as the default application service. Going forward, business services and service scripts should use F1-DFLTTS as the default.
- FWLZDEXP was previously used for displaying zones. It is no longer used by base zones. F1-DFLTTS is the only application service needed for basic execution of zones.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

An upgrade script will proactively update any references in the metadata to F1- DFLTAPS or FWLZDEXP to F1-DFLTTS. Implementations should consider if either of these application services are used directly in code and update those references to use F1- DFLTTS or a different appropriate application service.

In addition, an upgrade script ensures that all user groups with access to F1-DFLTAPS now have F1EX access to F1-DFLTTS.

In a future release, the application services F1-DFLTAPS and FWLZDEXP will be removed from support.

New Application Service for Master Configuration Maintenance Object

The F1-MASTERCONFIG application service is provided to allow you to secure the maintenance of master configuration records separately from the security for the portal used to view master configuration records. This follows the product's standards.

Previously, the same application service applied to both the maintenance object and the portal. This prevented you from more granular security configuration.

Steps to Enable

No steps are required to enable this feature.

Tips and Considerations

An upgrade script updates all user groups that currently have access to the existing F1MSTCFG application service to have the same access to the new F1- MASTERCONFIG application service.

In addition, any business object that was referencing the F1MSTCFG application service has been updated to reference F1-MASTERCONFIG.

Note that the existing F1MSTCFG application service has been updated to reference only the Inquire access mode. The access modes for Add, Change, and Delete have been removed since they are not applicable for a portal-based application service.

Technical Upgrade Notes

This section describes the following technical upgrades introduced in this release:

- [JavaScript DOM “top” Property](#)
- [DOM4J API Upgrade](#)
- [Groovy Upgrade](#)

JavaScript DOM “top” Property

Internal restructuring of the Oracle Utilities Application Framework has removed the use of the JavaScript DOM ‘top’ property to better encapsulate the JavaScript variables and functions, and reduce or remove the use of the Global Namespace. This technical upgrade has minimal effects on coding as filters have been provided to dynamically update the JavaScript at runtime and remove references to 'top'. All references to 'top' now refer to 'main', which already existed as a "pointer variable" to variables and functions. In addition, some functions that obtained pointers to UI objects are now direct references and therefore are no longer functions, for example:

Existing Code	New Code	Comments
<code>var x = top.getNavigationInfo(navOpt)</code>	<code>var x = main.getNavigationInfo(navOpt)</code>	The function names remain the same, only the location has changed
<code>var x = top.main.getNavigationInfo(navOpt)</code>	<code>var x = main.getNavigationInfo(navOpt)</code>	No need for a double reference
<code>var x = top.tabMenu().document</code>	<code>var x = main.tabMenu.document</code>	tabMenu is now a direct reference as well as tabPage, workspace, and model
<code>var x = top.getMain()</code>	<code>var x = main</code>	getMain() is a redundant function as 'main' is globally available

Should you need to get the 'top' for some reason such as obtaining window dimensions, the new `main.getOUAFTop()` function has been made available. Alternately, you can code "window.top" which the code changing filter will ignore. Note that the even if the code changing filter is extensive, there are many ways to write JavaScript and therefore some of your functions may still fail. Changing the offending line of code using the above examples as a guide should resolve the issues that arise.

Edge Product Uptake

Similar to customer code, the base Edge Application code is "filtered" to adjust existing code, which removes the need to revisit all existing code and perform updates in order to retain a functioning application. However, new code should follow these standards and the standards presented in relevant guides. It is also best practice to "upgrade" existing code when the opportunity is available.

Note that references to the 'ouafTop' variable are possible when looking at Oracle Utilities Application Framework JavaScript. Do not use this variable as this is an interim to ease the path towards a better clean-up of the existing Oracle Utilities Application Framework code. The 'ouafTop' variable will be removed when no longer needed and therefore can break your code when used. Oracle Utilities Application Framework will not provide a filter to change 'ouafTop' dynamically.

DOM4J API Upgrade

As part of the Oracle Utilities Application Framework's effort to update 3rd parties to the latest version, edge apps and customers can run into an issue when directly invoking the APIs in the 3rd party's library.

Oracle Utilities Application Framework upgraded the DOM4J API to the 2.1.1 version, which include a large number of changes as part of cleaning up methods to take more restrictive parameters and return more concrete versions. The previous version returned more generic return types and took more open arguments for example, a return type of List was returned from certain APIs. The 2.1.1 version returns nongeneralized versions of the exact type like List<Element> that could result in compile errors and require edge apps or customers to modify the code to fix the API calls.

In order to make code changes, go to the GitHub code repository for dom4j (<https://github.com/dom4j/dom4j/blob/master/src/main/java/org/dom4j>) and perform the following:

1. Look at the API change to <https://github.com/dom4j/dom4j/blob/master/src/main/java/org/dom4j/Element.java> setContent() api.
2. Click **History**. This opens all the log of changes that have been made to a class.
3. Click the hexadecimal revision number and review the set of changes made.
4. Click **Split** to see a more visual representation of the changes. You can directly search for the file, for example Element.java, and directly go to the changes to that file in the browser window.
5. Using the changes, make appropriate adjustments to your code. Note that once you find a change to the API, you can also look at code changes made to the other classes that were using the API. Your changes should be inline with the other invokers of the API to ensure that there are no regressions as part of the change that you would make.

Groovy Upgrade

Oracle Utilities Application Framework upgraded to the latest Groovy version and compilation of some of your scripts could fail. For example, one of Oracle Utilities Application Framework's script performed arithmetic and this code was compiled successfully with the previous Groovy version:

- `BigDecimal.valueOf(Long.valueOf(batchRunTime.getTotalMilliseconds()/ 1000))`

The latest Groovy version does not compile this code because the it evaluates the division results in an expression as a `BigDecimal` and the compile error indicates that a `valueOf` api is not available in the `Long` class.

To resolve the issue, your code must perform an explicit cast to inform Groovy that the result is a `long`. For example, this code fixes the compile error and retains the original intention of the code line:

- `BigDecimal.valueOf(Long.valueOf((long) (batchRunTime.getTotalMilliseconds()/1000)))`

Edge Product Uptake

Oracle recommends that you manually upgrade to the latest Groovy version before taking the official Oracle Utilities Application Framework fix and then run `GroovySanityTest` (unit testing) to ensure no compilation errors are reported. If there are issues reported, make minor code changes to the script to compile successfully.

Deprecation Notices for OUAF Version 4.5.0.0.0

This section provides information about the functionality and system data which are removed and no longer supported in Oracle Utilities Application Framework Version 4.5.0.0.0, or which are planned for removal.

- [Deprecated Items](#)
- [Items Planned for Future Deprecation](#)

Deprecated Items

This section lists the functionalities and system data that are deprecated in Oracle Utilities Application Framework Version 4.5.0.0.0. It includes the following topics:

- [Application Viewer Links](#)
- [Security Token in REST Container](#)
- [LDAP Import Metadata \(Legacy Feature\)](#)
- [Miscellaneous Metadata](#)
- [Metadata End of Support \(Owner flag set to CM\)](#)
- [Access Group Legacy Page Metadata](#)
- [Application Service Legacy Page Metadata](#)
- [OJet Support for Bind Architecture](#)
- [Groovy Language-based Custom Function Library Creation](#)
- [Field Legacy Page Metadata](#)
- [Portal Legacy Page Metadata](#)
- [Zone Legacy Page Metadata](#)

Application Viewer Links

The Application Viewer links in the online help and several maintenance object, business object, business service, and function pages have been removed. You can now navigate directly from the application to metadata pages to view additional content.

Security Token in REST Container

In Oracle Utilities Application Framework 4.4.0.3.0, REST functionality was properly split out from the web to its own container. This allows REST to have its own authentication and security. By design, the Oracle Utilities Application Framework security token functionality was not added to this REST container because the token is used for CSRF protection for online web container only.

LDAP Import Metadata (Legacy Feature)

The following LDAP import metadata have been removed:

- Service Programs: CILTLDIP, CILTLDIL, CILTLDIS
- Application Service: CILTLDIP
- Fields: F1_LDAP_SUMM, F1_LDAPGROUPSEARCHDATA_SUMM, F1_LDAPUSERSEARCHDATA_SUMM, IMP_GRP_LBL, LDAP_ENTITY_FLG, LDAP_IMP_JNDI_LBL, LDAP_PASSWORD, LDAP_PASSWORD_ENC, LDAP_USER, RTRV_LDAP_ENT_LBL, SEARCH_4_LD_GRP_LB, SEARCH_4_LD_USR_LB, SEARCH_BY_LDAP_GRP
- Navigation options: CI0000000956, ldapImportTabMenu
- Navigation keys: ldapGroupSearchData, ldapGroupSearchPage, ldapImportGrid, ldapImportPage, ldapImportTabMenu, ldapUserSearchData
- Records in the UI metadata program component tables related to the above navigation keys.

Points to Note:

Implementations may continue to use the F1-LDAP batch job to perform external LDAP integration, if required.

Customers using Oracle Identity Cloud Service are not affected by this removal as a native adapter is used for that integration.

Miscellaneous Metadata

The following miscellaneous metadata have been removed:

- Script: F1-BundleInf, F1-GENPRINFO, F1-MgPInInf
- Zone: F1-MGRREQDSP

Metadata End of Support (Owner flag set to CM)

Implementations should review and remove if not in use. The following miscellaneous metadata have been removed:

- Lookup value: CHAR_ENTITY_FLG / F1SE
- Algorithms: F1-LDAPIMPRT, F1-LDAPPREPR
- Algorithm Types: F1-LDAPIMPRT, F1-LDAPPREPR
- Maintenance Object: ENV REF
- Business Object: F1-EnvironmentRefPhysicalBO
- To Do Type: F1-SYNRQ
- Zone: F1-IWSSCHS, F1-IWSSCHS1, F1-IWSSCHS2, F1-IWSSCHS3
- Characteristic Type Legacy Page Metadata

- Navigation keys: charTypeMenu, charValuesPage, charValuesPage_H, charValuesGrid, charEntitiesPage, charEntitiesPage_H, charEntityGrid
- Records in the UI metadata program component tables related to the above navigation keys.

Access Group Legacy Page Metadata

The following Access Group metadata have been removed:

- Navigation keys: accessGroupMainPage_H, accessGroupDARGrid, accessGroupMainPage, accessGroupMaint, accessGroupTabMenu
- Records in the UI metadata program component tables related to the above navigation keys.

Application Service Legacy Page Metadata

The following Application Service metadata have been removed:

- Navigation keys: applicationServiceMainPage_H, applicationServiceMaintNew, applicationServiceTabMenu, applicationServiceMainPage, appSvcAccessModeGrid
- Records in the UI metadata program component tables related to the above navigation keys.

OJet Support for Bind Architecture

This feature is replaced by the Web Component Architecture. OJet previously supported a "bind" architecture for their components.

Example:

```
<input id="text -input" type="text" data-bind="ojComponent: {component: 'ojInputText',
textInput: value}"/>
```

The OJet team announced the deprecation of this format in OJet V7 and continued to support it until OJet V11. The newer releases of OJet have been focused on a "Web Component" architecture.

Example:

```
<oj-input-text value="value text" label-hint="enabled"></oj-input-text>
```

This release of Oracle Utilities Application Framework now uses OJet V11 where the bind architecture is no longer supported.

Groovy Language-based Custom Function Library Creation

This feature is replaced by the JavaScript language-based custom function library creation. You can only create custom function libraries through JavaScript. Existing Groovy language-based custom function libraries will continue to work in the V4.5.0.0.0.

Field Legacy Page Metadata

The following Field Legacy Page metadata have been removed:

- Navigation Keys: impFldTabMenu, metaDataFieldTableGrid, metaDataFieldTableGrid, metaDataFieldTablePage, metaDataFieldMaint
- Records in the UI metadata program component tables related to the above navigation keys.

Portal Legacy Page Metadata

The following Portal Legacy Page metadata have been removed:

- Navigation Keys: portalMainPage, portalMainPopup, portalOptsGrid, portalOptsPage, portalTabMenu, portalZoneGridPage
- Records in the UI metadata program component tables related to the above navigation keys.

Zone Legacy Page Metadata

The following Zone Legacy Page metadata have been removed:

- Navigation Keys: portalZoneTabMenu, portalZoneMainPage, portalZoneParameterGrid, portalZonePortalGrid, portalZonePortalPage
- Records in the UI metadata program component tables related to the above navigation keys.

Items Planned for Future Deprecation

This section lists the functionalities and system data that will be deprecated in the future releases of Oracle Utilities Application Framework. It includes the following topics:

- [UI Metadata Related to Converted Pages](#)
- [XSLT Managed Content Type](#)
- [REST IWS - Original REST Servlet](#)
- [Append Setting In Pagination](#)
- [Support for Master/Subordinate Services for Web Services Catalog](#)
- [Selected Functionality of the Batch Run Statistics Portal](#)
- [Miscellaneous System Data](#)
- [CMA Migration Requests](#)
- [CMA Import Algorithm](#)
- [Business Object Read in F1-MainProc When Pre-Processing Exists](#)
- [OJet Support for Bind Architecture](#)
- [Custom Groovy Function Support from Oracle Utilities Testing Accelerator](#)
- [Incorporate Application Viewer to Oracle Utilities Applications](#)
- [Switch UI View](#)

- [F1-DFLTAPS and FWLZDEXP Application Services](#)
- [Workflow and Notification Metadata and Database Tables](#)
- [Mobile Application Framework Metadata](#)
- [Key Ring Validation Scripts, Algorithm Types, and Algorithms](#)

UI Metadata Related to Converted Pages

UI metadata related to fixed pages converted to portals will be removed in a future release. The following navigation keys related to the maintenance page will be removed:

- **Field:** impFldTabMenu, metaDataFieldMainPage, metaDataFieldMaint, metaDataFieldTableGrid, metaDataFieldTablePage, and any help keys
- **Access Group:** accessGroupMainPage, accessGroupMaint, accessGroupTabMenu, accessGroupDARGrid, and any help keys
- **Application Service:** applicationServiceMainPage, applicationServiceMaintNew, and any help keys
- **Portal:** portalTabMenu, portalMainpage, portalmainPopup, portalOptsGrid, portalOptsPage, and any help keys
- **Zone:** portalZoneTabMenu, portalZoneMainPage, portalZoneGridPage, portalZoneParameterGrid, portalZonePortalGrid, portalZonePortalPage, and any help keys

In this release, the following navigation keys related to the maintenance page will be removed:

- **To Do Entry:** todoEntryCharGrid, todoEntryDrillKeyValuesListGrd, todoEntrySortKeyValuesListGrid, todoentrykeyvalue, todoentrymain, todoEntryMaint, todoEntryPopupAdd, todoEntryPopupForward, todoEntryPopupSendBack, and any help navigation keys
- **Table:** metaDataTableFieldsGrid, metaDataTableMainPage, metaDataTableCFldsGrid, metaDataTableConstPage, metaDataTableMaint, metaDataTableRefByConstPage, metaDataTableFieldPage, and any help navigation keys
- **Characteristic Type:** charTypeMenucharValuesGrid, charValuesPage, charEntityGrid, charEntitiesPage, and any help navigation keys
- **Work Calendar:** workCalendarMaint, workCalendarMainPage, workCalendarHolidayGrid, and any help navigation keys
- **Message:** msgMaintDetailsPage, msgMaintGrid, msgMaintPage, msgMaintTabMenu, and any help navigation keys
- **Time Zone:** timeZoneMainPage, timeZoneTabMenu, and any help navigation keys

Navigation keys related to search will be removed:

- **Field:** metaDataFieldSearchData and metaDataFieldSearchPage
- **Access Group:** accessGroupSearchData and accessGroupSearchPage
- **Application Service:** applicationServiceSearchData and applicationServiceSearchPage
- **Portal:** portalSearchData and portalSearchPage
- **Zone:** portalZoneSearchData and portalZoneSearchPage

In addition, the UI program component metadata related to Field, Access Group, Application Service, Portal, and Zone navigation will be cleaned up in a future release.

The UI program component metadata related to To Do Entry, Table, Characteristic Type, Work Calendar, Message, and Time Zone navigation will be cleaned up in a future release. Note that metadata related to the search pages will not be removed at this time in case these are used on other fixed pages.

XSLT Managed Content Type

The Managed Content table entries related to XSL should use the XSLTC managed content type instead of the XSLT managed content type. Support for the XSLT managed content type will be deprecated in a future release.

REST IWS - Original REST Servlet

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

Append Setting In Pagination

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

Support for Master / Subordinate Services for Web Services Catalog

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

Selected Functionality of the Batch Run Statistics Portal

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

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

Miscellaneous System Data

The following miscellaneous data will be deprecated in the future release:

- Environment Reference. This administrative maintenance object was related to ConfigLab and Archiving, which are no longer supported. In a future release, the following will be removed:
 - Migration Plan F1-EnvironmentRef. Note that no base migration request references this plan. Implementations should ensure that no custom migration request references this plan.
 - F1-EnvironmentRefPhysicalBO business object
 - ENV REF maintenance object
- The following metadata related to the legacy LDAP import pages will be removed in a future release: Services CILTDIP, CILTDIL, CILTDIS, Application Service: CILTDIP
- 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 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 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 scripts F1-BundleInf, F1-GENPRINFO, F1-MgPlnInf, F1-TDMgActSS, and F1AddDebugLg will be removed in a future release.
- The zones F1-IWSSCHS, F1-IWSSCHS1, F1-IWSSCHS2, F1-IWSSCHS3 and F1-MGRREQDSP will be removed in a future release.

CMA Migration Requests

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

CMA Import Algorithm

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

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

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

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

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

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

OJet Support for Bind Architecture

OJet previously supported a bind architecture for their components and this format is deprecated in OJet V7.

Example:

```
<input id="text-input" type="text" data-bind="ojComponent: {component: 'ojInputText',
textInput: value}"/>
```

Example:

```
<oj-input-text value="value text" label-hint="enabled"></oj-input-text>
```

The Oracle Utilities Application Framework applications are targeting to stay current on OJet upgrades as newer releases incorporate more features, better performance, and high integration with the Redwood Design System. In this release, Oracle Utilities Application Framework uses OJet V9.1 and with each release, an OJet upgrade will be applied when applicable.

As the bind format has been deprecated, support for the format will be removed from up-coming releases. This results in a smaller file size for OJet components but any existing code in Oracle Utilities Application Framework applications using the bind format will completely stop working. It is anticipated that this could happen as soon as OJet V11, but it could also be a later version. For this reason, it is imperative that any existing OJet code that uses the bind format be updated to use the Web Component format.

There can be a direct replacement available (as in the above example) but OJet provides different options so there may be a better alternative.

Custom Groovy Function Support from Oracle Utilities Testing Accelerator

Support for defining custom functions with Groovy script will be deprecated in a future release.

Incorporate Application Viewer to Oracle Utilities Applications

Many aspects of the Application Viewer are incorporated into the application, including the data dictionary. The user interfaces for the tables and fields have been enhanced to provide more information at a glance and a view of the links between tables. Information about algorithms, batch controls, and maintenance objects are also visible directly in the application. In a future release, Javadocs and Groovy Javadocs will be viewable within the application at which point the standalone Application Viewer will no longer be delivered.

Switch UI View

The Switch UI View provides the ability to toggle between Redwood User Experience and pre-Redwood User Experience during a session. Support for pre-Redwood User Experience will be deprecated in a future release.

F1-DFLTAPS and FWLZDEXP Application Services

With the consolidation of application services, references to the F1-DFLTAPS and FWLZDEXP application services will be removed in a future release. Secured objects referencing these application services within HTML or Schemas must use F1-DFLTS or a different application service that is appropriate for the business rule.

Workflow and Notification Metadata and Database Tables

The Workflow and Notification function provided a configurable process to receive incoming messages (workflow) and exchange messages with an external system (notification). In the interim years, Outbound Message and Inbound Web Service manage external messages, service scripts handle simple incoming messages processing, and service tasks or business objects handle complicated incoming messages processing. The Workflow and Notification metadata and database tables will be deprecated in a future release.

Note: Oracle Utilities Application Framework only manages a portion of the Workflow and Notification function. Oracle Utilities Customer Care and Billing mostly supports the function.

Mobile Application Framework Metadata

Metadata related to the Mobile Application Framework will be removed in a future release.

Key Ring Validation Scripts, Algorithm Types, and Algorithms

The following K1-SignatureKeyRing business object validation scripts, algorithm types, and algorithms will be deprecated in a future release:

- Algorithm
 - K1-KRDCKFS
 - K1-KRINCKFS
- Algorithm Type
 - KRDCCKFS
 - K1-KRINCKFS
- Message
 - 11009 / 1402
- Plugin Script
 - K1-KRDCKFS
 - K1-KRINCKFS
- Service Script
 - K1-ChkCfgExL

These objects are not applicable to the requirements to expand the use of the Signature Key Ring beyond object file storage and other planned use cases. The algorithms have been removed from the Business Object configuration.

Deprecation Notices for ORMB Version 5.0.0.0

This section describes features and system data that are deprecated in this release and planned for deprecation in the future release of Oracle Revenue Management and Billing. It contains the following topics:

- [Deprecation in This Release](#)
- [Deprecation Planned for Future Releases](#)

Deprecation in This Release

The following table lists the objects which are deprecated in this release of Oracle Revenue Management and Billing:

Object Type	Object Name
Inbound Web Service	C1-OffProcessRequest and C1-PaymentRead

Deprecation Planned for Future Releases

The following table lists the objects which will be deprecated in the next release of Oracle Revenue Management and Billing:

Object Type	Object Name				
Algorithm Type	C1_CURALG, C1-MDOV-BILL, C1-MDOV-BSEG, C1-MDOV-ONSA, SA_DERV_POPC, C1-AUDEVMPR				
Algorithm	C1-AUDEVMPR				
Feature Configuration	C1_EX_ROUND				
Option Types	Currency Conversion Algorithm and Payment Distribution To-Do (from the C1_MLTCURACC feature configuration)				
Table Columns	<p>The following table lists the columns which will be deprecated in the next release:</p> <table border="1"> <thead> <tr> <th>Table Name</th> <th>Column Name</th> </tr> </thead> <tbody> <tr> <td>CI_ACCT_PER</td> <td>BILL_RTE_TYPE_CD, RECEIVE_COPY_SW, BILL_FORMAT_FLG, NBR_BILL_COPIES, CUST_PO_ID, NOTIFY_SW, and BILL_ADDR_SRCE_FLG</td> </tr> </tbody> </table>	Table Name	Column Name	CI_ACCT_PER	BILL_RTE_TYPE_CD, RECEIVE_COPY_SW, BILL_FORMAT_FLG, NBR_BILL_COPIES, CUST_PO_ID, NOTIFY_SW, and BILL_ADDR_SRCE_FLG
Table Name	Column Name				
CI_ACCT_PER	BILL_RTE_TYPE_CD, RECEIVE_COPY_SW, BILL_FORMAT_FLG, NBR_BILL_COPIES, CUST_PO_ID, NOTIFY_SW, and BILL_ADDR_SRCE_FLG				
Batch Control	GLASSIGN, C1-IAENT, C1-DARSU, C1-CUSIN, C1-MEMIN, BILLING				
View	CI_EFF_ACCT_PRICING_VW, CI_EFF_PER_PRICING_VW				

Object Type	Object Name
Business Service	C1-EffectivePricing, C1_PriceParmBS Note: Instead of using the C1-EffectivePricing business service, use the C1-GetEffectivePricing business service to view the data on the Pricing (Account) and Pricing (Person) screens. Similarly, instead of using the C1_PriceParmBS business service, use the C1_PRICE_PARM business object to add, edit, copy, and delete a parameter.
Service Program	EFFPRCSERVICE, C1_PRICEPARM
Column	ADDRESS1, ADDRESS2, ADDRESS3, ADDRESS4, CITY, NUM1, NUM2, COUNTY, POSTAL, HOUSE_TYPE, GEO_CODE, IN_CITY_LIMIT, STATE, and COUNTRY from the CI_PER table
Table	CI_PER_ADDR_SEAS
Screen	Rate Check, Policy (P&C), Insurance Control Central, Collection Control Central, Account Current, Variance Parameter
Inbound Web Service	C1-ASOCustomerInboundMessage, C1-CustomerStructureInboundMessage

Therefore, henceforth, we strongly recommend you not to use these objects in any custom implementation.

Product Documentation

User manuals and other technical documents are available in the Portable Document Format (PDF). You can download Oracle Revenue Management and Billing release-specific documentation library (for example, Oracle Revenue Management and Billing Version 5.X.X.X.X Documentation Library) using the following URL:

<http://www.oracle.com/technetwork/indexes/documentation/fsgbu-1364781.html>

Media Pack Download

Oracle Financial Services Revenue Management and Billing Version 5.0.0.0.0 and Oracle Insurance Revenue Management and Billing Version 5.0.0.0.0 media packs can be installed on the following supported platforms:

- AIX (64-bit)
- Microsoft Windows (64-bit)
- Linux (64-bit)

The media pack includes multiple packages. For more information, refer to the **Media Pack Contents** section in the *Oracle Revenue Management and Billing Version 5.0.0.0.0 Quick Installation Guide*.

To download a package from a media pack:

1. Login to [Oracle Software Delivery Cloud](#).
2. Select the **Release** option from the **All Categories** list.
3. Type **Oracle Financial Services Revenue Management and Billing** or **Oracle Insurance Revenue Management and Billing** in the corresponding text box.
4. Click **Search**. A list of media packs appears in the search results.
5. Click the **Select** () icon corresponding to the **Oracle Utilities Application Framework 4.5.0.0.0**, **Oracle Financial Services Revenue Management and Billing 5.0.0.0.0**, or **Oracle Insurance Revenue Management and Billing 5.0.0.0.0** option.
6. If required, you can verify the media pack which is selected by clicking the **View Items** link.
7. Click the **Continue** link. A page appears.
8. Select the required platform from the **Platforms/Languages** list.
9. Click **Continue**. A page appears with the license agreement.
10. Scroll and read the entire license agreement and then click the **I reviewed and accept the Oracle License Agreement** option.
11. Click **Continue**. The **File Download** page appears.
 1. Select the required package that you want to download from the media pack and then click **Download**. An executable file is downloaded on your local machine.
 12. Run the executable file. The **Oracle Download Manager** window appears.
 13. Browse to the location where you want to download the package and then click **Next**. The package is downloaded on your local machine.

Bug Fixes

The following table lists the bugs that are fixed in this release:

Bug Number	Copy of (Base Bug)	Description
34632749	33825334	ISSUE FOR USERS TO DOWNLOAD THE EFFECTIVE PRICING FROM GBS
34628520	34092050	ORMB POST UPGRADE - NOT ABLE TO UPDATE PRICE ITEM
34609615	34577078	ERROR MESSAGE IS NOT DISPLAYING IN UPLOAD REQUEST PAGE IN ORMB 4.0 VERSION
34584424	34488155	DEAL EXTRACT IS TAKING MORE THAN 3 MINS FOR SMALL HIERARCHY
34584399	34476495	PERFORMANCE ISSUE IN EFFECTIVE PRICE API
34583104	34458216	INTERNAL ERROR WHILE CREATING PAYMENT REQUEST
34582981	34138361	CREDIT MEMO BILL COMPLETION ISSUE
34582789	34288007	DISAGGREGATION IS NOT WORKING WHEN THERE ARE IGNORED TRANSACTIONS
34582735	34129345	AUTOMATIC DISAGGREGATION REQUESTS ARE NOT BEING MARKED COMPLETE
34577789	34249161	JOB IS GETTING AUTOMATICALLY TRIGGERED
34575019	34066070	C1-REPC2 BATCH THROWS ERROR IN CASE SOURCE ENTITY IS SET AS MEMBERSHIP PERSON - FORWARDPORT
34543239	34543172	FILE UPLOAD ISSUE WHEN ATOMICITY IS ON
34527189	34311212	ROLLBACK BATCH JOB IS NOT TRIGGERED IN SCHEDULER
34527181	34311212	ROLLBACK BATCH JOB IS NOT TRIGGERED IN SCHEDULER
34527152	34115172	SOME OF SCHEDULED JOBS IN RMB V3.2 PROD DIDN'T REMAIN SCHEDULED
34526554	34099815	LATENCY EXPERIENCED WITH THE CONSTRUCT SECTION
34522360	34342812	PERFORMANCE ISSUE ON SELECT QUERIES EXECUTED ON CISADM.CI_PAY_SEG & CISADM.CI_FT_PROC
34522106	34387069	SYSTEM ERROR WHILE EDITING REFUND REQUEST AMOUNT
34521622	34358380	BILLABLE CHARGES ARE NOT GETTING CANCELLED / END DATE NOT UPDATED FOR RETRO - FORWARDPORT
34521509	34425783	FRT BASED BATCHES CREATING UNWANTED INFO LOGS
34472652	34269555	UNIQUE CONSTRAINT ERROR FOR CI_MEMBERSHIP_PROCESS RECORD FOR REACTIVATION - FORWARDPORT

Bug Number	Copy of (Base Bug)	Description
34454403	34399788	ERROR MESSAGE BEING DISPLAYED IN THE SEARCH WINDOW DURING PL ASSIGNMENT TO DEAL
34416937	34387069	SYSTEM ERROR WHILE EDITING REFUND REQUEST AMOUNT
34364856	33850483	BATCH - C1-PDTXN TAKING HOURS TIME
34364835	34047899	PERFORMANCE ISSUE IS IN ZONE SQL C1_BILL_SRCH
34323470	34323463	ADDRESS UI ISSUE WITH DISPLAY OF CHARACTERISTIC CODES - ORMB 3.2
34322931	34177028	JAVA.LANG.OUTOFMEMORYERROR: JAVA HEAP SPACE IN C1-ODFU BATCH WHILE UPLOADING
34316864	34316856	GETTING ERROR WHILE SAVING CHANGES ON SCHEDULER CHAIN SCREEN
34316365	34316354	APPROVAL TRANSACTION RECORD FOR PL ASSIGN ACCOUNT HAS NO ACCOUNT/PERSON INFO
34283365	34059874	BILLABLE CHARGE UPLOAD REQUEST VALIDATION ISSUE
34279110	34164385	UPGRADE 3.2 RESTART BUTTON IS ENABLED WHILE JOBS ARE IN PROGRESS IN TEST AND DEV 3
34278105	33996504	PRICELIST ASSIGNMENT APPROVAL UI MAP IS NOT SHOWING FOREIGN KEY VALUE
34273284	34029426	GLOBAL ADDERROR ISSUE
34235181	34160744	CI_PRCE_CALC RECORDS NOT GETTING UPDATED AS 'INVALID' IN CASE OF RETRO MEMBERSHIP CHANGE ACTIVITY - FORWARDPORT
34235169	34206126	PATCH 34023460 DID NOT RESOLVE BUG 34023460 - FORWARDPORT
34194336	34040132	UPGRADE_DEV3 : APPROVAL WORKFLOW - WITHDRAWAL REQUEST FLOW IS NOT WORKING
34178872	33898506	GETTING AN ERROR WHILE ADDING ENTRY INTO TABLE CI_APAY_CLR_STG
34174360	33858808	RECONCILIATION - DUPLICATE ADJUSTMENTS CREATED FROM OPEN PAY INSTRUCTIONS
33082839	-	ENH FOR HAVING DIVISIONS SHOWN AS PER ACCESS GROUP DEFINED ON DIVISION
29315466	29236103	DEFER PROCESSING FOR REFUND UPLOAD VALIDATION
34688394	34599139	MULTIPLE PRICE ITEM CODES WITH DIFFERENT PARAMETERS REFERENCE TO THE SAME PRICE

Bug Number	Copy of (Base Bug)	Description
34647404	34524202	POST INSTALLATION OF PATCH 34413223 - ABILITY TO RUN THE STOP LOSS JOBS WITH MULTIPLE BILL CYCLE PARAMETERS
34646567	34627979	EDIT RATE FUNCTIONALITY IS NOT WORKING IN EFFECTIVE PRICING SCREEN AFTER UPGRADE V4.0.0.0.0
34633476	34304208	UNABLE TO CREATE USERACCESSREPORT - EXCEPTION THROWN
34628578	34592937	SYSTEM ERROR IN PAYMENT REQUEST
34624727	34421600	INCORRECT DATES DISPLAYED ON EDIT UI FOR CLAIM BASED ANCILLARY PRICING RULE
34613697	34545833	ISSUES IN PAYMENT REQUEST AND TRANSFER
34609289	34577049	NOT ABLE TO REMOVE THE PENDING BILL IS CREATED WITH THE ADJUSTMENT IN ORMB 4.0 VERSION
34577412	34500109	PAYMENT REQUEST WITH MATCH TYPE = "APPLY TO ON ACCOUNT" ENCOUNTERS A SYSTEM ERROR.
34573529	33651916	AUTOPAY ID DETERMINATION BASE BEHAVIOR IS NOT ALWAYS LATEST AUTOPAY ID
34573517	34406438	RELATIONSHIP MANAGER WORK BENCH - REVENUE METRICS DISPLAY
34565701	34527239	ERROR WHILE EDITING AND SAVING CONSTRUCT
34558347	34356595	PAYMENT UPLOAD ISSUE - PAY CHARS OF OTHER BILL SEGMENTS FOR SAME ACCOUNT WERE INCLUDED IN PAYMENT
34558029	34469619	ILM BATCH ISSUES- BILLING, PAYMENT
34546609	34068863	GETTING ACCESS GROUP ERROR WHILE APPROVING
34528453	33762484	PRICING RULE ID IS NOT GETTING STAMPED IN REPRICING REQUEST DETAIL TABLE
34526630	34360388	DIVISION STILL DISPLAYING IN ZONE DROPDOWN AFTER THE ACCESS GROUP IS REMOVED FROM THE USER.
34526501	34194834	PRICELIST PRICE ITEM - EXPORT ZONE OPTION MENU ISSUE
34526496	34194834	PRICELIST PRICE ITEM - EXPORT ZONE OPTION MENU ISSUE
34526482	34479708	WRITE-OFF REQUEST BUSINESS OBJECT THROWING ACCOUNTING ERROR WHEN CREATED VIA BATCH
34526462	34140483	THERE IS NO COBOL WRAPPER CLASS FOR ALGORITHM SPOT 'BSBF'
34523338	34492227	MATCH EVENT CREATED WITH BLANK STATUS
34521902	34104752	INCORRECT MATCH EVENT CREATED FOR REFUND TRANSACTIONS

Bug Number	Copy of (Base Bug)	Description
34507121	34416641	PAYMENT TENDER SEARCH CHAR VALUE IS NOT UPDATED WHEN UPDATING CHARACTERISTIC VALUE VIA PAYMENT TENDER
34463188	34406438	RELATIONSHIP MANAGER WORK BENCH - REVENUE METRICS DISPLAY
34454688	34358777	ERROR WHEN ADDING MORE THAN 3 PAY CHARS IN PAYMENT UPLOAD STAGING ADD
34446337	31435402	FAILURE IN SCRIPT : SCRIPT_ID(F1TAGSVIS)
34431491	34268947	TO DO SEARCH SLOWNESS ON UI. SQL TOOK OVER 300 SECONDS CAUSING SYSTEM TIME OUT.
34378820	34355475	C1-FTDTM PERFORMANCE ISSUES
34378577	32251455	DB SYSTEM PARAMETER DEFAULTING COLUMN ALIAS TO UPPERCASE CAUSING COLUMN NOT FOUND
34373982	34100569	INCORRECT REFUND AMOUNT IS BEING DETERMINED IN REFUND REQUEST PROCESS
34373950	33651916	AUTOPAY ID DETERMINATION BASE BEHAVIOR IS NOT ALWAYS LATEST AUTOPAY ID
34373920	34299329	C1_ADDPAYEVENTPAY NOT CREATING UNDERPAYMENTS FROM JAVA BATCH
34369832	34076851	PRICE ITEM UI: SYSTEM IS NOT PERFORMING CHECK ON DUPLICATE PARAMETERS ENTRY - FORWARDPORT
34365982	34298490	CANNOT END DATE A PRICE ASSIGNMENT THROUGH PRICE UPLOAD UTILITY
34365974	34278936	C1-RRADJ HIGH CPU SPIKE
34327665	34300598	INCORRECT PRICE ASSIGNMENT VALIDATION ON DIVISION
34303616	34201021	UPGRADE3.2_PROD_INCORRECT RUN START TIME DISPLAY IN SCHEDULER JOB MONITOR DASHBOARD
34298276	34023176	DUPLICATE ERROR WHEN CREATING THE WRITE-OFF REQUEST THROUGH UPLOAD REQUEST PROCESS C1-UPLRQ ISSUE
34283648	33654467	UNABLE TO ADD END DATE TO AGREED PRICING FOR PERSON/ACCOUNT
34268649	34170041	EFT DISCOUNT IS NOT GETTING DERIVED FOR THE MEMBERSHIP - NULL POINTER EXCEPTION
34231228	34069448	SEARCH BY REQUEST FOR SCHEDULED PAYMENT HAS INCORRECT VALUES IN STATUS DROPDOWN
34205033	33698343	UNIQUE CONSTRAINT ERROR ENCOUNTERED IN CI_REV_REC_SCH_K

Bug Number	Copy of (Base Bug)	Description
34205019	33694776	PRICEASSIGN CHAR VALUE LENGTH LIMIT FOR C1_PRICEASSIGN_SERVICE BUSINESS SERVICE-

Known Issues

This section lists the known issues in Oracle Revenue Management and Billing Version 5.0.0.0.0 along with workarounds available to handle these issues. The known issues are grouped into the following categories:

- [Banking](#)
- [Insurance](#)
- [Documentation](#)

Banking

Issue	LOCALIZATION ISSUE WHEN MAKER AND CHECKER CHOOSE DIFFERENT LANGUAGES
Description	When a maker and checker operate in different languages, a maker cannot see the approved transactions.
Workaround	Maker should login with a language that checker is using to see the approved transactions.

Issue	FOREIGN KEY AND FILE LOCATION CHARACTERISTIC TYPE NOT SUPPORTED IN UI MAPS
Description	The screens created using the UI map do not support the Foreign Key Value and File Location Value characteristic types. These screens only support the Adhoc Value and Predefined Value characteristic types.
Workaround	None

Issue	MESSAGE DOES NOT APPEAR ON CLICKING BUTTONS IN LIST OF PRICE ASSIGNMENTS ZONE
Description	On approving, rejecting, or canceling one or more price assignment requests (at once) from the List of Price Assignments zone, the appropriate message does not appear when you click the Accept Changes , Return to Submitter , or the Revert to Original button.
Workaround	None

Issue	C1-TXCNC BATCH GETS EXECUTED SUCCESSFULLY EVEN IF C1-TXNCU BATCH FAILS
Description	<p>When you execute the C1-TXNCU batch with either of the following parameters during the cancellation process, an error occurs:</p> <ul style="list-style-type: none"> • Transaction Source • Division <p>If you further execute the C1-TXCNC batch during the cancellation process, the status of all transactions in the feed is changed to Cancelled (CNCL). But, in this case, the SQIs on the billable charges are not accurate.</p>
Workaround	None

Issue	CONDITIONAL APPROVAL WORKFLOW CANNOT BE USED WHILE COPYING A PRICE LIST
Description	The system allows you to define conditional approval workflow for business objects. However, at present the conditional approval workflow cannot be used while copying a price list.
Workaround	None

Issue	BILLS GENERATED FOR THE MEMBER ACCOUNT AND NOT FOR THE MASTER ACCOUNT
Description	If you add a contract to a member account after the account is added to the master account, the system will not duplicate the newly added contract at the master level. Therefore, in such scenarios, billable charges related to the newly added contract will be billed to the member account and not to the master account.
Workaround	You need to ensure that no new contracts are added to the member account after the account is added to the master account.

Issue	INCORRECT RESULTS IF DISAGGREGATION BATCHES NOT EXECUTED IN SEQUENCE
Description	<p>During the transaction disaggregation process, you must execute the following batches in the specified order:</p> <ol style="list-style-type: none"> 1. Identify Affected Transactions (C1-IAENT) 2. Process Non Aggregated Transactions (C1-PDTXN) 3. Clean Up (C1-TXNCU) 4. Update Disaggregation Request Status (C1-DARSU) <p>Otherwise, erroneous results might occur.</p>
Workaround	None

Issue	TWO CONCURRENT RUNS WHICH DERIVE SAME DIVISION FOR TRANSACTIONS DOES NOT WORK
Description	If you execute a batch concurrently with two different divisions (for example, D1 and D2), the erroneous results might occur when transactions in both the runs derive the same division, account, and/or product combination.
Workaround	None

Issue	ERROR OCCURS WHEN YOU DISPLAY BILL FOR A PRODUCT THAT BELONGS TWO RELATIONSHIPS
Description	If a product is added to two or more product to product relationships using the relationship type as Service, the system error occurs when you display bill for the product using Documaker. For example, if P3 is added in the P1 and P2 product relationship using the relationship type as Service, an error occurs when you display bill for P3 using Documaker.
Workaround	None

Issue	ACTIVE CONSTRUCTS DETERMINED ON CUT-OFF DATE INSTEAD OF CHARGES START & END DATE
Description	The system determines the active construct based on the cut-off date and bills the usage accounts' charges through an invoice account which is defined in the active construct. It does not determine the active construct based on the billable charge's start and end dates.
Workaround	None

Issue	BILL SEGMENTS CREATED BUT FTS NOT CREATED WHEN ACCOUNTING CALENDAR NOT DEFINED
Description	There might be situations when you generate bill segments for a pending bill which is created for a bill cycle whose accounting date either falls within the closed accounting calendar or does not fall within any accounting calendar. In such scenarios, the bill segments are generated, but the financial transactions are not created for the bill segments. An error occurs when you view such bills, whose financial transactions are not created, through the Bill screen.
Workaround	None

Issue	STATUS OF ALL LEGS CHANGED TO ERROR IF EXCHANGE RATE NOT AVAILABLE FOR ONE LEG
Description	If a transaction has multiple legs and the system could not find exchange rate for one of the leg while executing the C1-TXNSQ batch, the status of the transaction and all its transaction legs is changed to Error .
Workaround	None

Issue	INCORRECT RESULTS APPEAR WHEN UNDERSCORE CHARACTER IS USED IN SEARCH CRITERIA
Description	If you use the underscore (_) character in the search criteria, the system does not search strings with the underscore character. Instead, the system interprets the underscore (_) character as a wildcard character.
Workaround	None

Issue	PAYMENT AMOUNT IS INCORRECT WHEN PAYMENTS HAVE FROZEN & OVERPAYMENT PAY SEGMENTS
Description	If the payments have both frozen and overpayment pay segments, the payment amount displayed corresponding to the overpayment and frozen payment in the Payments zone of the Remittance Summary screen is incorrect. The system displays the total payment amount instead of displaying the overpayment and frozen pay segment amount.
Workaround	None

Issue	ERROR OCCURS WHEN BIND VARIABLES USED IN IN AND NOT IN CLAUSES WITHOUT BRACKETS
Description	If a template is used in a construct for selecting usage accounts, billable charges, or adjustments where bind variables are used in the IN and NOT IN clauses without brackets, an error occurs when you bill an account through such construct.
Workaround	We recommend you to use bind variables within brackets in the IN and NOT IN clauses while defining a template.

Issue	PARTIAL DATA UPLOADED WHEN USAGE RECORD HAS MORE THAN FIVE PASS THROUGH CHARGES
Description	If you upload a usage record which has more than five pass through charges (for example, Bill Line 1, Bill Line 2, ..., Bill Line 8), at present, the system uploads the details of only five pass through charges (i.e. till Bill Line 5). The details of Bill Line 6, Bill Line 7, ..., and Bill Line 8 are not uploaded.
Workaround	None

Issue	ADJUSTMENT CREATED WHEN CONTRACT ID IS VALID, BUT ACCOUNT IDENTIFIER IS INVALID
Description	If you upload an adjustment data file with a record where the contract ID is valid, but the account ID or account identifier is invalid, the system creates the adjustment against the contract. Ideally, the system should not create the adjustment until and unless the contract ID, account ID, account identifier type, and account identifier are valid.
Workaround	None

Issue	ABLE TO GENERATE A BILL FOR A SETTLEMENT ACCOUNT FROM THE BILL SCREEN
Description	Ideally, the system should not allow you to generate a bill for a settlement account. However, at present, you can generate a bill for a settlement account from the Bill screen.
Workaround	None

Issue	ADJUSTMENT CREATED AGAINST PREVIOUS BILL IS NOT CONSIDERED DURING TRIAL BILLING
Description	If you create an adjustment against the previous completed bill, the adjustment is not presented on the next bill during trial billing. This open item accounting feature is not supported during trial billing.
Workaround	None

Issue	REOPEN BUTTON DISABLED WHEN C1-BILLSETT ALGORITHM ATTACHED ON CUSTOMER CLASS
Description	If you attach an algorithm of the C1-BILLSETT algorithm type on the Bill Completion system event of the account's customer class, at present, you will not be able to reopen a bill.
Workaround	None
Issue	THE PAYMENT REQUEST SCREEN DOES NOT SUPPORT MULTIPLE TENDERS
Description	At present, the system does not support multiple tenders when you create a payment from the Payment Request screen.
Workaround	None

Issue	PERFORMANCE ISSUE ON CHANGING THE SEARCH BY FILTER OPTION
Description	If you change the filter option from the Search By list, the system takes long time to load the respective query zone. You may observe this issue in many screens where the multi-query zone is used.
Workaround	None

Issue	EFFECTIVE PRICING NOT VISIBLE IF C1_PER_REL HAS INVALID PERSON RELATIONSHIP TYPE
Description	If you set the Check on Feature Configuration parameter in an algorithm which is created using the C1-CUSRLALGT algorithm type to A and add an invalid person relationship type in the C1_PER_REL feature configuration, the effective pricing is not inherited properly as expected.
Workaround	None

Issue	ERROR LOG FILES GENERATED ON EXECUTING BILLING AND C1-BLPPR BATCHES
Description	In ORMB, the error log file is generated even when the following batches are executed successfully and bills are completed: <ul style="list-style-type: none"> • BILLING • C1-BLPPR
Workaround	None

Issue	MANUAL DISTRIBUTION NOT WORKING IN THE PAYMENT SCREEN
Description	On saving, the distributed amount is reset to zero when you manually distribute the tender amount among the unpaid bills in the Payment screen.
Workaround	None

Issue	ERROR OCCURS ON EXECUTING BILLOPEN IF IN CLAUSE CONTAINS MULTIPLE BIND VARIABLES
Description	If you have used template in a construct where IN clause has multiple bind variables, an error occurs while executing the Construct Based - Pending Bill Generation (BILLOPEN) batch.
Workaround	None

Issue	ELIGIBILITY CRITERIA ROW IS SKIPPED IF LEFT HAND SIDE PARAMETER IS NOT SPECIFIED
Description	If the left hand side parameter is not specified in an eligibility criteria row while defining or editing a price item pricing, the eligibility criteria row is skipped and not saved in the system.
Workaround	None

Issue	POST-PROCESSING BILL SEGMENT NOT REGENERATED WHEN YOU CLICK THE GENERATE BUTTON
Description	An error occurs when you click the Generate button in the Bill Segment screen while regenerating the post-processing bill segment which is present on the pending bill.
Workaround	None

Issue	RATE CALCULATED INCORRECTLY WHEN EXCHANGE RATE IS CHANGED DURING PRICING PERIOD
Description	At present, the rate is calculated and persisted using the exchange rate which is effective on the price item pricing effective start date. Therefore, the persisted rate shown on the Pricing (Account) screen might be incorrect when the exchange rate is different on the date when the results are fetched on the Pricing (Account) screen.
Workaround	None

Issue	ENTRY NOT CREATED IN THE CI_REPRC_ENTITY_DTL TABLE ON EDITING A PRICE LIST
Description	If you edit the details of a price list which is assigned to an account or a person, an entry is not created in the CI_REPRC_ENTITY_DTL table. In other words, the repricing is not triggered on editing the details of a price list which is already assigned to an account or a person.
Workaround	None

Issue	UNABLE TO DEFINE PARAMETER FOR FIELDS WHICH BELONG TO CHILD TABLES
Description	At present, the system does not list the fields of child tables in the Source Type Code field when you select the source entity as Account, Person, or Product while defining a parameter. Therefore, you cannot define a parameter for child table' fields and as a result, repricing is not triggered when you change the value of any child table' field. For example, when you change the main customer of an account, repricing is not triggered because the MAIN_CUST_SW field belongs to the child table named CI_ACCT_PER table for which you cannot define a parameter in the system.
Workaround	None

Issue	RATE NOT PERSISTED ON PRICE ASSIGNMENT DATE WHEN C1-PRICEACCOUNT INVOKED MANUALLY
Description	When you manually execute the C1-PriceAccount business service for an account, rate is calculated and persisted for the price item pricing available on the default and global price list on the date when the C1-PriceAccount business service is invoked. Ideally, the rate must be calculated and persisted on the price item pricing effective start date.
Workaround	None

Issue	PERSISTED DATA NOT GETTING REFRESHED ON EDITING PRICE ASSIGNMENT
Description	On editing a price item pricing, the rate is not properly recalculated and persisted when the details of a price component, such as rate, eligibility criteria, and so on are changed.
Workaround	None

Issue	PRICELIST EDIT VALIDATIONS NOT DEPENDENT ON ASSIGNMENT DATE OR ASSIGNMENT STATUS
Description	Available and Eligible dates can be edited in Price List though Assignment Date or Assignment Status is added for price list.
Workaround	None

Issue	STACKING IS NOT SUPPORTED FOR PRICE SIMULATION
Description	Stacking is supported for bill generated through an Account. Pricing Simulation does not support stacking.
Workaround	None

Issue	ADJUSTMENT AMOUNT IS NOT PICKED UP FOR PAYMENT IN NEXT BILL
Description	When you generate an Adjustment after a successful payment, the Adjustment amount is not picked up in the next bill that is generated and hence, payment is not created for the adjustment amount.
Workaround	None.

Issue	SPLIT AUTO PAY NOT AVAILABLE ON SETTLEMENT CONSTRUCT ACCOUNT CREATION SCREEN.
Description	At present split auto pay is not supported on Settlement construct because Percentage field has to be added in Auto Pay Instructions section while creating a new account.
Workaround	None

Issue	SQL ERROR ON PRICE ASSIGNMENT SCREEN WITH ADHOC VALUE PASSED IN QUOTES.
Description	At present SQL error is displayed in Price Assignment screen for parameter when adhoc value is added in quotes. Price Assignment should be successful though value added is in single quotes.
Workaround	None

Issue	BS ARE NOT GETTING PICKED FOR BATCH DATE AFTER BILLABLE CHARGE END DATE
Description	At present, batch business date is later then billable charge date and C1_BILLGEN is not creating any BS, hence bill is not generated.
Workaround	None

Issue	RSDETAILS UPDATED INCORRECTLY WHEN PRICE COMPONENT FEES/RATE) PERSISTENCE EDITED
Description	At present, rate schedule details after modification are displayed and not the details before editing.
Workaround	None

Issue	FEES RATE CALCULATION PRE-PROCESSING ALGORITHM ISSUE
Description	Algorithm only considers the latest Service Quantity Identifier, it has to consider both Parameter and Service Quantity Identifier when calculating FEES and RATE.
Workaround	None

Issue	C1-ACFEES BATCH RUN WITH PRICE ITEM CODE AS THE ONLY PARAMETER.
Description	C1-ACFEES batch should consider records of price assignment where FEES for same should persist.
Workaround	None

Issue	PRICE ASSIGNMENT TYPE - POST PROCESSING ISSUE IN FEES CALCULATION BATCH.
Description	New value to be added in Price Assignment Type for post processing issue in FEES calculation batch.
Workaround	None

Issue	C1-ACCOUNTFEES SERVICE ISSUE
Description	At present FEES for price assignments are not persisted if any one price assignment eligibility rule results false and if no RATE found for same.
Workaround	None

Issue	PAYMENT STATUS REMAINS INCOMPLETE AND NO PAYMENT SEGMENT IS GENERATED EVEN WHEN TENDER CONTROL ID IS GENERATED
Description	For 'On Extract Date', if one of the split auto payments goes in to error state, BALAPY batch generates Tender Control Id and Payment Status remains Incomplete and no Payment segment is generated.
Workaround	None

Issue	CHANGES MADE TO ACCOUNT ARE NOT UPDATED WHEN APPROVAL WORKFLOW IS ACTIVE FOR ACC
Description	At present columns are not properly aligned and changes are not updated when Approval Workflow is Active. Changes done to account should be updated when approval workflow is active.
Workaround	None

Issue	INBOUND WEB SERVICE DOES NOT TRIM LEADING & TRAILING SPACES FROM INPUT PARAMETER
Description	If you pass input parameters with leading and trailing spaces to an inbound web service, the inbound web service does not trim the leading and trailing spaces from the input parameters.
Workaround	None

Issue	IF USER ADDED DEFER AUTO PAY DATE ON ACCOUNT THEN AUTO PAY WILL NOT WORK
Description	If you manually add the date in the Defer Auto Pay Date field, the automatic payment functionality will not work for the account.
Workaround	None

Issue	TOTAL OVERDUE AMOUNT IN ACCOUNT & PERSON DETAILS SECTIONS SHOW INCORRECT VALUE
Description	If you manually include a bill in more than one active overdue process through the user interface, the amount shown in the Total Overdue Amount field is incorrect when you search for an overdue process using the Person or Account details in the Delinquency Central screen.
Workaround	None

Issue	SEASONAL ADDRESS ID DOES NOT APPEAR IN THE BILL ROUTINGS TAB OF THE BILL SCREEN
Description	At present, the seasonal address which is effective at the time of billing is considered for bill routing. You can view the seasonal address details in the Bill Routings tab of the Bill screen. However, the seasonal address ID does not appear corresponding to the Address ID field.
Workaround	None

Issue	ACCOUNT OVERRIDE ADDRESS IS NOT DELETED WHEN THE BILL ROUTING RECORD IS DELETED
Description	Once you delete a bill routing record for a person from the Account screen where the Address Source field is set to Account Override , the corresponding account override address is not deleted from the system. You can still view the account override address on the screen.
Workaround	None

Issue	ERROR OCCURS ON USING A VALUE WITH HYPHEN FOR A CHARACTERISTIC TYPE
Description	At present, an error occurs on a screen where a characteristic value with hyphen (-) is defined for a characteristic type.
Workaround	None

Issue	AN ERROR OCCURS ON THE TEMPLATE SEARCH WINDOW
Description	If you do not specify at least one account selection template while defining a construct, an error occurs indicating that at least one account selection template must be specified. Now, when you search for an account selection template using the Search icon corresponding to the respective field, the Template Search window appears with the same error (indicating that at least one account selection template must be specified). The system should not display any error in the Template Search window.
Workaround	None

Issue	DISPUTE AMT AT BILL LEVEL INCORRECT WHEN BILL SEGMENT OF PREVIOUS BILL CANCELED
Description	If a bill segment of the previous bill is canceled and you create a dispute request against an account for the corresponding next bill, the dispute amount displayed against the bill in the Dispute Details zone is incorrect.
Workaround	None

Issue	SAVE BUTTON IS ENABLED WHEN A BILL IS IN THE COMPLETE OR CANCELED STATUS
Description	The Save button in the Page Title area on the Bill screen should be disabled when a bill is in the Complete or Canceled status. However, at present, the Save button is enabled when a bill is in the Complete or Canceled status.
Workaround	None

Issue	APAYCRET BATCH DOES NOT CONSIDER ECR ADJUSTMENTS CREATED ON PENDING BILL
Description	You can only use an adjustment type where the Print by Default and Impact Next Bill Balance check boxes are not selected to create transfer adjustment while distributing earnings credit rate. Therefore, an ECR adjustment created against a pending bill is not stamped on the bill. As a result, the Automatic Payment Creation (APAYCRET) batch creates automatic payment for the bill without considering the ECR adjustment.
Workaround	None

Issue	SINGLE MATCH EVENT CREATED WHEN MULTIPLE BILL SEGMENTS OF A CONTRACT ARE NETTED
Description	At present, the system creates single match event for all bill segments of a contract which are netted. For example, there are two bill segments – BS1 (50\$) and BS2 (-50\$) of the C1 contract on a bill. In this case, the system nets the BS1 and BS2 because it results in zero contract balance, and then creates single match event for BS1 and BS2.
Workaround	None

Issue	RECOGNITION SCHEDULE NOT GENERATED FOR BX/AX WHEN DRR FOR BS/AD DOES NOT EXIST
Description	There might be situations when you have attached the C1-REVRECSCH algorithm to a contract's contract type for which bill segments and adjustments are already generated. Now, if already generated bill segments or adjustments are canceled, the system will generate the deferred revenue recognition for BX and AX even if the deferred revenue recognition does not exist for the corresponding BS and AD. But, the recognition schedule is not generated. You cannot even edit the recognition schedule of a deferred revenue recognition which is created for BX and AX.
Workaround	None

Issue	AUTO PAY ID IS NOT UPDATED WHEN A REOPENED BILL IS COMPLETED
Description	When you reopen and complete a bill, the bill's due date is recalculated. On completing a reopened bill, the system does not check whether there are rule based auto pay instructions for the account which are effective on the latest bill due date. In other words, the system does not update the auto pay ID against the financial transactions in the C1_FT_EXT table. In addition, the entries in the CI_BILL_ACH table are not updated.
Workaround	None

Issue	CUSTOMER SIMULATION NOT WORKING FOR CUSTOMER HAVING LARGE DATA
Description	If a customer has large number of accounts in its hierarchy or if there are large number of billable charges for distinct price items, the corresponding prospect hierarchy will not be created successfully when you create a deal for the customer using the simulation type as Customer .
Workaround	Create a deal for such customers using the simulation type as Deal

Issue	INCORRECT AVG PRICE AND COST CALCULATION WHEN VOLUME/COMMITMENT HAVE MULTIPLE SQIS
Description	The system calculates the average price and cost incorrectly when there are multiple SQIs in the SQI-based billable charges.
Workaround	None

Issue	HIERARCHY UI-APPROVED PRICE ITEMS GETTING UNAPPROVED AGAIN IF RM CHANGES THE PRICING AND DOES THE SIMULATION AGAIN
Description	If an approver request the submitter to resubmit the deal for approval and if the submitter makes any changes in the pricing for a price item, the system should only change the status of the price item to Pending for Approval while simulating the deal. But, the system changes the status of all price items in the deal to Pending for Approval .
Workaround	None

Issue	DEAL END DATE IS NOT CONSIDERED FOR PRICE ASSIGNMENT PRICELIST ASSIGNMENT AND PRODUCT ENROLLMENT
Description	In the Apply Back feature, the system does not use the deal end date while creating price assignments, price list assignments, and product enrollments.
Workaround	None

Issue	SAME ORASEARCH ZONE APPEARS FOR MULTIPLE BIND VARIABLES WHILE DEFINING CONSTRUCT
Description	If a template has multiple bind variables and zone is specified for two or more bind variables, the system displays the same OraSearch window for all bind variables when you define a criteria in a construct. It shows the OraSearch zone of the bind variable which is added first in the template.
Workaround	None

Issue	INCONSISTENT DATA LENGTH FOR SRCH_CHAR_VAL AND ADHOC_CHAR_VAL
Description	At present, the ADHOC_CHAR_VAL and SRCH_CHAR_VAL columns have different column length. The SRCH_CHAR_VAL column can only store 50 characters. Therefore, an adhoc characteristic value above 50 characters is truncated and then stored in the SRCH_CHAR_VAL column. As a result, erroneous results appear when you search for an entity using a string from an adhoc characteristic value which is beyond 50 characters.
Workaround	None

Issue	ORASEARCH ICON FOR FK REF CHAR TYPE IS DISABLED IN AWB SCREENS
Description	At present, the Search icon in the Characteristic Value column is disabled when you select a foreign key value characteristic type in the screens which are designed using the Application Workbench (AWB).
Workaround	None

Issue	Original and Proposed Revenue Not Calculated Correctly
Description	At present, the original and proposed revenue of a price item are not calculated properly due to some rounding issue in the rate schedule API. Therefore, the average price of each price item, revenue of each account and customer, revenue from each product, division, and deal, and revenue variation calculated in a deal are not accurate.
Workaround	None

Issue	ON APPLY BACK THROWING DUPLICATE KEY ERROR
Description	If a deal of an entity is already in the Fully Orchestrated status and you create another deal for the same entity, the system throws duplicate key error when you apply back the subsequent deal.
Workaround	None

Issue	INCORRECT PROPOSED TRANSACTION VOLUME GETTING EXPORT IN PRINT DEAL PDF FORMAT
Description	If the default commitments are defined in a deal type, the system fetches default commitments for a price item and parameter combination even if the proposed commitments are available for the price item and parameter combination while extracting the details of the respective deals in the PDF format.
Workaround	None

Issue	ON DEAL CREATION IF WE REFERUSAGE FROM ANOTHER DEAL WHICH HAVE BILLABLE CHARGE ON ACCOUNT THEN COPING INCORRECT COMMITMENT I.E. TWICE OF ORIGINAL VOLUME
Description	While referring usage from another deal, the proposed commitments for a price item and parameter combination are copied incorrectly (i.e. twice the original volume).
Workaround	None

Issue	UNABLE TO READ OUT THE CUSTOMER OR ACCOUNT ID IN NUMBERS
Description	While using the Speech to Text facility in the Chatbot window, we need to read out the account or customer ID in words. For example, the customer ID 1337049295 should be read out as One Billion Three Hundred Thirty-Seven Million Forty-Nine Thousand Two Hundred Ninety-Five and not as One Three Three Seven Zero Four Nine Two Nine Five. Otherwise, erroneous results might occur.
Workaround	None

Insurance

Issue	OLD INSURANCE FEATURES ARE NOT TESTED AND VERIFIED IN ORMB VERSION 5.0.0.0.0
Description	In this release, the new policy data model is introduced. The old policy data model which is accessible to the INADMIN user group is no longer operational. The old insurance features, such as Insurance Control Central, Deferred Revenue Recognition, Account Current, Pay Plan, Group Billing, and List Bill Reconciliation are not tested and verified with the new policy data model.
Workaround	None

Issue	PERFORMANCE ISSUE WHILE CREATING DEFERRED REVENUE RECOGNITION SCHEDULE
Description	If there are large number of bill segments and adjustments for which deferred revenue recognition schedule must be generated, the system takes long time to generate deferred revenue recognition schedules.
Workaround	None

Issue	VALIDATION FOR FIDUCIARY CONTRACT MISSING DURING RECONCILIATION
Description	While changing the status of the reconciliation object to Ready To Pay, the system does not validate whether fiduciary contract exists for the group account.
Workaround	You need to ensure that group customer has fiduciary contract associated with the account through which payments can be made for the list bills.

Issue	TWO BILL SEGMENTS GENERATED WHEN REASON CODE EFFECTIVE DATE IS SAME AS BILL SEGMENT START DATE
Description	When you select the Update option from the Reason Code list and specify the reason code effective date same as the bill segment start date, the system creates two bill segments – one with prorated billed amount and another with prorated reported amount. Ideally, the system should only create one bill segment with prorated reported amount.
Workaround	None

Issue	UNABLE TO DISTRIBUTE THE REMAINING PAYMENT MANUALLY
Description	If you have distributed partial payment automatically through the Payment by Transaction screen, the system does not allow you to distribute the remaining payment manually.
Workaround	None

Issue	FOREIGN KEY AND FILE LOCATION CHARACTERISTIC TYPE NOT SUPPORTED IN UI MAPS
Description	The screens created using the UI map do not support the Foreign Key Value and File Location Value characteristic types. These screens only support the Adhoc Value and Predefined Value characteristic types.
Workaround	None

Issue	CHARACTERISTIC TYPES ARE NOT FILTERED BASED ON THE REASON CODE
Description	While editing the reconciliation object line, the characteristic types are not filtered based on the reason code that you have selected. Currently, it lists all characteristic types where the characteristic entity is set to Reason Code .
Workaround	None

Issue	RECONCILIATION DOESN'T WORK PROPERLY FOR PASS THROUGH BILLABLE CHARGES
Description	In the sample case workflow, the system checks whether the difference between the reported and billed amounts is within the tolerance limit. If so, the system must change the status of the reconciliation object line to WD-Match . However, at present, in case of pass through billable charges, the system changes the status of the reconciliation object line to Manual instead of WD-Match .
Workaround	None

Issue	ERROR OCCURS WHEN YOU RESOLVE A RECONCILIATION OBJECT LINE FROM THE CASE SCREEN
Description	The system allows you to manually resolve a reconciliation object line from the Case screen and change the status of the reconciliation object line to Manual Match . At present, an error occurs when you click the Manual Match button in the Case screen.
Workaround	None

Issue	OVERRIDE DESCRIPTION APPEARS INSTEAD OF DESCRIPTION IN THE SOURCE SYSTEM LIST
Description	At present, the override description of the source system appears in the Source System list instead of the description when you select the Policy option from the Search By list in the Customer 360-Degree View screen.
Workaround	None

Issue	UNABLE TO SELECT AUDIT EVENT TYPE IN PRT WHEN UPDATE ALL IS CONFIGURED IN AET
Description	At present, you cannot use an audit event type of the C1-Membership and C1_PERSON_BO business objects in the Age Based and Tier Based pricing rule types when the Update All option is selected in the audit event type.
Workaround	Therefore, we recommend you to select an audit event type of the C1-Membership and C1_PERSON_BO business objects where the Update All option is not selected.

Documentation

Issue	"ERROR 500--INTERNAL SERVER ERROR" - ONLINE HELP IS NOT WORKING
Description	<p>At present, an error occurs when you access online help for the following screens:</p> <ul style="list-style-type: none"> • Account Collection Summary • Account Current • COBOL Program • Collection Control Central • Contract Type - Charge Type Mapping • Contract Type - Pay Plan Template Mapping • External Statement • FK Validation Summary • Pay Plan Template • Policy (P&C) • Reason Code • Reconciliation Object • Reconciliation Object Line Status • Unit of Measure
Workaround	None

Issue	ONLINE HELP NOT AVAILABLE FOR SOME SCREENS OR TABS
Description	<p>At present, the online help is not available for the following screens:</p> <ul style="list-style-type: none"> • Collection Type • Loan • Request <p>In addition, the online help is not available for the following tabs:</p> <ul style="list-style-type: none"> • Rate Schedule – SQ Rule Tab
Workaround	None

Issue	INDEX ENTRIES NOT DEFINED FOR THE BANKING AND INSURANCE MODULES
Description	At present, index entries are not defined for all topics in the Banking and Insurance modules.
Workaround	None

Issue	CONTENT ADDED IN STEPRESULT AND INFO TAGS IS DISPLAYED IN BOLD
Description	At present, the content added within the STEPRESULT and INFO tags is displayed in bold in the online help. This behavior is observed in Oracle Help and not in SPLHelp.
Workaround	None

Issue	COMMENTS NOT COPIED IN MAIL WHILE SUBMITTING FEEDBACK TO THE DOCUMENTATION TEAM
Description	The feedback entered in the Comments text box is not copied to the mail while submitting the feedback form in Oracle Help.
Workaround	You will have to manually add the comments in the e-mail before sending the feedback to the documentation team.

Technical Support

For any technical support, consult with Oracle Support, Oracle Partner, or Oracle Consulting that may be supporting your implementation and upgrade process.