Oracle® Revenue Management and Billing

Version 2.4.0.1.0

Upgrade Guide

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Oracle Revenue Management and Billing Upgrade Guide

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Preface

About This Document

This document will help you to understand how to upgrade the Oracle Revenue Management and Billing application and its database. It also explains how to upgrade the application framework.

Intended Audience

This document is intended for the following audience:

- End-Users
- Consulting Team
- Implementation Team

Organization of the Document

The information in this document is organized into the following sections:

Section No.	Section Name	Description
Section 1	Preparing for Upgrade	Provides an overview of the upgrade process. It also lists the prerequisites for upgrading the application.
Section 2	Upgrading from ORMB Version 2.4.0.0.0 to 2.4.0.1.0	Explains how to upgrade from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0.
Section 3	Additional Tasks	Lists and describes the additional tasks that you need to perform after upgrading the application.
Appendix A	ORMB 2.4.0.1.0 Patch Numbers	Lists the ORMB Version 2.4.0.1.0 domain and platform-specific patch numbers along with its contents.
Appendix B	Known Issues	Lists the known issues in the current release of the Oracle Revenue Management and Billing application.
Appendix C	Third Party Software Upgrade	Provides a list of third party software that you need to upgrade before upgrading the application.
Appendix D	New Tables Added in 2.4.0.1.0	Lists and describes the tables that are newly added in the Oracle Revenue Management and Billing Version 2.4.0.1.0 database.

Section No.	Section Name	Description
Appendix E	Existing Tables Modified in 2.4.0.1.0	Lists the existing tables and their columns that are modified in the Oracle Revenue Management and Billing Version 2.4.0.1.0 database.
Appendix F	Algorithms and Algorithm Types Dropped in 2.4.0.1.0	Lists the algorithms and algorithm types which are dropped in Oracle Revenue Management and Billing Version 2.4.0.1.0.
Appendix G	Parameters Added or Removed from Algorithm Types in 2.4.0.1.0	Lists the parameters which are added or removed from the algorithm types in Oracle Revenue Management and Billing Version 2.4.0.1.0.
Appendix H	SQL Statements for 2.4.0.0.0 to 2.4.0.1.0 Data Migration	Lists and describes the SQL queries which are used for migrating data from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0.

Related Documents

You can refer to the following documents for more information:

Document	Description
Oracle Revenue Management and Billing Version 2.4.0.1.0 Release Notes	Provides a brief description about the new features and enhancements made in this release. It also highlights the bug fixes and known issues in this release.
Oracle Revenue Management and Billing Upgrade Path Guide	Explains the path and pre-requisites for upgrading Oracle Revenue Management and Billing from one version to another.

Change Log

Revision	Last Update	Updated Section	Comments
7.1	11-Aug-2015	Section 2.7: Migrating Data	Updated Steps
		Appendix D: New Tables Added in 2.4.0.1.0	Added New Table
		Appendix H: SQL Statements for 2.4.0.0.0 to 2.4.0.1.0 Data Migration	Added SQL Statements
7.2	14-Aug-2015	Section 2.5.2: Installing Rollup Pack for ORMB Version 2.4.0.1.0	Added Section
		Section 2.5.3: Updating the spl.properties Files	Added Section
		Section 2.6.2: Installing Rollup Pack for ORMB Version 2.4.0.1.0	Added Section

Revision	Last Update	Updated Section	Comments
7.3	28-Aug-2015	Section 2.2: Downloading the ORMB Patches	Updated Section
		Section 2.5.2: Installing Rollup Pack for ORMB Version 2.4.0.1.0	Updated Section
		Section 2.6.2: Installing Rollup Pack for ORMB Version 2.4.0.1.0	Updated Section
7.4	20-Aug-2019	Section 2: Upgrading from ORMB Version 2.4.0.0.0 to 2.4.0.1.0	Added Information about the Single-Step Utility

Contents

1. Preparing for Upgrade

This section provides an overview of the upgrade process. It also lists the pre-requisites for upgrading Oracle Revenue Management and Billing from one version to another.

1.1 Upgrade Overview

The following figure provides an overview of the steps that need to be taken for upgrading Oracle Revenue Management and Billing.

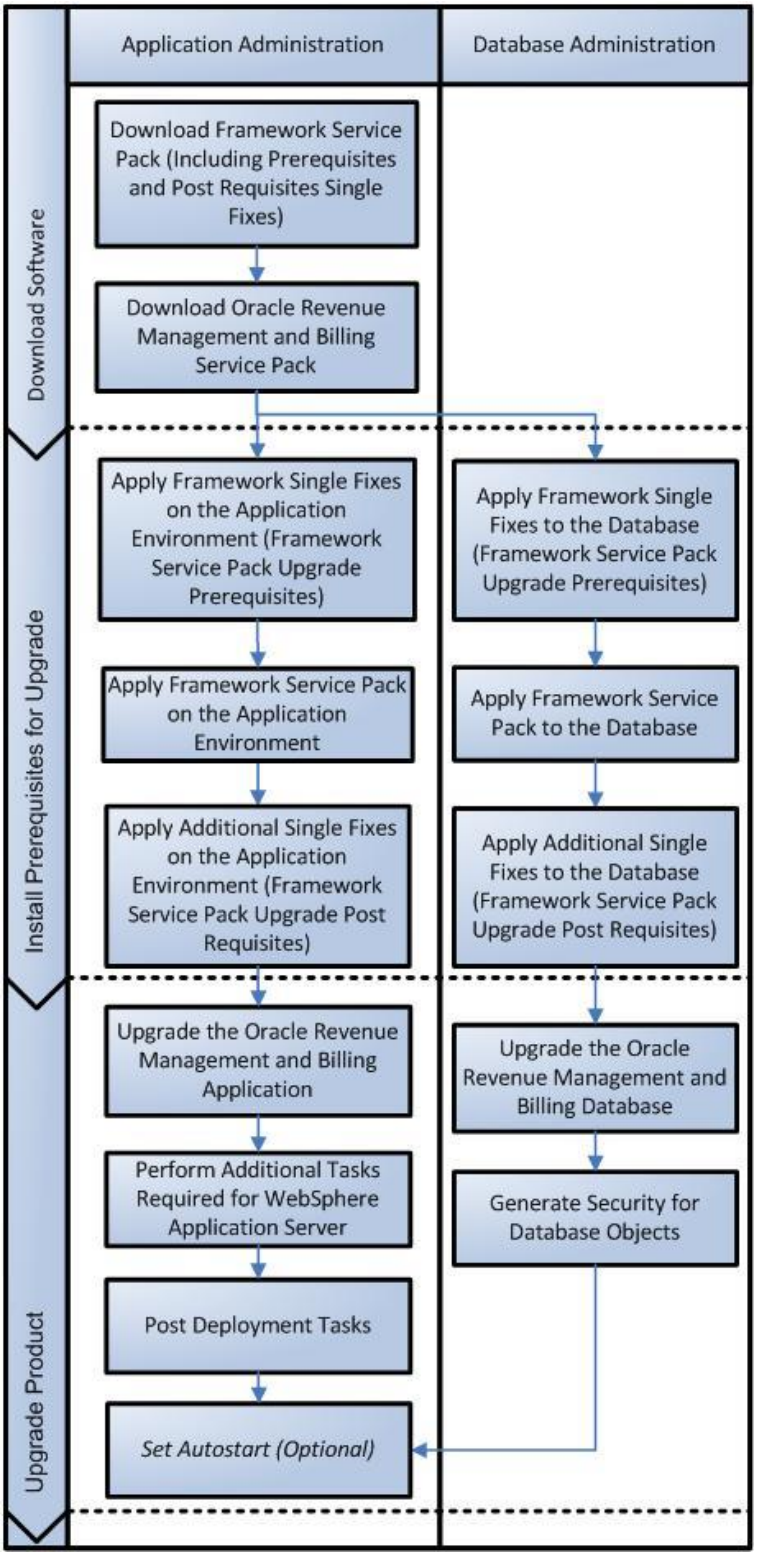

Figure 1 : Upgrade Process

1.2 Upgrade Pre-requisites

Before you upgrade Oracle Revenue Management and Billing, you need to upgrade the application framework as mentioned in the *Oracle Revenue Management and Billing Upgrade Path Guide*. While upgrading the application framework, you might have to apply some patches (additional single fixes) as pre-requisites or post-requisites.

Also, before you upgrade the application framework, you might have to upgrade some of the third party software. For more information, refer to the Upgrade Prerequisites section in the *Oracle Revenue Management and Billing Upgrade Path Guide.*

1.3 Supported Upgrades

In this release, we support the following upgrades:

- Upgrade from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0

Note: For upgrading from any other version of Oracle Revenue Management and Billing other than 2.4.0.0.0, consult with Oracle Support, Oracle Partner, or Oracle Consulting that may be supporting your implementation and upgrade process.

2. Upgrading from ORMB Version 2.4.0.0.0 to 2.4.0.1.0

This section explains how to upgrade from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0. The high-level steps include:

1. Downloading the ORMB Patches
2. Upgrading Framework on the Database
3. Upgrading Framework on the Application Environment
4. Upgrading the Oracle Revenue Management and Billing Application
5. Upgrading the Oracle Revenue Management and Billing Database
6. Migrating Data

Note: Before you upgrade the application, you must take a backup of the application and the database.

You can upgrade the database either manually by following the steps listed in this document or automatically using the single-step utility. Oracle Revenue Management and Billing provides the single-step utility which helps to upgrade the database from any previous version (not older than V2.3.0.2.0) to the current version. You can download the single-step utility from the UTILITIES PROVIDING A SINGLE STEP PROCESS FOR DATABASE UPGRADE patch (Patch Number: 25895460) which is available on My Oracle Support. To understand how to execute the single-step utility, refer to the documentation available in the patch. At present, the single-step utility is only supported on the Windows environment.

To improve the performance of the SQL queries executed for data migration, you can execute a Java utility for setting degree of parallelism. This Java utility must be used in conjunction with the single-step utility. It must be executed before executing the single-step utility. You can download this utility from the JAVA UTILITY FOR SETTING DEGREE OF PARALLELISM IN DATA MIGRATIONS SQLS patch (Patch Number: 28226772) which is available on My Oracle Support. To understand how to execute this Java utility, refer to the documentation available in the patch. At present, this utility is only supported on the Windows environment.

2.1 Prerequisites

If you are already using the Transaction Feed Management feature and want to upgrade to Oracle Revenue Management and Billing Version 2.4.0.1.0, then you need 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 2.4.0.0.0 will not happen successfully.
- Transactions which are uploaded using 2.4.0.0.0 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 product parameter code or value. Otherwise, erroneous results might occur.

2.2 Downloading the ORMB Patches

For upgrading from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0, you must download the following patches from My Oracle Support:

- RMB V2.4.0.1.0 - <Domain> - <Platform>

Note: For more details about the patch number, refer to Appendix A : ORMB 2.4.0.1.0 Patch Numbers.

- RMB V2.4.0.1.0 ROLLUP PACK (Patch Number: 21619977)
- PACKAGE FOR DATA UPGRADE FROM 2.4.0.0.0 TO 2.4.0.1.0 (Patch Number: 21463544)

The downloaded files will be in the ZIP format.

2.3 Upgrading Framework on the Database

While upgrading from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0, you need to install the following on the database:

1. Oracle Utilities Application Framework (OUAF) Version 4.2.0.3.0
2. Rollup Pack for Oracle Utilities Application Framework (OUAF) Version 4.2.0.3.0

To install the framework service packs on the database, you must have the following:

- Oracle Database Client 11.2.0.1 installed on the Windows machine from where you want to install the framework service packs
- Ability to connect to the database

2.3.1 Installing OUAF Version 4.2.0.3.0

To install Oracle Utilities Application Framework (OUAF) Version 4.2.0.3.0 on the database:

1. Login to the database server using the administrator's credentials.
2. Create a temporary folder or directory (for example, `TEMPDIR`) on the database server using the following command:

   ```
   mkdir TEMPDIR
   ```

3. Copy the RMB V2.4.0.1.0 - <Domain> - <Platform> patch to the `TEMPDIR` folder using the following command:

   ```
   copy <PATH>\<filename>.zip <PATH>\TEMPDIR
   ```

Note: You can also use File Transfer Protocol (FTP) to transfer the downloaded file from one host to another. You must use the binary mode while copying files through FTP.

4. Change to the `TEMPDIR` folder using the following command:

   ```
   cd <PATH>\TEMPDIR
   ```

5. Unzip the RMB V2.4.0.1.0 - <Domain> - <Platform> patch using the following command:

   ```
   unzip <filename>.zip –d <PATH>\<DESTINATION_FOLDER>
   ```


The contents of the zip file are extracted in the <DESTINATION_FOLDER> folder. For more information about the contents of the RMB V2.4.0.1.0 - <Domain> - <Platform> patch, refer to Appendix A : ORMB 2.4.0.1.0 Patch Numbers.

6. Unzip the RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm.zip file using the following command:

   ```
   unzip RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm.zip -d <PATH>\<DESTINATION_FOLDER_1>
   ```

   The contents of the zip file are extracted in the <DESTINATION_FOLDER_1> folder. The contents include the following sub-folders:

   - Demo_dump
   - FW
   - RMB

7. Change to the Install-Upgrade folder using the following command:

   ```
   cd <DESTINATION_FOLDER_1>\FW\FW42030\Install-Upgrade
   ```

8. Execute the OraDBI utility using the following command:

   ```
   OraDBI.exe
   ```

Note: Ensure that you execute the OraDBI utility from the Window 32-bit or 64-bit desktop that has Oracle Database 11g Release 2 Client (11.2.0.1), 32-bit, and Java Development Kit Version 6.0 Update 20 or later installed. The database must be listed in the tnsnames.ora file on your local machine.

This utility prompts you to enter values for the following parameters:

Parameter	Value
Enter the name of the target database	<DB NAME>
Enter your database username	<DB_USER> Example: CISADM
Enter your password username	<DB_USER_PASSWORD>
Enter the location for Java Home (e.g. C:\Java\jdk1.6.0_18)	..\jdk1.6.0_20
Enter the TUGBU jarfiles location (e.g. C:\Database-Install\Jarfiles)	..\FW\FW42030\jarfiles
Enter the Oracle user with read-write privileges to Database Schema	<DB_USER> Example: CISUSER
Enter the Oracle user with read-only privileges to Database Schema	<DB_USER> Example: CISREAD
Enter the database role with read-write privileges to Database Schema	<DB_USER_ROLE> Example: CIS_USER
Enter the database role with read-only privileges to Database Schema	<DB_USER_ROLE> Example: CIS_READ

Enter the name of the target Schema where you want to install or upgrade	<Schema_Name>

9. Enter the required parameter values. The following message appears in the command line:

   ```
   Ready to upgrade the target database from V4.2.0.0.0 to V4.2.0.3.0, do you want to continue (Y/N)?
   ```

10. Type **Y** and then press **Enter**. The following message appears in the command line:

    ```
    Ready to upgrade the target database, Do you want to continue? (Y/N)
    ```

11. Type **Y** and then press **Enter**. A message appears indicating that the process has completed successfully.

2.3.2 Installing Rollup Pack for OUAF Version 4.2.0.3.0

To install the rollup pack for Oracle Utilities Application Framework (OUAF) Version 4.2.0.3.0 on the database:

1. Login to the database server using the administrator's credentials.
2. Unzip the `RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform.zip` file using the following command:

   ```
   unzip RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform.zip –d <PATH>\<DESTINATION_FOLDER_2>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_2>` folder. The contents include the `FW_V4.2.0.3.0-Rollup` folder.

Note: The `RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform.zip` file is available at the location where you have extracted the contents of the RMB V2.4.0.1.0 - <Domain> - <Platform> patch.

3. Change to the `FW_V4.2.0.3.0-Rollup` folder using the following command:

   ```
   cd <DESTINATION_FOLDER_2>\FW_V4.2.0.3.0-Rollup
   ```

   The contents include the following two zip files:

   - `Application_Rollup`
   - `Database_Rollup`

4. Unzip the `Database_Rollup.zip` file using the following command:

   ```
   unzip Database_Rollup.zip –d <PATH>\<DESTINATION_FOLDER_3>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_3>` folder. The contents include the `Database` folder.

5. Change to the `Database` folder using the following command:

   ```
   cd <DESTINATION_FOLDER_3>\Database
   ```

6. Execute the `CDXPatch` utility using the following command:

   ```
   CDXPatch.exe
   ```


Note: Ensure that you execute the `CDXPatch` utility from the Window 32-bit or 64-bit desktop that has Oracle Database 11g Release 2 Client (11.2.0.1), 32-bit, and Java Development Kit Version 6.0 Update 20 or later installed. The database must be listed in the `tnsnames.ora` file on your local machine.

This utility prompts you to enter values for the following parameters:

Parameter	Value
Enter the target database type (O/M/D) [O]	`O` (if you have Oracle database) OR `M` (if you have MySQL database)
Enter the username that owns the schema	`<DB_USER>` Example: `CISADM`
Enter the password for the <DB_USER> user	`<DB_USER_PASSWORD>`
Enter the name of the Oracle database	`<DB_NAME>`

7. Enter the required parameter values. The following message appears in the command line:

   ```
   Ready to process patches, Do you want to continue? (Y/N)
   ```

8. Type **Y** and then press **Enter**. A message appears indicating that the process has completed successfully.

2.3.3 Generating Security for Database Objects

Once you apply the framework rollup pack to the database, you need to execute a utility program named `OraGenSec`. This utility program helps you to generate security for all or specific objects in the database.

To generate security for all database objects:

1. Change to the `Install-Upgrade` folder using the following command:

   ```
   cd <DESTINATION_FOLDER_1>\FW\FW42030\Install-Upgrade
   ```

Note: The `<DESTINATION_FOLDER_1>` folder is the location where you have extracted the contents of the `RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm.zip` file.

2. Execute the `OraGenSec` utility using the following command:

   ```
   OraGenSec.exe
   ```

Note: Ensure that you execute the `OraGenSec` utility from the Window 32-bit or 64-bit desktop that has Oracle Database 11g Release 2 Client (11.2.0.1), 32-bit, and Java Development Kit Version 6.0 Update 20 or later installed. The database must be listed in the `tnsnames.ora` file on your local machine.

This utility prompts you to enter values for the following parameters:

Parameter	Value
Name of the owner of the database schema	`<DB_USER>` Example: `CISADM`

Parameter	Value
Password for the user (in silent mode)	<DB_USER_PASSWORD>
Name of the Oracle database	<DB_NAME>
Comma-separated list of Oracle users in which synonyms need to be created	<DB_USER> Example: CISUSER,CISREAD

3. Enter the required parameter values. The following message appears in the command line:

   ```
   Select the following options:
   (A/a): Generate security for all objects in the Database?
   (O/o): Generate security for specific Objects inputted in this terminal?
   (F/f): Generate security for specific objects generated from an input File?
   ```

4. Enter **A** to generate security for all objects in the database, and then press **Enter**. A message appears indicating that the database connection is established and security is defined for all objects in the database.

2.4 Upgrading Framework on the Application Environment

Once you install the framework service packs on the database and define security for all database objects, you must install the framework service packs on the application environment. While upgrading from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0, you need to install the following on the application environment:

1. Oracle Utilities Application Framework (OUAF) Version 4.2.0.3.0
2. Rollup Pack for Oracle Utilities Application Framework (OUAF) Version 4.2.0.3.0

2.4.1 Installing OUAF Version 4.2.0.3.0

To install Oracle Utilities Application Framework (OUAF) Version 4.2.0.3.0 on the application environment:

1. Login to the application server using the administrator's credentials.
2. Create a temporary folder or directory (for example, TEMPDIR) on the application server using the following command:

   ```
   mkdir TEMPDIR
   ```

3. Copy the RMB V2.4.0.1.0 - <Domain> - <Platform> patch to the TEMPDIR folder using the following command:

   AIX, Linux:

   ```
   cp <PATH>/<filename>.zip <PATH>/TEMPDIR
   ```


Windows:

```
copy <PATH>\<filename>.zip <PATH>\TEMPDIR
```

Note: You can also use File Transfer Protocol (FTP) to transfer the downloaded file from one host to another. You must use the binary mode while copying files through FTP.

4. Change to the `TEMPDIR` folder using the following command:

   AIX, Linux:

   ```
   cd <PATH>/TEMPDIR
   ```

   Windows:

   ```
   cd <PATH>\TEMPDIR
   ```

5. Unzip the RMB V2.4.0.1.0 - <Domain> - <Platform> patch using the following command:

   AIX, Linux:

   ```
   unzip <filename>.zip –d <PATH>/<DESTINATION_FOLDER>
   ```

   Windows:

   ```
   unzip <filename>.zip –d <PATH>\<DESTINATION_FOLDER>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER>` folder. For more information about the contents of the RMB V2.4.0.1.0 - <Domain> - <Platform> patch, refer to Appendix A : ORMB 2.4.0.1.0 Patch Numbers.

6. Unzip the `FW-V4.2.0.3.0-Multiplatform.zip` file using the following command:

   AIX, Linux:

   ```
   unzip FW-V4.2.0.3.0-Multiplatform.zip –d
   <PATH>/<DESTINATION_FOLDER>
   ```

   Windows:

   ```
   unzip FW-V4.2.0.3.0-Multiplatform.zip –d
   <PATH>\<DESTINATION_FOLDER>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER>` folder. The contents include `FW-V4.2.0.3.0-Multiplatform.jar` file.

7. Decompress the `FW-V4.2.0.3.0-Multiplatform.jar` file using the following command:

   AIX, Linux:

   ```
   jar -xvf FW-V4.2.0.3.0-Multiplatform.jar
   ```

   Windows:

   ```
   jar -xvf FW-V4.2.0.3.0-Multiplatform.jar
   ```

   The contents of the JAR file include a folder named `FW-V4.2.0.3.0-SP3`.

8. Change to the FW-V4.2.0.3.0-SP3 folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_1>/FW-V4.2.0.3.0-SP3
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_1>\FW-V4.2.0.3.0-SP3
   ```

Note: The <DESTINATION_FOLDER_1> folder is the location where you have extracted the contents of the FW-V4.2.0.3.0-Multiplatform.jar file.

9. Execute the installSP utility using the following command:

   AIX, Linux:

   ```
   ./installSP.sh
   ```

   Windows:

   ```
   installSP.cmd
   ```

   The following message appears in the command line:

   ```
   Press Enter to continue {CNTRL-C to abort}
   ```

10. Press **Enter**. A message appears indicating that the process has completed successfully.

2.4.2 Installing Rollup Pack for OUAF Version 4.2.0.3.0

To install the rollup pack for Oracle Utilities Application Framework Version 4.2.0.3.0 on the application environment:

1. Login to the application server using the administrator's credentials.
2. Unzip the RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform.zip file using the following command:

   AIX, Linux:

   ```
   unzip RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform.zip –d
   <PATH>/<DESTINATION_FOLDER_2>
   ```

   Windows:

   ```
   unzip RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform.zip –d
   <PATH>\<DESTINATION_FOLDER_2>
   ```

   The contents of the zip file are extracted in the <DESTINATION_FOLDER_2> folder. The contents include the FW_V4.2.0.3.0-Rollup folder.

Note: The RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform.zip file is available at the location where you have extracted the contents of the RMB V2.4.0.1.0 - <Domain> - <Platform> patch.

3. Change to the `FW_V4.2.0.3.0-Rollup` folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_2>/FW_V4.2.0.3.0-Rollup
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_2>\FW_V4.2.0.3.0-Rollup
   ```

   The contents include the following two zip files:

   - `Application_Rollup`
   - `Database_Rollup`

4. Unzip the `Application_Rollup.zip` file using the following command:

   AIX, Linux:

   ```
   unzip Application_Rollup.zip –d <PATH>/<DESTINATION_FOLDER_3>
   ```

   Windows:

   ```
   unzip Application_Rollup.zip –d <PATH>\<DESTINATION_FOLDER_3>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_3>` folder. The contents include the `Application` folder.

5. Change to the `Application` folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_3>/Application
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_3>\Application
   ```

6. Execute the `installSFgroup` utility using the following command:

   AIX, Linux:

   ```
   installSFgroup.sh
   ```

   Windows:

   ```
   installSFgroup.cmd
   ```

   The following message appears in the command line:

   ```
   Ready to process patches, Do you want to continue? (Y/N)
   ```

7. Type **Y** in the command line, and then press **Enter**. A message appears indicating that the process has been completed successfully.

2.5 Upgrading the ORMB Application

This section explains how to upgrade the application. While upgrading from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0, you need to install the following on the application environment:

1. Oracle Revenue Management and Billing (ORMB) Version 2.4.0.1.0

2. Rollup Pack for Oracle Revenue Management and Billing (ORMB) Version 2.4.0.1.0
3. Update the spl.properties Files

When you upgrade application on the WebLogic application server, the application is deployed automatically on the server. However, when you upgrade application on the WebSphere application server, the application is not deployed automatically on the server. You have to manually deploy the application on the WebSphere application server. For more information, refer to the Additional Tasks Required for WebSphere Application Server section.

Note:

Before you upgrade the application, you must take a backup of the application and the database. If you have updated the template files in the `$SPLEBASE/etc` folder, you must also take a backup of these files. Once the application is upgraded, you need to copy the latest template files back in the `$SPLEBASE/etc` folder.

Note:

When you upgrade the application, any metadata with the `Owner` flag set to `CM` is not overridden during the upgrade process.

Before you upgrade the application, you must reflect the path where you have installed Micro Focus Server 5.1 in the `$SPLEBASE/etc/cobdir.txt` file.

2.5.1 Installing ORMB Version 2.4.0.1.0

To install Oracle Revenue Management and Billing (ORMB) Version 2.4.0.1.0 on the application environment:

1. Login to the application server using the administrator's credentials.
2. Initialize the application environment (on which you want to install the application) using the following command:

   AIX, Linux:

   ```
   $SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
   ```

   Windows:

   ```
   %SPLEBASE%\bin\splenviron.cmd -e %SPLENVIRON%
   ```

   Where, `$SPLEBASE` or `%SPLEBASE%` is the path where the application environment is installed, and `$SPLENVIRON` or `%SPLENVIRON%` is the name of the application environment for which you want to set the environment variables.

3. Stop the application environment using the following command:

   AIX, Linux:

   ```
   $SPLEBASE/bin/spl.sh stop
   ```

   Windows:

   ```
   %SPLEBASE%\bin\spl.cmd stop
   ```


Note: If you have the WebLogic application server, you need to stop the application environment before you proceed with the installation. However, if you have the WebSphere application server, you need to stop the application server before you proceed with the installation. To stop the application server, use the following command:

```
/opt/IBM/WebSphere/AppServer/bin/stopServer.sh <Server_Name>
```

4. Set the `ANT_OPTS` environment variable using the following command:

   Windows:

   ```
   Set ANT_OPTS= -Xms512m -Xmx1024m -XX:PermSize=256M
   ```

Note: This command helps to process some tasks which require more memory. This command is applicable only for Windows and not for AIX or Linux platform.

5. Unzip the `RMB-V2.4.0.1.0-<PLATFORM>.zip` file using the following command:

   AIX, Linux:

   ```
   unzip RMB-V2.4.0.1.0-<PLATFORM>.zip –d
   <PATH>/<DESTINATION_FOLDER_4>
   ```

   Windows:

   ```
   unzip RMB-V2.4.0.1.0-<PLATFORM>.zip –d
   <PATH>\<DESTINATION_FOLDER_4>
   ```

Note: The `RMB-V2.4.0.1.0-<PLATFORM>.zip` file is available at the location where you have extracted the contents of the RMB V2.4.0.1.0 - <Domain> - <Platform> patch.

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_4>` folder. The contents include `RMB.V2.4.0.1.0` folder.

6. Change to the `RMB.V2.4.0.1.0` folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_4>/RMB.V2.4.0.1.0
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_4>\RMB.V2.4.0.1.0
   ```

7. Execute the `install` utility using the following command:

   AIX, Linux:

   ```
   ./install.sh
   ```

   Windows:

   ```
   install.cmd
   ```

   The following message appears in the command line:

   ```
   Do you wish to proceed with the installation? Y/N:
   ```


8. Type **Y** and then press **Enter**. The following message appears in the command line:

   ```
   Product CCB is already installed in the environment $SPLENVIRON.
   Do you want to reinstall it? [Y/N]

   Enter Choice:
   ```

9. Type **Y** and then press **Enter**. The installation process might take some time to generate the WAR files. Once the build is deployed successfully, the following message appears in the command line:

   ```
   Do you wish to start the environment now? Y/N:
   ```

10. Type **N** and then press **Enter**.

Note:

If you are installing application on the WebSphere application server, the following message appears before you are prompted to start the environment:

```
Would you wish to deploy web application to WebSphere now? Y/N:
```

Type **N** and then press **Enter**.

If you want to set the advanced menu options, execute the `configureEnv` utility using the following command:

AIX, Linux:

```
$SPLEBASE/bin/configureEnv.sh –a
```

Windows:

```
%SPLEBASE%\bin\configureEnv.cmd –a
```

You cannot set the advanced menu options during the installation process. These options can be set only after the application is installed. For more information, refer to the Advanced Menu Options section in the *Oracle Revenue Management and Billing Installation Guide*.

2.5.2 Installing Rollup Pack for ORMB Version 2.4.0.1.0

To install the rollup pack for Oracle Revenue Management and Billing (ORMB) Version 2.4.0.1.0 on the application environment:

1. Copy the RMB V2.4.0.1.0 ROLLUP PACK patch to the `TEMPDIR` folder using the following command:

   AIX, Linux:

   ```
   cp <PATH>/<filename>.zip <PATH>/TEMPDIR
   ```

   Windows:

   ```
   copy <PATH>\<filename>.zip <PATH>\TEMPDIR
   ```

Note: You can also use File Transfer Protocol (FTP) to transfer the downloaded file from one host to another. You must use the binary mode while copying files through FTP.

2. Change to the `TEMPDIR` folder using the following command:

   AIX, Linux:

   ```
   cd <PATH>/TEMPDIR
   ```

   Windows:

   ```
   cd <PATH>\TEMPDIR
   ```

3. Unzip the RMB V2.4.0.1.0 ROLLUP PACK patch using the following command:

   AIX, Linux:

   ```
   unzip <filename>.zip –d <PATH>/<DESTINATION_FOLDER>
   ```

   Windows:

   ```
   unzip <filename>.zip –d <PATH>\<DESTINATION_FOLDER>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER>` folder. The contents include two sub-folders - `RMB_V2.4.0.1.0_App_Rollup` and `RMB_V2.4.0.1.0_DB_Rollup`.

4. Change to the `RMB_V2.4.0.1.0_App_Rollup` folder using the following command:

   AIX, Linux:

   ```
   cd <Destination_Folder>/RMB_V2.4.0.1.0_App_Rollup
   ```

   Windows:

   ```
   cd <Destination_Folder>\RMB_V2.4.0.1.0_App_Rollup
   ```

5. Install the rollup pack using the following command:

   AIX, Linux:

   ```
   ./installSFgroup.sh
   ```

   Windows:

   ```
   installSFgroup.cmd
   ```

2.5.3 Updating the spl.properties Files

Due a framework single fix, you need to set the following property in the spl.properties files to ensure that the algorithms function appropriately as expected:

```
ouaf.service.maxReplays = 0
```

For more information, refer to the BUG 21389686 - BO ALGORITHM GETTING INVOKED TWICE IF ANY BO ALGO THROWS ERROR.

To update the spl.properties files:

1. Change to the `$SPLEBASE/templates` directory.

Note: $SPLEBASE or %SPLEBASE% is the path where the application environment is installed. Use $SPLEBASE on Linux and AIX platforms and %SPLEBASE% on Windows platform.

2. Add the following property in the `spl.properties.standalone.template` file:

   ```
   ouaf.service.maxReplays = 0
   ```

3. Save the changes made to the file.
4. Similarly, set the `ouaf.service.maxReplays` property to `0` in the following files:
    - `$SPLEBASE/templates/spl.properties.template`
    - `$SPLEBASE/templates/spl.properties.service.template`
    - `$SPLEBASE/templates/spl.properties.XAIApp.template`
    - `$SPLEBASE/templates/spl.properties.iws.template`
5. Execute the `initialSetup` utility using the following command:

    AIX, Linux:

    `$SPLEBASE/bin/initialSetup.sh`

    Windows:

    `%SPLEBASE%\bin\initialSetup.cmd`
6. Start the application environment using the following command:

    AIX, Linux:

    `$SPLEBASE/bin/spl.sh start`

    Windows:

    `%SPLEBASE%\bin\spl.cmd start`

    A log file is generated. It indicates whether the application environment has started successfully or not. If any error occurred during startup, the same is recorded in the log file. By default, the log file is stored in the `$SPLSYSTEMLOGS (%SPLSYSTEMLOGS%` on Windows) directory.

Note: If you have the WebLogic application server, you need to start the application environment. However, if you have the WebSphere application server, you need to start the application server. To start the application server, use the following command:

`/opt/IBM/WebSphere/AppServer/bin/startServer.sh <Server_Name>`

But, before you start the server, you need to manually deploy the application on the WebSphere application server. For more information, refer to the Additional Tasks Required for WebSphere Application Server section.

2.5.4 Additional Tasks Required for WebSphere Application Server

Once you upgrade the application, you need to manually deploy the application on WebSphere application server. To deploy the application on WebSphere application server, you need to do the following in the specified order:

1. Deploy the `SPLService.ear` file
2. Deploy the `SPLWeb.ear` file
3. Configure the `SPLService.ear` file
4. Configure the `SPLWeb.ear` file
5. Map Users or Groups to the `cisusers` Role

Note: If the `SPLService.ear` and `SPLWeb.ear` files are already deployed on WebSphere application server, you need to first uninstall them.

2.5.4.1 Deploying the SPLService.ear File

To deploy the `SPLService.ear` file on WebSphere application server:

1. Login to the Integrated Solutions Console using the administrator's credentials.
2. In the left pane, click the **Applications** option. A list appears.
3. Click the **Install New Application** link. The **Preparing for the application installation** page appears in the right pane.
4. Select the **Remote file system** option. The **Browse Remote Filesystems** page appears in the right pane.
5. Browse to the `$SPLEBASE\splapp\applications` location. The `applications` folder includes all `WAR` and `EAR` files.
6. Select the **SPLService.ear** option and click **OK**. The **Preparing for the application installation** page appears in the right pane.
7. Click **Next**. The **Install New Application** wizard appears in the right pane.
8. Click **Next**. The **Map modules to servers** wizard page appears.
9. Select the clusters or servers on which you want to install the modules that are contained in the application.
10. Select the check box corresponding to the module named **ServiceBean**. This indicates that you want to install the **ServiceBean** module on the selected server.
11. Click **Apply**. The module is mapped to the selected servers.
12. Click **Next**. The **Provide JNDI names for beans** wizard page appears.
13. Enter the Java Naming and Directory Interface (JNDI) name for the **ServiceBean** module. Use the following naming convention:

    `spl-<server name>/servicebean`
14. Click **Next**. The **Summary** wizard page appears.
15. Click **Finish**. The deployment process starts. It takes some time. A message appears indicating that the `SPLService.ear` file is deployed successfully on WebSphere application server.
16. Click the **Save** link to reflect the changes in the master configuration files.

2.5.4.2 Deploying the SPLWeb.ear File

To deploy the SPLWeb.ear file on WebSphere application server:

1. Login to the Integrated Solutions Console using the administrator's credentials.
2. In the left pane, click the **Applications** option. A list appears.
3. Click the **Install New Application** link. The **Preparing for the application installation** page appears in the right pane.
4. Select the **Remote file system** option. The **Browse Remote Filesystems** page appears in the right pane.
5. Browse to the `$SPLEBASE\splapp\applications` location. The `applications` folder includes all `WAR` and `EAR` files.
6. Select the **SPLWeb.ear** option and click **OK**. The **Preparing for the application installation** page appears in the right pane.

7. Select the **Show me all installation options and parameters** option and then click **Next**. Additional installation options and parameters appear in the right pane.
8. Click **Next**. The **Install New Application** wizard appears in the right pane.
9. Select the **Precompile JavaServer Pages files** check box and then click **Next**. The **Map modules to servers** wizard page appears.
10. Select the clusters or servers on which you want to install the modules that are contained in the application.
11. Select the check box corresponding to all modules, such as SPLApp.war, XAIApp.war, appViewer.war, and help.war. This indicates that you want to deploy all WAR files on the selected server.
12. Click **Apply**. The modules are mapped to the selected server.
13. Click **Next**. The **Provide options to compile JSPs** wizard page appears.
14. Enter `15` in the **JDK Source Level** field corresponding to all URIs.
15. Click **Next**. The **Provide JSP reloading options for Web modules** wizard page appears.
16. Click **Next**. The **Map shared libraries** wizard page appears.
17. Click **Next**. The **Initialize parameters for servlets** wizard page appears.
18. Click **Next**. The **Map virtual hosts for Web modules** wizard page appears.
19. Click **Next**. The **Map context roots for Web modules** wizard page appears.
20. Click **Next**. The **Map environment entries for Web modules** wizard page appears.
21. Click **Next**. The **Map security roles to users or groups** wizard page appears.
22. Click **Next**. The **Summary** wizard page appears.
23. Click **Finish**. The deployment process starts. It takes some time. A message appears indicating that the `SPLWeb.ear` file is deployed successfully on WebSphere application server.
24. Click the **Save** link to reflect the changes in the master configuration files.

2.5.4.3 Configuring the SPLService.ear File

To configure the `SPLService.ear` file:

1. Login to the Integrated Solutions Console using the administrator's credentials.
2. In the left pane, click the **Applications** option. A list appears.
3. Click the **Enterprise Applications** link. The **Enterprise Applications** page appears in the right pane.
4. Click the application (**SPLService-<Server Name>**) link. The **Configuration** tab appears where you can define settings of the application or its modules.
5. Under the **Modules** section, click the **Manage Modules** link. The **Manage Modules** page appears.
6. Click the **ServiceBean** link in the **Module** column. The **Configuration** tab appears where you can define settings of the module.
7. Enter `1` in the **Starting weight** field. This helps to indicate the startup priority for the **spl-servicebean-<Version Number>.jar** URI.
8. Click **OK**. The **Manage Modules** page appears.

9. Click **OK**. The **Configuration** tab appears where you can define settings of the application or its modules.
10. Click **OK**.
11. Click the **Save** link to reflect the changes in the master configuration files.

2.5.4.4 Configuring the SPLWeb.ear File

To configure the `SPLWeb.ear` file:

1. Login to the Integrated Solutions Console using the administrator's credentials.
2. In the left pane, click the **Applications** option. A list appears.
3. Click the **Enterprise Applications** link. The **Enterprise Applications** page appears in the right pane.
4. Click the application (**SPLWeb-<Server Name>**) link. The **Configuration** tab appears where you can define settings of the application or its modules.
5. Under the **Detail Properties** section, click the **Startup behavior** link.
6. Enter `2` in the **Startup order** field. This helps to indicate the order in which the application should be started.
7. Click **OK**. The **Configuration** tab appears.
8. Under the **Detail Properties** section, click the **Class loading and update detection** link.
9. Enter `0` in the **Polling interval for updated files** field. This helps to indicate the seconds within which the application file system should be scanned for updated files.
10. Click the **Classes loaded with application class loader first** option to indicate that you want class loader to first search application class loader to load a class.
11. Click **OK**. The **Configuration** tab appears.
12. Under the **Modules** section, click the **Manage Modules** link. The **Manage Modules** page appears.
13. Click the **SPLApp.war** link. The **Configuration** tab appears where you can define settings of the module.
14. Enter `10000` in the **Starting weight** field. This helps to indicate the startup priority for the module compared to other modules while starting a server.
15. Select the **Classes loaded with application class loader first** option from the **Class loader order** list. This helps to indicate that you want class loader to first search application class loader to load a class.
16. Click **OK**. The **Manage Modules** page appears.
17. Click the **XAIApp.war** link. The **Configuration** tab appears where you can define settings of the module.
18. Enter `10000` in the **Starting weight** field.
19. Select the **Classes loaded with application class loader first** option from the **Class loader order** list.
20. Click **OK**. The **Manage Modules** page appears.
21. Click the **appViewer.war** link. The **Configuration** tab appears where you can define settings of the module.
22. Enter `10000` in the **Starting weight** field.

23. Select the **Classes loaded with application class loader first** option from the **Class loader order** list.
24. Click **OK**. The **Manage Modules** page appears.
25. Click the **help.war** link. The **Configuration** tab appears where you can define settings of the module.
26. Enter `10000` in the **Starting weight** field.
27. Select the **Classes loaded with application class loader first** option from the **Class loader order** list.
28. Click **OK**. The **Manage Modules** page appears.
29. Click **OK**. The **Configuration** tab appears where you can define settings of the application or its modules.
30. Click **OK**.
31. Click the **Save** link to reflect the changes in the master configuration files.

2.5.4.5 Mapping Users or Groups to a Security Role

Once you deploy the application on WebSphere application server, you need to map users or groups to the `cisusers` role. To map users or groups to the `cisusers` role:

1. Login to the Integrated Solutions Console using the administrator's credentials.
2. In the left pane, click the **Applications** option. A list appears.
3. Click the **Enterprise Applications** link. The **Enterprise Applications** page appears in the right pane.
4. Click the application (**SPLService-<Server Name>**) link. The **Configuration** tab appears where you can define settings of the application or its modules.
5. Under the **Detail Properties** section, click the **Security role to user/group mapping** link.
6. Select the **All authenticated** check box corresponding to the `cisusers` role. This indicates that only authenticated users should be granted access to the `cisusers` role.
7. Select the **Select** check box corresponding to the `cisusers` role and then click **Look up users**. The **Look up users or groups** page appears.
8. Enter `SYSUSER` in the **Search String** field and then click **Search**. The user name appears in the **Available** list.
9. Select **SYSUSER** in the **Available** list and then click the **Move** () button. The selected user is moved to the **Selected** list.
10. Click **OK**. The user is mapped to the `cisusers` role.
11. Click **OK**. The **Configuration** tab appears where you can define settings of the application or its modules.
12. Click **OK**.
13. Click the **Save** link to reflect the changes in the master configuration files.
14. Similarly, repeat the steps from 5 to 13 for **SPLWeb-<Server Name>**.

2.5.5 Accessing the ORMB Application

The following table lists the URLs that you can use to access the application on various application servers:

Application Server	URL
WebLogic	http://<Hostname>:<WebLogic_Port_Number>/ouaf/loginPage.jsp
WebSphere	http://<Hostname>:<WebSphere_Port_Number>/ouaf/loginPage.jsp

2.6 Upgrading the ORMB Database

This section explains how to upgrade the database. When you upgrade the database, the system overwrites the database schema and the metadata present in the database. However, the transactional data is not affected.

While upgrading from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0, you need to install the following on the database:

1. Oracle Revenue Management and Billing (ORMB) Version 2.4.0.1.0
2. Rollup Pack for Oracle Revenue Management and Billing (ORMB) Version 2.4.0.1.0

Note:

Before you upgrade the database, you must take a backup of the existing database.

When you upgrade the database, any metadata with the `Owner` flag set to `CM` is not overridden during the upgrade process.

2.6.1 Installing ORMB Version 2.4.0.1.0

To install Oracle Revenue Management and Billing (ORMB) Version 2.4.0.1.0 on the database:

1. Login to the database server using the administrator's credentials.
2. Change to the `Install-Upgrade` folder using the following command:

   ```
   cd <DESTINATION_FOLDER_1>\RMB\Upgrade\Oracle\Install-Upgrade
   ```

Note: The `<DESTINATION_FOLDER_1>` folder is the location where you have extracted the contents of the `RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm.zip` file.

3. Execute the `CdxDBI` utility using the following command:

   ```
   CdxDBI.exe
   ```

Note:

`The CdxDBI` utility helps to apply the blueprint to the database. In other words, it helps to reflect the metadata changes to the database.

Ensure that you execute the `CdxDBI` utility from the Window 32-bit or 64-bit desktop that has Oracle Database 11g Release 2 Client (11.2.0.1), 32-bit, and Java Development Kit Version 6.0 Update 20 or later installed. The database must be listed in the `tnsnames.ora` file on your local machine.

This utility prompts you to enter values for the following parameters:

Parameter	Value
Enter the name of the target database	<DB_NAME>
Enter the name of the owner of Database Schema	<DB_USER> Example: CISADM
Enter the location for Java Home (e.g. C:\Java\jdk1.6.0_18)	..\jdk1.6.0_20
Enter the TUGBU jarfiles location (e.g. C:\Database-Install\Jarfiles)	..\RMB\jarfiles
Enter the password for <DB_USER> schema (or hit ENTER to quit)	<DB_USER_PASSWORD>
Re-enter the password	<DB_USER_PASSWORD>
Enter the Oracle user with read-write privileges to Database Schema	<DB_USER> Example: CISUSER
Enter the Oracle user with read-only privileges to Database Schema	<DB_USER> Example: CISREAD
Enter the database role with read-write privileges to Database Schema	<DB_USER_ROLE> Example: CIS_USER
Enter the database role with read-only privileges to Database Schema	<DB_USER_ROLE> Example: CIS_READ

4. Enter the required parameter values. The following message appears in the command line:

   ```
   Ready to perform initial install of Database Rel.V2.4.0.1.0, do you want to continue (Y/N)?
   ```

5. Type **Y** and then press **Enter**. The following message appears in the command line:

   ```
   Ready to upgrade the target database, Do you want to continue? (Y/N)
   ```

6. Type **Y** and then press **Enter**. A message appears indicating that the process has completed successfully.

2.6.2 Installing Rollup Pack for ORMB Version 2.4.0.1.0

To install the rollup pack for Oracle Revenue Management and Billing (ORMB) Version 2.4.0.1.0 on the database:

1. Change to the RMB_V2.4.0.1.0_DB_Rollup folder using the following command:

   ```
   cd <Destination_Folder>\RMB_V2.4.0.1.0_DB_Rollup
   ```

Note: The <DESTINATION_FOLDER> folder is the location where you have extracted the contents of the RMB V2.4.0.1.0 ROLLUP PACK patch.

2. Execute the `CDXPatch` utility using the following command:

   `CDXPatch.exe`

Note: Ensure that you execute the `CDXPatch` utility from the Window 32-bit or 64-bit desktop that has Oracle Database 11g Release 2 Client (11.2.0.1), 32-bit, and Java Development Kit Version 6.0 Update 20 or later installed. The database must be listed in the `tnsnames.ora` file on your local machine.

This utility prompts you to enter values for the following parameters:

Parameter	Value
Enter the target database type (O/M/D) [O]	`O` (if you have Oracle database) OR `M` (if you have MySQL database)
Enter the username that owns the schema	`<DB_USER>` Example: `CISADM`
Enter the password for the <DB_USER> user	`<DB_USER_PASSWORD>`
Enter the name of the Oracle database	`<DB_NAME>`

3. Enter the required parameter values. The following message appears in the command line:

   `Ready to process patches, Do you want to continue? (Y/N)`

4. Type **Y** and then press **Enter**. A message appears indicating that the process has been completed successfully.

2.6.3 Generating Security for Database Objects

Once you upgrade the database, you need to execute a utility program named `OraGenSec`. This utility program helps you to generate security for all or specific objects in the database.

To generate security for all database objects:

1. Change to the `Install-Upgrade` folder using the following command:

   `cd <DESTINATION_FOLDER_1>\RMB\Upgrade\Oracle\Install-Upgrade`

Note: The `<DESTINATION_FOLDER_1>` folder is the location where you have extracted the contents of the `RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm.zip` file.

2. Execute the `OraGenSec` utility using the following command:

   `OraGenSec.exe`

Note: Ensure that you execute the `OraGenSec` utility from the Window 32-bit or 64-bit desktop that has Oracle Database 11g Release 2 Client (11.2.0.1), 32-bit, and Java Development Kit Version 6.0 Update 20 or later installed. The database must be listed in the `tnsnames.ora` file on your local machine.

This utility prompts you to enter values for the following parameters:

Parameter	Value
Enter the application read-only user or Schema Owner in the database	<DB_USER> Example: CISADM
Enter the password for the <DB_USER> user	<DB_USER_PASSWORD>
Enter the name of the Oracle database	<DB_NAME>
Enter a comma-separated list of Oracle users in which synonyms need to be created (e.g. cisuser, cisread)	<DB_USER> Example: CISUSER,CISREAD

3. Enter the required parameter values. The following message appears in the command line:

   ```
   Select the following options:
   (A/a): Generate security for all objects in the Database?
   (O/o): Generate security for specific Objects inputted in this terminal?
   (F/f): Generate security for specific objects generated from an input File?
   ```

4. Type **A** to generate security for all objects in the database, and then press **Enter**. A message appears indicating that the database connection is established and security is defined for all objects in the database.

2.7 Migrating Data

Once you upgrade the database, you can migrate the data from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0 using the following queries which are available in the PACKAGE FOR DATA UPGRADE FROM 2.4.0.0.0 TO 2.4.0.1.0 patch:

- Post_BlueprintScript.sql
- bseg_ext_upgrade.sql
- fn_get_grp_id_from_pa.sql
- upgrade_grandfathering.sql

To migrate the data from ORMB Version 2.4.0.0.0 to 2.4.0.1.0:

1. Copy the PACKAGE FOR DATA UPGRADE FROM 2.4.0.0.0 TO 2.4.0.1.0 patch to the TEMPDIR folder using the following command:

   ```
   copy <PATH>\<filename>.zip <PATH>\TEMPDIR
   ```

Note: You can also use File Transfer Protocol (FTP) to transfer the downloaded file from one host to another. You must use the binary mode while copying files through FTP.

2. Change to the TEMPDIR folder using the following command:

   ```
   cd <PATH>\TEMPDIR
   ```

3. Unzip the PACKAGE FOR DATA UPGRADE FROM 2.4.0.0.0 TO 2.4.0.1.0 patch using the following command:

   ```
   unzip <filename>.zip –d <PATH>\<DESTINATION_FOLDER>
   ```

   The contents of the zip file are extracted in the <DESTINATION_FOLDER> folder. The contents include two files - README.txt and deploy.zip.

4. Unzip the deploy.zip file using the following command:

   ```
   unzip deploy.zip –d <PATH>\<DESTINATION_FOLDER_1>
   ```

   The contents of the zip file are extracted in the <DESTINATION_FOLDER_1> folder. The contents include a folder named Migration_From_V2.4.0.0.0_To_V2.4.0.1.0. This folder contains one file named Post_BlueprintScript.sql.

5. Change to the Migration_From_V2.4.0.0.0_To_V2.4.0.1.0 folder using the following command:

   ```
   cd <DESTINATION_FOLDER_1>\Migration_From_V2.4.0.0.0_To_V2.4.0.1.0
   ```

6. Connect to the ORMB database using a utility named SQL*Plus and the administrator's (for example, CISADM) credentials.
7. Execute the following query from the Migration_From_V2.4.0.0.0_To_V2.4.0.1.0 folder:

   ```
   Post_BlueprintScript.sql
   ```

Note: For more information about the query, refer to the Post_BlueprintScript.sql section in Appendix H : SQL Statements for 2.4.0.0.0 to 2.4.0.1.0 Data Migration.

8. Execute the following query from the Migration_From_V2.4.0.0.0_To_V2.4.0.1.0 folder:

   ```
   bseg_ext_upgrade.sql
   ```

Note: The bseg_ext_upgrade.sql query must be executed only when you are using the charge based billing batches. For more information about the query, refer to the bseg_ext_upgrade.sql section in Appendix H : SQL Statements for 2.4.0.0.0 to 2.4.0.1.0 Data Migration.

9. Execute the following query from the Migration_From_V2.4.0.0.0_To_V2.4.0.1.0 folder:

   ```
   fn_get_grp_id_from_pa.sql
   ```

Note: For more information about the query, refer to the fn_get_grp_id_from_pa.sql section in Appendix H : SQL Statements for 2.4.0.0.0 to 2.4.0.1.0 Data Migration.

10. Execute the following query from the Migration_From_V2.4.0.0.0_To_V2.4.0.1.0 folder:

    ```
    upgrade_grandfathering.sql
    ```

Note: For more information about the query, refer to the upgrade_grandfathering.sql section in Appendix H : SQL Statements for 2.4.0.0.0 to 2.4.0.1.0 Data Migration.

11. Execute the following procedure in SQL*Plus:

```
begin
  upgrade_grandfathering;
end;
```

The price assignments whose end date is updated are listed. Once you verify the list, you can commit the changes to the database.

3. Additional Tasks

This section describes the following tasks that you need to perform after upgrading the application:

- Generating the Application Viewer
- Starting the Thread Pool Worker
- Building Javadoc Index

3.1 Generating the Application Viewer

Once you upgrade the application, you need to regenerate the application viewer. To regenerate the application viewer:

1. Login to the application server using the administrator's credentials.
2. Initialize the application environment (on which you want to regenerate the application viewer) using the following command:

   AIX, Linux:

   ```
   $SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
   ```

   Windows:

   ```
   %SPLEBASE%\bin\splenviron.cmd -e %SPLENVIRON%
   ```

   Where, `$SPLEBASE` or `%SPLEBASE%` is the path where the application environment is installed, and `$SPLENVIRON` or `%SPLEBASE%` is the name of the application environment for which you want to set the environment variables.

3. Set the `ANT_OPTS` environment variable using the following command:

   Windows: `Set ANT_OPTS= -Xms512m -Xmx1024m -XX:PermSize=256M`

Note: This command helps to process some tasks which require more memory. This command is only applicable for Windows and not for AIX or Linux machine.

4. Execute the `genappvieweritems` utility using the following command:

   AIX, Linux:

   ```
   $SPLEBASE/bin/genappvieweritems.sh
   ```

   Windows:

   ```
   %SPLEBASE%\bin\genappvieweritems.cmd
   ```

   If the application viewer is generated successfully, the response code is set to 0. However, if you get any other response code other than 0, it means an error has occurred while generating the application viewer. A log file is created in the `$SPLEBASE/logs` folder.

5. Execute the `initialSetup` utility using the following command:

   AIX, Linux:

   `$SPLEBASE/bin/initialSetup.sh`

   Windows:

   `%SPLEBASE%\bin\initialSetup.cmd`

   Where, `$SPLEBASE` or `%SPLEBASE%` is the path where the application environment is installed.

   The `initialSetup` utility updates the configuration files including the WAR files on the system.

3.2 Starting the Thread Pool Worker

Once you upgrade the application, you need to start the thread pool worker. The thread pool worker is required when you execute batches either online or through batch scheduler.

You can use the **Distributed Thread Pool** property of the thread pool worker to set the number of threads that can run concurrently. By default, 5 threads run concurrently. You can change the default value by editing the following line in the `threadpoolworker.properties` file:

`com.splwg.grid.distThreadPool.threads.DEFAULT=5`

To start the thread pool worker, use the following command once you initialize the application environment:

AIX, Linux:

`$SPLEBASE/bin/threadpoolworker.sh`

Windows:

`%SPLEBASE%\bin\threadpoolworker.cmd`

Where, `$SPLEBASE` or `%SPLEBASE%` is the path where the application environment is installed.

3.3 Building Javadoc Index

Once you upgrade the application, you may want to regenerate the index file of Javadoc documentation. You must regenerate the Javadoc index file only when some modifications are made to the Java code.

To regenerate the Javadoc index file, use the following command:

AIX, Linux:

`$SPLEBASE/bin/buildJavadocsIndex.sh`

Windows:

`%SPLEBASE%\bin\buildJavadocsIndex.cmd`

Where, `$SPLEBASE` or `%SPLEBASE%` is the path where the application environment is installed.

Appendix A : ORMB 2.4.0.1.0 Patch Numbers

The contents of the RMB V2.4.0.1.0 - <Domain> - <Platform> patch differ depending on the domain and platform-specific patch that you have downloaded. The following table lists the contents of each domain and platform-specific patch:

Domain	Patch Number	Contents Include
Financial Services	21447187	• FW-V4.2.0.3.0-Multiplatform • RMB-V2.4.0.1.0-Linux • RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform • RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm
Financial Services	21447157	• FW-V4.2.0.3.0-Multiplatform • RMB-V2.4.0.1.0-AIX • RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform • RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm
Financial Services	21447171	• FW-V4.2.0.3.0-Multiplatform • RMB-V2.4.0.1.0-Windows • RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform • RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm
Insurance	21447364	• FW-V4.2.0.3.0-Multiplatform • RMB-V2.4.0.1.0-Linux • RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform • RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm
Insurance	21447350	• FW-V4.2.0.3.0-Multiplatform • RMB-V2.4.0.1.0-AIX • RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform • RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm
Insurance	21447355	• FW-V4.2.0.3.0-Multiplatform • RMB-V2.4.0.1.0-Windows • RMB-V2.4.0.1.0-FW-PREREQ-MultiPlatform • RMB-V2.4.0.1.0-Oracle-Database-MultiplatForm

Appendix B : Known Issues

To view a list of known issues in the current release, refer to the *Oracle Revenue Management and Billing Version 2.4.0.1.0 Release Notes*.

Appendix C : Third Party Software Upgrade

To view a list of third party software that you need to upgrade to before upgrading the application, refer to the Upgrade Prerequisites section in the *Oracle Revenue Management and Billing Upgrade Path Guide.*

Appendix D : New Tables Added in 2.4.0.1.0

This section lists and describes the tables that are newly added in the Oracle Revenue Management and Billing Version 2.4.0.1.0 database.

D.1 C1_DIV_PER_REL_SEQ

Purpose: Used to store the person to person relationship type sequence defined for a division.

Total Number of Columns: 4

Constraints: SYS_C0017874

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
CIS_DIVISION	CHAR	No	
SEQ_NO	NUMBER	No	
PER_REL_TYPE_CD	CHAR	No	
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	CIS_DIVISION
	SEQ_NO

Indexes:

Sr. No.	Index Type	Column Name
1.	UNIQUE	CIS_DIVISION
		SEQ_NO

D.2 C1_DIV_PRICEITEM_PER_REL_SEQ

Purpose: Used to store the person to person relationship type sequence defined for a division, product and product parameters combination.

Total Number of Columns: 6

Constraints: SYS_C0017875

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
CIS_DIVISION	CHAR	No	
PRICEITEM_CD	CHAR	No	
PRICEITEM_PARM_GRP_ID	NUMBER	No	
SEQ_NO	NUMBER	No	
PER_REL_TYPE_CD	CHAR	No	
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	CIS_DIVISION
	SEQ_NO
	PRICEITEM_CD
	PRICEITEM_PARM_GRP_ID

Indexes:

Sr. No.	Index Type	Column Name
1.	UNIQUE	CIS_DIVISION
		SEQ_NO
		PRICEITEM_CD
		PRICEITEM_PARM_GRP_ID

D.3 C1_PAY_DETAILS

Purpose: Used to store payments which you want to transfer.

Total Number of Columns: 3

Constraints: SYS_C0017876

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
PAY_DTLS_ID	CHAR	No	
PAY_REQ_ID	CHAR	No	
PAY_ID	CHAR	Yes	

Primary Key:

Key Type	Column Name
SINGLE	PAY_DTLS_ID

D.4 C1_PAY_DISTRIBUTION

Purpose: Used to store records which are fetched using the manual distribution algorithm during payment creation or transfer.

Total Number of Columns: 11

Constraints: SYS_C0017877

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
PAY_DIST_ID	CHAR	No	
PAY_MATCH_TYPE_ID	CHAR	No	
ACCT_ID	CHAR	No	
AMOUNT	NUMBER	No	
PAID_AMT	NUMBER	No	
UNPAID_AMT	NUMBER	No	1
WRITE_OFF_ADJ_AMT	NUMBER	No	
PAY_AMT	NUMBER	No	
CURRENCY_CD	CHAR	Yes	

Column Name	Data Type	Nullable (Yes or No)	Default Value
PAY_ID	CHAR	Yes	
MATCH_VAL	VARCHAR2	No	

Primary Key:

Key Type	Column Name
SINGLE	PAY_DTLS_ID

D.5 C1_PAY_MATCH_TYPE

Purpose: Used to store match types which are selected during payment creation or transfer.

Total Number of Columns: 7

Constraints: SYS_C0017878

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
PAY_MATCH_TYPE_ID	CHAR	No	
PAY_REQ_ID	CHAR	No	
MATCH_TYPE_CD	CHAR	No	
MATCH_TYPE_ENTITY_ID	VARCHAR2	No	
MATCH_TYPE_ENTITY_TYPE	CHAR	No	
ENTITY_FKREF	VARCHAR2	Yes	
SHOW_DEF_VALUE_FLG	CHAR	Yes	FALSE

Primary Key:

Key Type	Column Name
SINGLE	PAY_MATCH_TYPE_ID

D.6 C1_PAY_REQ

Purpose: Used to store the details of a payment request.

Total Number of Columns: 14

Constraints: SYS_C0017879

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
PAY_REQ_ID	CHAR	No	
C1_PAY_REQ_TYPE_CD	VARCHAR2	No	
PAY_EVENT_ID	CHAR	Yes	
PAYMENT_MODE_FLG	CHAR	Yes	
SEQ_NUM	NUMBER	No	
BUS_OBJ_CD	CHAR	No	‘ ‘
BO_STATUS_CD	CHAR	No	‘ ‘
BO_STATUS_REASON_CD	VARCHAR2	Yes	
BO_DATA_AREA	CLOB	Yes	
CRE_DTTM	DATE	Yes	
STATUS_UPD_DTTM	DATE	Yes	
ILM_ARCH_SW	CHAR	Yes	
ILM_DT	DATE	Yes	
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
SINGLE	PAY_REQ_ID

D.7 C1_PAY_REQUEST_TYPE

Purpose: Used to store the details of a payment request type.

Total Number of Columns: 6

Constraints: SYS_C0017880

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_PAY_REQ_TYPE_CD	CHAR	No	
BUS_OBJ_CD	CHAR	No	‘ ‘
TRANS_BUS_OBJ_CD	CHAR	No	‘ ‘
BO_DATA_AREA	CLOB	Yes	
C1_ACTIVE_INACTIVE_FLG	CHAR	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
SINGLE	C1_PAY_REQ_TYPE_CD

D.8 C1_PAY_REQUEST_TYPE_CHAR

Purpose: Used to store characteristics defined for a payment request type.

Total Number of Columns: 12

Constraints: SYS_C0017881

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_PAY_REQ_TYPE_CD	CHAR	No	
CHAR_TYPE_CD	CHAR	No	
SEQ_NUM	NUMBER	No	
CHAR_VAL	CHAR	No	‘ ‘
ADHOC_CHAR_VAL	VARCHAR2	No	‘ ‘
CHAR_VAL_FK1	VARCHAR2	No	‘ ‘

Column Name	Data Type	Nullable (Yes or No)	Default Value
CHAR_VAL_FK2	VARCHAR2	No	‘ ‘
CHAR_VAL_FK3	VARCHAR2	No	‘ ‘
CHAR_VAL_FK4	VARCHAR2	No	‘ ‘
CHAR_VAL_FK5	VARCHAR2	No	‘ ‘
SRCH_CHAR_VAL	VARCHAR2	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	C1_PAY_REQ_TYPE_CD
	CHAR_TYPE_CD
	SEQ_NUM

D.9 C1_PAY_REQUEST_TYPE_L

Purpose: Used to store description for a payment request type.

Total Number of Columns: 5

Constraints: SYS_C0017882

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_PAY_REQ_TYPE_CD	CHAR	No	
LANGUAGE_CD	CHAR	No	
DESCR	VARCHAR2	No	‘ ‘
DESCRLONG	VARCHAR2	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	C1_PAY_REQ_TYPE_CD
	LANGUAGE_CD

D.10 C1_PAY_REQ_K

Purpose: Used to generate payment request ID.

Total Number of Columns: 2

Constraints: SYS_C0017883

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ENV_ID	NUMBER	No	
PAY_REQ_ID	CHAR	No	

Primary Key:

Key Type	Column Name
COMPOSITE	ENV_ID
	PAY_REQ_ID

D.11 C1_PAY_REQ_LOG

Purpose: Used to store logs of a payment request.

Total Number of Columns: 19

Constraints: SYS_C0017884

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
PAY_REQ_ID	CHAR	No	
SEQNO	NUMBER	No	
LOG_DTTM	DATE	No	
LOG_ENTRY_TYPE_FLG	CHAR	No	‘ ‘
DESCRLONG	VARCHAR2	No	‘ ’
BO_STATUS_CD	CHAR	No	‘ ‘
MESSAGE_CAT_NBR	NUMBER	No	0
MESSAGE_NBR	NUMBER	No	0
CHAR_TYPE_CD	CHAR	No	‘ ‘
CHAR_VAL	CHAR	No	‘ ‘
ADHOC_CHAR_VAL	VARCHAR2	No	‘ ‘

Column Name	Data Type	Nullable (Yes or No)	Default Value
CHAR_VAL_FK1	VARCHAR2	No	‘ ‘
CHAR_VAL_FK2	VARCHAR2	No	‘ ‘
CHAR_VAL_FK3	VARCHAR2	No	‘ ‘
CHAR_VAL_FK4	VARCHAR2	No	‘ ‘
CHAR_VAL_FK5	VARCHAR2	No	‘ ‘
USER_ID	CHAR	No	‘ ‘
VERSION	NUMBER	No	1
BO_STATUS_REASON_CD	VARCHAR2	Yes	

Primary Key:

Key Type	Column Name
COMPOSITE	PAY_REQ_ID
	SEQNO

D.12 C1_PAY_REQ_LOG_PARM

Purpose: Used to store payment request log parameters.

Total Number of Columns: 6

Constraints: SYS_C0017885

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
PAY_REQ_ID	CHAR	No	
SEQNO	NUMBER	No	
PARM_SEQ	NUMBER	No	
MSG_PARM_TYP_FLG	CHAR	No	‘ ‘
MSG_PARM_VAL	VARCHAR2	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	PAY_REQ_ID
	SEQNO
	PARM_SEQ

D.13 C1_PAY_TNDR_CHAR_REQ

Purpose: Used to store characteristics defined for the tender in a payment request.

Total Number of Columns: 12

Constraints: SYS_C0017886

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
PAY_TNDR_REQ_ID	CHAR	No	
CHAR_TYPE_CD	CHAR	No	
SEQ_NUM	NUMBER	No	
CHAR_VAL	CHAR	Yes	‘ ‘
ADHOC_CHAR_VAL	VARCHAR2	Yes	‘ ‘
VERSION	NUMBER	Yes	‘ ‘
CHAR_VAL_FK1	VARCHAR2	Yes	‘ ‘
CHAR_VAL_FK2	VARCHAR2	Yes	‘ ‘
CHAR_VAL_FK3	VARCHAR2	Yes	‘ ‘
CHAR_VAL_FK4	VARCHAR2	Yes	‘ ‘
CHAR_VAL_FK5	VARCHAR2	Yes	‘ ‘
SRCH_CHAR_VAL	VARCHAR2	Yes	‘ ‘

Primary Key:

Key Type	Column Name
COMPOSITE	PAY_TNDR_REQ_ID
	CHAR_TYPE_CD
	SEQ_NUM

D.14 C1_PAY_TNDR_REQ

Purpose: Used to store the tender details of a payment request.

Total Number of Columns: 22

Constraints: SYS_C0017887

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
PAY_TNDR_REQ_ID	CHAR	No	
PAY_REQ_ID	CHAR	No	
PAYOR_ACCT_ID	CHAR	No	
TENDER_TYPE_CD	CHAR	No	
TENDER_AMT	NUMBER	Yes	0
CURRENCY_CD	CHAR	No	
CHECK_NBR	CHAR	Yes	‘ ‘
MICR_ID	VARCHAR2	Yes	‘ ‘
APAY_SRC_CD	CHAR	Yes	‘ ‘
APAY_RTE_TYPE_CD	CHAR	Yes	‘ ‘
EXT_ACCT_ID	VARCHAR2	Yes	‘ ‘
ENTITY_NAME	VARCHAR2	Yes	‘ ‘
VERSION	NUMBER	Yes	1
TNDR_CTL_ID	CHAR	Yes	‘ ‘
DEP_CTL_ID	CHAR	Yes	‘ ‘
SCHED_EXTRACT_DT	DATE	Yes	
EXT_REFERENCE_ID	CHAR	No	‘ ‘
CUST_ID	CHAR	No	‘ ‘
NAME1	VARCHAR2	No	‘ ‘
APAY_DIST_FRZ_DT	DATE	Yes	
EXP_MONTH	CHAR	Yes	
EXP_YEAR	CHAR	Yes	

Primary Key:

Key Type	Column Name
SINGLE	PAY_TNDR_REQ_ID

D.15 C1_REQUEST

Purpose: Used to store the details of a request.

Total Number of Columns: 11

Constraints: SYS_C0017888

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_REQ_ID	CHAR	No	
C1_REQ_TYPE_CD	CHAR	No	‘ ‘
BUS_OBJ_CD	CHAR	No	‘ ‘
BO_STATUS_CD	CHAR	No	‘ ‘
BO_STATUS_REASON_CD	VARCHAR2	Yes	
BO_DATA_AREA	CLOB	Yes	
STATUS_UPD_DTTM	DATE	Yes	
CRE_DTTM	DATE	Yes	
ILM_ARCH_SW	CHAR	Yes	
ILM_DT	DATE	Yes	
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
SINGLE	C1_REQ_ID

Indexes:

Sr. No.	Index Type	Column Name
1.	NORMAL	BO_STATUS_CD
		BUS_OBJ_CD
		C1_REQ_ID

D.16 C1_REQUEST_CHAR

Purpose: Used to store characteristics defined for a request.

Total Number of Columns: 12

Constraints: SYS_C0017889

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_REQ_ID	CHAR	No	
CHAR_TYPE_CD	CHAR	No	
EFFDT	DATE	No	
CHAR_VAL	CHAR	No	‘ ‘
ADHOC_CHAR_VAL	VARCHAR2	No	‘ ‘
CHAR_VAL_FK1	VARCHAR2	No	‘ ‘
CHAR_VAL_FK2	VARCHAR2	No	‘ ‘
CHAR_VAL_FK3	VARCHAR2	No	‘ ‘
CHAR_VAL_FK4	VARCHAR2	No	‘ ‘
CHAR_VAL_FK5	VARCHAR2	No	‘ ‘
SRCH_CHAR_VAL	VARCHAR2	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	C1_REQ_ID
	CHAR_TYPE_CD
	EFFDT

Indexes:

Sr. No.	Index Type	Column Name
1.	NORMAL	SRCH_CHAR_VAL

D.17 C1_REQUEST_K

Purpose: Used to generate the request ID.

Total Number of Columns: 2

Constraints: SYS_C0017890

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_REQ_ID	CHAR	No	
ENV_ID	NUMBER	No	

Primary Key:

Key Type	Column Name
COMPOSITE	C1_REQ_ID
	ENV_ID

D.18 C1_REQUEST_LOG

Purpose: Used to store logs of a request.

Total Number of Columns: 20

Constraints: SYS_C0017891

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_REQ_ID	CHAR	No	
SEQNO	NUMBER	No	
LOG_ENTRY_TYPE_FLG	CHAR	No	‘ ‘
LOG_DTTM	DATE	No	
BO_STATUS_CD	CHAR	No	‘ ‘
DESCRLONG	VARCHAR2	No	‘ ‘
MESSAGE_CAT_NBR	NUMBER	No	0
MESSAGE_NBR	NUMBER	No	0
CHAR_TYPE_CD	CHAR	No	‘ ‘
CHAR_VAL	CHAR	No	‘ ‘

Column Name	Data Type	Nullable (Yes or No)	Default Value
ADHOC_CHAR_VAL	VARCHAR2	No	‘ ‘
CHAR_VAL_FK1	VARCHAR2	No	‘ ‘
CHAR_VAL_FK2	VARCHAR2	No	‘ ‘
CHAR_VAL_FK3	VARCHAR2	No	‘ ‘
CHAR_VAL_FK4	VARCHAR2	No	‘ ‘
CHAR_VAL_FK5	VARCHAR2	No	‘ ‘
SRCH_CHAR_VAL	VARCHAR2	No	‘ ‘
USER_ID	CHAR	No	‘ ‘
VERSION	NUMBER	No	1
BO_STATUS_REASON_CD	VARCHAR2	Yes	

Primary Key:

Key Type	Column Name
COMPOSITE	C1_REQ_ID
	SEQNO

Indexes:

Sr. No.	Index Type	Column Name
1.	NORMAL	CHAR_TYPE_CD
		CHAR_VAL_FK1

D.19 C1_REQUEST_LOG_PARM

Purpose: Used to store request log parameters.

Total Number of Columns: 6

Constraints: SYS_C0017892

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_REQ_ID	CHAR	No	
SEQNO	NUMBER	No	
PARM_SEQ	NUMBER	No	
MSG_PARM_TYP_FLG	CHAR	No	‘ ‘
MESSAGE_PARM	VARCHAR2	No	‘ ‘

Column Name	Data Type	Nullable (Yes or No)	Default Value
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	C1_REQ_ID
	SEQNO
	PARM_SEQ

D.20 C1_REQUEST_REL_OBJ

Purpose: Used to store related objects of a request.

Total Number of Columns: 9

Constraints: SYS_C0017893

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_REQ_ID	CHAR	No	
MAINT_OBJ_CD	CHAR	No	‘ ‘
C1_REQ_REL_OBJ_TYPE_FLG	CHAR	No	‘ ‘
PK_VALUE1	VARCHAR2	No	‘ ‘
PK_VALUE2	VARCHAR2	No	‘ ‘
PK_VALUE3	VARCHAR2	No	‘ ‘
PK_VALUE4	VARCHAR2	No	‘ ‘
PK_VALUE5	VARCHAR2	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	C1_REQ_ID
	MAINT_OBJ_CD
	C1_REQ_REL_OBJ_TYPE_FLG

Indexes:

Sr. No.	Index Type	Column Name
1.	NORMAL	PK_VALUE1

D.21 C1_REQUEST_TYPE

Purpose: Used to store the details of a request type.

Total Number of Columns: 6

Constraints: SYS_C0017894

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_REQ_TYPE_CD	CHAR	No	
BUS_OBJ_CD	CHAR	No	‘ ‘
TRANS_BUS_OBJ_CD	CHAR	No	‘ ‘
BO_DATA_AREA	CLOB	Yes	
C1_ACTIVE_INACTIVE_FLG	CHAR	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
SINGLE	C1_REQ_TYPE_CD

D.22 C1_REQUEST_TYPE_CHAR

Purpose: Used to store characteristics defined for a request type.

Total Number of Columns: 12

Constraints: SYS_C0017895

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
SRCH_CHAR_VAL	VARCHAR2	No	
VERSION	NUMBER	No	
C1_REQ_TYPE_CD	CHAR	No	
CHAR_TYPE_CD	CHAR	No	

Column Name	Data Type	Nullable (Yes or No)	Default Value
SEQ_NUM	NUMBER	No	
CHAR_VAL	CHAR	No	
ADHOC_CHAR_VAL	VARCHAR2	No	
CHAR_VAL_FK1	VARCHAR2	No	
CHAR_VAL_FK2	VARCHAR2	No	
CHAR_VAL_FK3	VARCHAR2	No	
CHAR_VAL_FK4	VARCHAR2	No	
CHAR_VAL_FK5	VARCHAR2	No	

Primary Key:

Key Type	Column Name
COMPOSITE	C1_REQ_TYPE_CD
	CHAR_TYPE_CD
	SEQ_NUM

D.23 C1_REQUEST_TYPE_L

Purpose: Used to store description of a request type.

Total Number of Columns: 5

Constraints: SYS_C0017896

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_REQ_TYPE_CD	CHAR	No	
LANGUAGE_CD	CHAR	No	
DESCR	VARCHAR2	No	‘ ‘
DESCRLONG	VARCHAR2	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	C1_REQ_TYPE_CD
	LANGUAGE_CD

D.24 C1_UPL_REQUEST

Purpose: Used to store the details of an upload request.

Total Number of Columns: 12

Constraints: SYS_C0017897

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
UPL_REQ_ID	CHAR	No	
CRE_DTTM	DATE	No	
FILE_NAME	VARCHAR2	No	
C1_UPL_REQ_TYPE_CD	CHAR	No	
BUS_OBJ_CD	CHAR	Yes	
BO_STATUS_CD	CHAR	Yes	
BO_DATA_AREA	CLOB	Yes	
BO_STATUS_REASON_CD	VARCHAR2	Yes	
STATUS_UPD_DTTM	DATE	Yes	
ILM_ARCH_SW	CHAR	Yes	
ILM_DT	DATE	Yes	
VERSION	NUMBER	No	

Primary Key:

Key Type	Column Name
SINGLE	UPL_REQ_ID

D.25 C1_UPL_REQUEST_K

Purpose: Used to generate the upload request ID.

Total Number of Columns: 2

Constraints: SYS_C0017898

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
UPL_REQ_ID	CHAR	No	
ENV_ID	NUMBER	No	

Primary Key:

Key Type	Column Name
COMPOSITE	UPL_REQ_ID
	ENV_ID

D.26 C1_UPL_REQUEST_TYPE

Purpose: Used to store the details of an upload request type.

Total Number of Columns: 6

Constraints: SYS_C0017899

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_UPL_REQ_TYPE_CD	CHAR	No	
BUS_OBJ_CD	CHAR	No	‘ ‘
TRANS_BUS_OBJ_CD	CHAR	No	‘ ‘
BO_DATA_AREA	CLOB	Yes	
C1_ACTIVE_INACTIVE_FLG	CHAR	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
SINGLE	C1_UPL_REQ_TYPE_CD

D.27 C1_UPL_REQUEST_TYPE_CHAR

Purpose: Used to store characteristics defined for an upload request type.

Total Number of Columns: 12

Constraints: SYS_C0017900

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_UPL_REQ_TYPE_CD	CHAR	No	
CHAR_TYPE_CD	CHAR	No	
SEQ_NUM	NUMBER	No	
CHAR_VAL	CHAR	No	‘ ‘
ADHOC_CHAR_VAL	VARCHAR2	No	‘ ‘
CHAR_VAL_FK1	VARCHAR2	No	‘ ‘
CHAR_VAL_FK2	VARCHAR2	No	‘ ‘
CHAR_VAL_FK3	VARCHAR2	No	‘ ‘
CHAR_VAL_FK4	VARCHAR2	No	‘ ‘
CHAR_VAL_FK5	VARCHAR2	No	‘ ‘
SRCH_CHAR_VAL	VARCHAR2	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	C1_UPL_REQ_TYPE_CD
	CHAR_TYPE_CD
	SEQ_NUM

D.28 C1_UPL_REQUEST_TYPE_L

Purpose: Used to store description of an upload request type.

Total Number of Columns: 5

Constraints: SYS_C0017901

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
C1_UPL_REQ_TYPE_CD	CHAR	No	
LANGUAGE_CD	CHAR	No	
DESCR	VARCHAR2	No	‘ ‘
DESCRLONG	VARCHAR2	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	C1_UPL_REQ_TYPE_CD
	LANGUAGE_CD

D.29 C1_UPL_REQ_DTLS

Purpose: Used to store adjustment data which is uploaded through an adjustment data file.

Total Number of Columns: 31

Constraints: SYS_C0017902

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
UPL_REQ_ID	CHAR	No	
UPL_DTL_ID	NUMBER	No	
REC_STATUS	CHAR	Yes	‘ ‘
ACCT_ID_TYPE_CD	CHAR	Yes	‘ ‘
ACCT_IDENTIFIER	CHAR	Yes	‘ ‘
ACCT_ID	CHAR	Yes	‘ ‘
ADJ_MATCH_TYPE_CD	CHAR	Yes	‘ ‘

Column Name	Data Type	Nullable (Yes or No)	Default Value
ADJ_MATCH_TYPE_VAL	VARCHAR2	Yes	‘ ‘
ADJ_TYPE_CD	CHAR	Yes	‘ ‘
ADJUSTMENT_AMT	NUMBER	Yes	0
CURRENCY_CD	CHAR	Yes	‘ ‘
COMMENTS	VARCHAR2	Yes	‘ ‘
BILL_ID	CHAR	Yes	‘ ‘
BSEG_ID	CHAR	Yes	‘ ‘
ARREARS_DT	DATE	Yes	
CRE_DT	DATE	Yes	
VERSION	NUMBER	No	1
ADJ_ID	CHAR	Yes	‘ ‘
ADJ_CHAR_TYPE1	CHAR	Yes	
ADJ_CHAR_VAL1	VARCHAR2	Yes	
ADJ_CHAR_TYPE2	CHAR	Yes	
ADJ_CHAR_VAL2	VARCHAR2	Yes	
ADJ_CHAR_TYPE3	CHAR	Yes	
ADJ_CHAR_VAL3	VARCHAR2	Yes	
ADJ_CHAR_TYPE4	CHAR	Yes	
ADJ_CHAR_VAL4	VARCHAR2	Yes	
ADJ_CHAR_TYPE5	CHAR	Yes	
ADJ_CHAR_VAL5	VARCHAR2	Yes	
RECORD_ID	VARCHAR2	Yes	
ERROR_FLD	VARCHAR2	Yes	
SA_ID	CHAR	Yes	

Primary Key:

Key Type	Column Name
SINGLE	UPL_DTL_ID

D.30 C1_UPL_REQ_LOG

Purpose: Used to store logs of an upload request.

Total Number of Columns: 20

Constraints: SYS_C0017903

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
UPL_REQ_ID	CHAR	No	
SEQNO	NUMBER	No	
LOG_ENTRY_TYPE_FLG	CHAR	Yes	‘ ‘
BO_STATUS_CD	CHAR	Yes	‘ ‘
DESCRLONG	VARCHAR2	Yes	‘ ‘
MESSAGE_CAT_NBR	NUMBER	Yes	
MESSAGE_NBR	NUMBER	Yes	
CHAR_TYPE_CD	CHAR	Yes	‘ ‘
CHAR_VAL	CHAR	Yes	‘ ‘
ADHOC_CHAR_VAL	VARCHAR2	Yes	
CHAR_VAL_FK1	VARCHAR2	Yes	
CHAR_VAL_FK2	VARCHAR2	Yes	
CHAR_VAL_FK3	VARCHAR2	Yes	
CHAR_VAL_FK4	VARCHAR2	Yes	
CHAR_VAL_FK5	VARCHAR2	Yes	
SRCH_CHAR_VAL	VARCHAR2	Yes	
USER_ID	CHAR	Yes	
BO_STATUS_REASON_CD	VARCHAR2	Yes	
VERSION	NUMBER	No	1
LOG_DTTM	DATE	No	

Primary Key:

Key Type	Column Name
COMPOSITE	UPL_REQ_ID
	SEQNO

D.31 C1_UPL_REQ_LOG_PARM

Purpose: Used to store upload request log parameters.

Total Number of Columns: 6

Constraints: SYS_C0017904

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
UPL_REQ_ID	CHAR	No	
SEQNO	NUMBER	No	
PARM_SEQ	NUMBER	No	
MSG_PARM_TYP_FLG	CHAR	Yes	
MESSAGE_PARM	VARCHAR2	Yes	
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	UPL_REQ_ID
	SEQNO
	PARM_SEQ

D.32 CI_ACCUM_ASL_AMT

Purpose: Used to store the aggregate stop loss accumulations.

Total Number of Columns: 9

Constraints: SYS_C0017906

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCUM_GRP_ID	NUMBER	No	

Column Name	Data Type	Nullable (Yes or No)	Default Value
WIN_START_DT	DATE	No	
ASL_CUL_AGG_AMT	NUMBER	Yes	
ASL_CUL_CALC_LIMIT	NUMBER	No	
ASL_CUL_MIN_LIMIT	NUMBER	Yes	
SSL_CUL_CREDITS	NUMBER	No	
ASL_MAX_PAYOUT_LIMIT	NUMBER	Yes	
ASL_MTH_PAYMENT_LIMIT	NUMBER	Yes	
BILLABLE_CHG_ID	CHAR	No	

Primary Key:

Key Type	Column Name
COMPOSITE	WIN_START_DT
	ACCUM_GRP_ID

D.33 CI_ACCUM_GRP

Purpose: Used to store the details of an accumulation group.

Total Number of Columns: 7

Constraints: SYS_C0017907

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCUM_GRP_ID	NUMBER	No	
BO_STATUS_CD	CHAR	Yes	
ACCUM_TYPE	CHAR	No	
LIMIT_VALUE	NUMBER	No	
PRICE_ASGN_ID	CHAR	No	
PARENT_ACCUM_GRP_ID	NUMBER	No	
VERSION	NUMBER	No	

Primary Key:

Key Type	Column Name
SINGLE	ACCUM_GRP_ID

D.34 CI_ACCUM_GRP_ASL

Purpose: Used to store the aggregate stop loss information of an accumulation group.

Total Number of Columns: 14

Constraints: SYS_C0017908

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCUM_GRP_ID	NUMBER	No	
PER_ID	CHAR	Yes	
INCURRED_START_DT	DATE	Yes	
INCURRED_END_DT	DATE	Yes	
PAID_START_DT	DATE	Yes	
PAID_END_DT	DATE	Yes	
SETTLEMENT_DATE	DATE	Yes	
SETTLEMENT_FREQUENCY_FLG	CHAR	Yes	
ASL_CALC_LIMIT_SW	CHAR	Yes	
ASL_MIN_LIMIT	NUMBER	Yes	
ASL_MAX_PAYOUT_LIMIT	NUMBER	Yes	
MTH_PAYMENT_LIMIT	NUMBER	Yes	
ACCT_ID	CHAR	Yes	
CARRIER_CD	VARCHAR2	Yes	

Primary Key:

Key Type	Column Name
SINGLE	ACCUM_GRP_ID

D.35 CI_ACCUM_GRP_CHAR

Purpose: Used to store characteristics defined for an accumulation group.

Total Number of Columns: 11

Constraints: SYS_C0017909

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
CHAR_VAL_FK2	VARCHAR2	Yes	
CHAR_VAL_FK3	VARCHAR2	Yes	
CHAR_VAL_FK4	VARCHAR2	Yes	
CHAR_VAL_FK5	VARCHAR2	Yes	
VERSION	NUMBER	Yes	
ACCUM_GRP_ID	NUMBER	No	
SEQNO	NUMBER	No	
CHAR_TYPE_CD	CHAR	Yes	
ADHOC_CHAR_VAL	VARCHAR2	Yes	
CHAR_VAL	CHAR	Yes	
CHAR_VAL_FK1	VARCHAR2	Yes	

Primary Key:

Key Type	Column Name
COMPOSITE	ACCUM_GRP_ID
	SEQNO

D.36 CI_ACCUM_GRP_K

Purpose: Used to generate the accumulation group ID.

Total Number of Columns: 2

Constraints: None

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCUM_GRP_ID	NUMBER	No	
ENV_ID	CHAR	Yes	

D.37 CI_ACCUM_GRP_SL_LASER_EXC

Purpose: Used to store the lasering and exclusion information of an accumulation group.

Total Number of Columns: 5

Constraints: SYS_C0017910

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCUM_GRP_ID	NUMBER	No	
MEM_SUB_PROV_ID	VARCHAR2	Yes	
LASER_EXCLUSION_TYPE	CHAR	Yes	
FIRST_NAME	VARCHAR2	Yes	
LAST_NAME	VARCHAR2	Yes	

Primary Key:

Key Type	Column Name
SINGLE	ACCUM_GRP_ID

D.38 CI_ACCUM_GRP_SL_PRICEITEM

Purpose: Used to store the accumulation group and product mapping details.

Total Number of Columns: 3

Constraints: SYS_C0017911

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCUM_GRP_ID	NUMBER	No	
PRICEITEM_CD	CHAR	No	
HCC_CD	CHAR	No	

Primary Key:

Key Type	Column Name
COMPOSITE	ACCUM_GRP_ID
	PRICEITEM_CD
	HCC_CD

D.39 CI_ACCUM_GRP_SSL

Purpose: Used to store the specific stop loss information of an accumulation group.

Total Number of Columns: 12

Constraints: SYS_C0017912

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCUM_GRP_ID	NUMBER	No	
INCURRED_START_DT	DATE	Yes	
INCURRED_END_DT	DATE	Yes	
PAID_START_DT	DATE	Yes	
PAID_END_DT	DATE	Yes	
ACCUM_OPTION	CHAR	Yes	
SETTLEMENT_DATE	DATE	Yes	
SETTLEMENT_FREQUENCY_FLG	CHAR	Yes	
ASSL_LIMIT	NUMBER	Yes	
SSL_MAX_PAYOUT_LIMIT	NUMBER	Yes	
ACCT_ID	CHAR	Yes	
CARRIER_CD	VARCHAR2	Yes	

Primary Key:

Key Type	Column Name
SINGLE	ACCUM_GRP_ID

D.40 CI_ACCUM_SSL_AMT

Purpose: Used to store the specific stop loss accumulations.

Total Number of Columns: 6

Constraints: SYS_C0017913

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCUM_GRP_ID	NUMBER	No	
WIN_START_DT	DATE	No	
MEMBER_SUBSCRIBER_ID	VARCHAR2	No	
SSL_CUL_AGG_AMT	NUMBER	No	
SSL_CREDITS	NUMBER	No	
BILLABLE_CHG_ID	CHAR	No	

Primary Key:

Key Type	Column Name
COMPOSITE	WIN_START_DT
	ACCUM_GRP_ID
	MEMBER_SUBSCRIBER_ID

D.41 CI_AGG_PARM_GRP_DTL

Purpose: Used to store the number of parameters in a product parameter group.

Total Number of Columns: 3

Constraints: SYS_C0017905

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
AGG_PARM_GRP_ID	NUMBER	No	
PARM_COUNT	NUMBER	No	
PARM_STR	VARCHAR2	Yes	

Primary Key:

Key Type	Column Name
SINGLE	AGG_PARM_GRP_ID

D.42 CI_TXN_CALC

Purpose: Used to store the rate calculation header information for non-aggregated and aggregated transaction legs.

Total Number of Columns: 24

Constraints: SYS_C0017916

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
DESCR_ON_BILL	VARCHAR2	No	
VERSION	NUMBER	No	1
ACCUMULATION_SW	CHAR	Yes	N
ACCT_ID	CHAR	No	
INIT_PRICEITEM_CD	CHAR	No	
TOU_CD	CHAR	No	‘ ‘
PRICEITEM_PARM_GRP_ID	NUMBER	No	1
AGG_PARM_GRP_ID	NUMBER	Yes	1
ORG_TXN_DATE	DATE	No	
DER_DIVISION	CHAR	No	
TXN_RATING_CRITERIA	CHAR	Yes	
ORG_DIVISION	CHAR	Yes	
TXN_HEADER_ID	CHAR	No	‘ ‘
TXN_SOURCE_CD	VARCHAR2	No	‘ ‘
BILLABLE_CHG_ID	CHAR	Yes	‘ ‘

Column Name	Data Type	Nullable (Yes or No)	Default Value
TXN_CALC_ID	NUMBER	No	
TXN_DETAIL_ID	NUMBER	No	
SEQ_NO	NUMBER	No	1
START_DT	DATE	No	
CURRENCY_CD	CHAR	No	
END_DT	DATE	No	
RS_CD	CHAR	No	
EFFDT	DATE	Yes	
CALC_AMT	NUMBER	No	

Primary Key:

Key Type	Column Name
SINGLE	TXN_CALC_ID

Indexes:

Sr. No.	Index Type	Column Name
1	NORMAL	BILLABLE_CHG_ID

D.43 CI_TXN_CALC_ACCUM_GRP

Purpose: Used to store the transaction product calculation and accumulation group mapping details.

Total Number of Columns: 3

Constraints: SYS_C0017917

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
TXN_CALC_ID	NUMBER	No	
ACCUM_GRP_ID	NUMBER	No	
MEMBER_SUBSCRIBER_ID	VARCHAR2	Yes	

Primary Key:

Key Type	Column Name
COMPOSITE	TXN_CALC_ID
	ACCUM_GRP_ID

D.44 CI_TXN_CALC_LN

Purpose: Used to store rate calculation lines for non-aggregated and aggregated transaction legs.

Total Number of Columns: 28

Constraints: SYS_C0017918

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
TXN_CALC_ID	NUMBER	No	
HEADER_SEQ	NUMBER	No	
SEQNO	NUMBER	No	
CHAR_TYPE_CD	CHAR	No	‘ ‘
CURRENCY_CD	CHAR	No	‘ ‘
CHAR_VAL	CHAR	No	‘ ‘
DST_ID	CHAR	No	‘ ‘
UOM_CD	CHAR	No	‘ ‘
TOU_CD	CHAR	No	‘ ‘
RC_SEQ	NUMBER	No	0
PRT_SW	CHAR	No	‘ ‘
APP_IN_SUMM_SW	CHAR	No	‘ ‘
CALC_AMT	NUMBER	No	0
EXEMPT_AMT	NUMBER	No	0
BASE_AMT	NUMBER	No	0
SQI_CD	CHAR	No	‘ ‘
BILL_SQ	NUMBER	No	0
MSR_PEAK_QTY_SW	CHAR	No	‘ ‘
DESCR_ON_BILL	VARCHAR2	No	‘ ‘

Column Name	Data Type	Nullable (Yes or No)	Default Value
VERSION	NUMBER	No	1
PRIC_CCY_CD	CHAR	No	‘ ‘
PRIC_AMT	NUMBER	No	0
EXCHRATE_ID	CHAR	No	‘ ‘
EXCHRATE	NUMBER	Yes	
TOT_AGG_SQ	NUMBER	No	0
PRICECOMP_ID	CHAR	No	‘ ‘
VALUE_AMT	NUMBER	Yes	
AGG_PARM_GRP_ID	NUMBER	Yes	1

Primary Key:

Key Type	Column Name
COMPOSITE	TXN_CALC_ID
	SEQNO
	HEADER_SEQ

D.45 CI_TXN_CALC_LN_CHAR

Purpose: Used to store characteristics defined for a rate calculation line.

Total Number of Columns: 12

Constraints: SYS_C0017919

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
TXN_CALC_ID	NUMBER	No	
HEADER_SEQ	NUMBER	No	
SEQNO	NUMBER	No	
CHAR_TYPE_CD	CHAR	No	
CHAR_VAL	CHAR	No	‘ ‘
ADHOC_CHAR_VAL	VARCHAR2	No	‘ ‘
CHAR_VAL_FK1	VARCHAR2	No	‘ ‘
CHAR_VAL_FK2	VARCHAR2	No	‘ ‘
CHAR_VAL_FK3	VARCHAR2	No	‘ ‘

Column Name	Data Type	Nullable (Yes or No)	Default Value
CHAR_VAL_FK4	VARCHAR2	No	‘ ‘
CHAR_VAL_FK5	VARCHAR2	No	‘ ‘
VERSION	NUMBER	No	1

Primary Key:

Key Type	Column Name
COMPOSITE	TXN_CALC_ID
	SEQNO
	HEADER_SEQ
	CHAR_TYPE_CD

D.46 CI_TXN_SQ

Purpose: Used to store service quantity for each rate calculation line.

Total Number of Columns: 7

Constraints: None

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
TXN_CALC_ID	NUMBER	No	
SQI_CD	CHAR	No	‘ ‘
SEQ_NUM	NUMBER	No	
TOU_CD	CHAR	No	‘ ‘
UOM_CD	CHAR	No	‘ ‘
SVC_QTY	NUMBER	No	0
VERSION	NUMBER	No	1

D.47 CI_BILL_ACH

Purpose: Used to store automatic payment details of a bill.

Total Number of Columns: 9

Constraints: SYS_C0046820

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
SETTLEMENT_ID_NBR	VARCHAR2	Yes	
BILL_ID	CHAR	No	
SETTLEMENT_ACCT_ID	CHAR	No	
APAY_CRE_DT	DATE	Yes	
APAY_AMT	NUMBER	No	0
APAY_STOP_USER_ID	CHAR	No	‘ ‘
APAY_STOP_DTTM	DATE	Yes	
APAY_STOP_AMT	NUMBER	No	0
APAY_STOP_CRE_DT	DATE	Yes	

Primary Key:

Key Type	Column Name
COMPOSITE	BILL_ID
	SETTLEMENT_ACCT_ID

Indexes:

Sr. No.	Index Type	Column Name
1.	UNIQUE	BILL_ID
		SETTLEMENT_ACCT_ID

Appendix E : Existing Tables Modified in 2.4.0.1.0

This section lists the existing tables which are modified in Oracle Revenue Management and Billing Version 2.4.0.1.0. It also indicates the columns that are newly added, dropped or modified in these tables.

E.1 CI_ADJ

The following table lists the columns that are either newly added or modified in the CI_ADJ table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	SET_CONSTRUCT_ID	Newly Added	-	CHAR (14)	No	-
2.	SET_VERSION_NUM	Newly Added	-	NUMBER (5)	No	-
3.	SETTLEMENT_ACCT_ID	Newly Added	-	CHAR (10)	No	-
4.	SETTLEMENT_ID_NBR	Newly Added	-	VARCHAR2 (20)	No	-
5.	BILL_ID	Newly Added	-	CHAR (12)	No	-

E.2 CI_APAY_CLR_STG

The following table lists the columns that are either newly added or modified in the CI_APAY_CLR_STG table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	SETTLEMENT_ID_NBR	Newly Added	-	VARCHAR2 (20)	No	-
2.	SETTLEMENT_ACCT_ID	Newly Added	-	CHAR (10)	No	-

E.3 CI_BILL_CHG

The following table lists the columns that are either newly added or modified in the CI_BILL_CHG table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	AGG_PARM_GRP_ID	Newly Added	-	NUMBER (22)	No	-

E.4 CI_BSEG_EXT

The following table lists the columns that are either newly added or modified in the CI_BSEG_EXT table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	SETTLEMENT_ACCT_ID	Newly Added	-	CHAR (10)	No	-
2.	SET_CONSTRUCT_ID	Newly Added	-	CHAR (14)	No	-
3.	SET_VERSION_NUM	Newly Added	-	NUMBER (5)	No	-
4.	SETTLEMENT_ID_NBR	Newly Added	-	VARCHAR2 (20)	No	-

E.5 CI_CONSTRUCT_TEMPLATE

The following table lists the columns that are either newly added or modified in the CI_CONSTRUCT_TEMPLATE table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	SETTLEMENT_ACCT_ID	Newly Added	-	CHAR (10)	No	-

E.6 CI_DISAGG_TXN_PRITM_DETAIL

The following table lists the columns that are either newly added or modified in the CI_DISAGG_TXN_PRITM_DETAIL table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	AGG_PARM_GRP_ID	Newly Added	-	NUMBER (22)	No	-
2.	TXN_RATING_CRITERIA	Newly Added	-	CHAR (4)	No	-
3.	TXN_CALC_ID	Newly Added	-	NUMBER (22)	No	-

E.7 CI_FT

The following table lists the columns that are either newly added or modified in the CI_FT table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	FXLG_CALC_AMT	Newly Added	-	NUMBER (15)	No	-
2.	SETTLEMENT_ID_NBR	Newly Added	-	VARCHAR2 (20)	No	-

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
3.	FXLG_CALC_STATUS	Newly Added	-	CHAR (1)	Yes	If the value of the **FT_TYPE_FLAG** column is set to **AX**, **BS**, **BX**, or **PX**, then the column value is set to **I**. However, if the value of the **FT_TYPE_FLAG** column is set to **AD** or **PS**, then the column value is set to **N**.
4.	PRSN_BILL_ID	Newly Added	-	CHAR (12)	Yes	The column value is set to the value defined in the BILL_ID column of the CI_FT table.

E.8 CI_FT_GL

The following table lists the columns that are either newly added or modified in the CI_FT_GL table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	FT_GL_CATEGORY	Newly Added	-	CHAR (1)	No	-

E.9 CI_PRC_AGRD

The following table lists the columns that are either newly added or modified in the CI_PRC_AGRD table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	PER_REL_TYPE_CD	Newly Added	-	CHAR (8)	No	-
2.	TXN_RATING_CRITERIA	Newly Added	-	CHAR (4)	No	-

E.10 CI_PRC_INH_PL

The following table lists the columns that are either newly added or modified in the CI_PRC_INH_PL table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	PER_REL_TYPE_CD	Newly Added	-	CHAR (8)	No	-
2.	TXN_RATING_CRITERIA	Newly Added	-	CHAR (4)	No	-

E.11 CI_PRC_PL

The following table lists the columns that are either newly added or modified in the CI_PRC_PL table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	PER_REL_TYPE_CD	Newly Added	-	CHAR (8)	No	-

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
2.	TXN_RATING_CRITERIA	Newly Added	-	CHAR (4)	No	-

E.12 CI_PRICEASGN

The following table lists the columns that are either newly added or modified in the CI_PRICEASGN table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	TXN_RATING_CRITERIA	Newly Added	-	CHAR (4)	No	-

E.13 CI_PRICEITEM_REL

The following table lists the columns that are either newly added or modified in the CI_PRICEITEM_REL table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	WEIGHTAGE	Newly Added	-	NUMBER (36)	No	-

E.14 CI_ SUB_RULE

The following table lists the columns that are either newly added or modified in the CI_SUB_RULE table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	RHS_FLD_NAME	Newly Added	-	CHAR (30)	No	-
2.	RHS_ALG_CD	Newly Added	-	CHAR (12)	No	-

E.15 CI_ TEMPLATE_VAR

The following table lists the columns that are either newly added or modified in the CI_TEMPLATE_VAR table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	ZONE_CD	Newly Added	-	CHAR (12)	No	-

E.16 CI_TXN_DTL_PRITM

The following table lists the columns that are either newly added or modified in the CI_TXN_DTL_PRITM table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	AGG_PARM_GRP_ID	Newly Added	-	NUMBER (22)	No	-
2.	TXN_RATING_CRITERIA	Newly Added	-	CHAR (4)	No	-

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
3.	TXN_CALC_ID	Newly Added	-	NUMBER (22)	No	-

E.17 CI_TXN_DTL_PRITM_STG

The following table lists the columns that are either newly added or modified in the CI_TXN_DTL_PRITM_STG table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	AGG_PARM_GRP_ID	Newly Added	-	NUMBER (22)	No	-
2.	TXN_RATING_CRITERIA	Newly Added	-	CHAR (4)	No	-
3.	TXN_CALC_ID	Newly Added	-	NUMBER (22)	No	-

E.18 CI_TXN_DTL_PRITM_SUMMARY

The following table lists the columns that are either newly added or modified in the CI_TXN_DTL_PRITM_SUMMARY table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	AGG_PARM_GRP_ID	Newly Added	-	NUMBER (22)	No	-
2.	TXN_RATING_CRITERIA	Newly Added	-	CHAR (4)	No	-
3.	TXN_CALC_ID	Newly Added	-	NUMBER (22)	No	-

E.19 CI_ENRL_PER_ID

The following table lists the columns that are either newly added or modified in the CI_ENRL_PER_ID table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	PER_ID_NBR	Increased Column Length	VARCHAR2 (16)	VARCHAR2 (90)	No	-

E.20 CI_MEMBERSHIP

The following table lists the columns that are either newly added or modified in the CI_MEMBERSHIP table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	EXT_MEMBER_ID	Increased Column Length	VARCHAR2 (15)	VARCHAR2 (100)	No	-

E.21 CI_PER_ID

The following table lists the columns that are either newly added or modified in the CI_PER_ID table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	PER_ID_NBR	Increased Column Length	VARCHAR2 (16)	VARCHAR2 (90)	No	-

E.22 CI_ADJ_TYPE

The following table lists the columns that are either newly added or modified in the CI_ADJ_TYPE table:

Sr. No.	Column Name	Modification Type	Data Type in V2.4.0.0.0	Data Type in V2.4.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	INFLNC_BILL_BAL	Newly Added	-	CHAR (1)	Yes	The column value is set to the value defined in the PRT_DFLT_SW column of the CI_ADJ_TYPE table.

Appendix F : Algorithms and Algorithm Types Dropped in 2.4.0.1.0

This section lists the algorithms and algorithm types which are dropped in Oracle Revenue Management and Billing Version 2.4.0.1.0.

F.1 Algorithm Type

No algorithm types are dropped in Oracle Revenue Management and Billing Version 2.4.0.1.0.

F.2 Algorithm

The following table lists the algorithms which are dropped in Oracle Revenue Management and Billing Version 2.4.0.1.0:

Algorithm	Description
R-APAY-DTCAL	Autopay Date Calculation
RG-APAY-CAN	Auto Payment Upload Cancel Algorithm
RG-APAY-SUCC	Auto Payment Upload Success Algorithm

Appendix G : Parameters Added or Removed from Algorithm Types in 2.4.0.1.0

The following table lists the parameters which are added or removed from the algorithm types in Oracle Revenue Management and Billing Version 2.4.0.1.0:

Algorithm Type	Parameters (Removed from 2.4.0.1.0)	Parameters (Added in 2.4.0.1.0)
ADHV-NR		Decimal Delimiter(. ,)
APAY-CREATE		Open-Item Account Match Type Code To Be Used For Settlements
C1-BSEGINFO		Field25
		Field26
C1_RATEVALUE		Person Relationship Type Sequence Algorithm
C1_RATE_STEP		Person Relationship Type Sequence Algorithm

Appendix H : SQL Statements for 2.4.0.0.0 to 2.4.0.1.0 Data Migration

This section describes the following queries which are used for migrating data from Oracle Revenue Management and Billing Version 2.4.0.0.0 to 2.4.0.1.0:

- Post_BlueprintScript.sql
- bseg_ext_upgrade.sql
- fn_get_grp_id_from_pa.sql
- upgrade_grandfathering.sql

H.1 Post_BlueprintScript.sql

The Post_BlueprintScript.sql query does the following:

- Updates the values of the following columns in the respective table:

Table Name	Column Name	Column Value After Data Migration
CI_RULE_TYPE_FLD	IN_OUT_SW	The column value is set based on the previous value. If the previous value was **Y**, then the column value is set to **I**. Otherwise, the column value is set to **O**.
CI_FT	FXLG_CALC_STATUS	If the value of the **FT_TYPE_FLAG** column is set to **AX**, **BS**, **BX**, or **PX**, then the column value is set to **I**. However, if the value of the **FT_TYPE_FLAG** column is set to **AD** or **PS**, then the column value is set to **N**.
	PRSN_BILL_ID	The column value is set to the value defined in the BILL_ID column of the CI_FT table.
CI_ADJ_TYPE	INFLNC_BILL_BAL	The column value is set to the value defined in the PRT_DFLT_SW column of the CI_ADJ_TYPE table.
CI_BILL_ACH	BILL_ID	The column value is set to the value defined in the BILL_ID column of the CI_BILL table.
	SETTLEMENT_ACCT_ID	The column value is set to the value defined in the ACCT_ID column of the CI_BILL table.
	APAY_CRE_DT	The column value is set to the value defined in the APAY_CRE_DT column of the CI_BILL table.
	APAY_AMT	The column value is set to the value defined in the APAY_AMT column of the CI_BILL table.

Table Name	Column Name	Column Value After Data Migration
	APAY_STOP_USER_ID	The column value is set to the value defined in the APAY_STOP_USER_ID column of the CI_BILL table.
	APAY_STOP_DTTM	The column value is set to the value defined in the APAY_STOP_DTTM column of the CI_BILL table.
	APAY_STOP_AMT	The column value is set to the value defined in the APAY_STOP_AMT column of the CI_BILL table.
	APAY_STOP_CRE_DT	The column value is set to the value defined in the APAY_STOP_CRE_DT column of the CI_BILL table.

Note: A bill's automatic payment details are added in the CI_BILL_ACH table only when:

>> Automatic payment creation date of the bill (i.e. the APAY_CRE_DT column of the CI_BILL table) is not null

>> Automatic payment amount of the bill (i.e. the APAY_AMT column of the CI_BILL table) is greater than zero (0)

>> Status of the bill (i.e. the BILL_STAT_FLG column of the CI_BILL table) is set to 'C'

OR

>> Automatic payment stop creation date of the bill (i.e. the APAY_STOP_CRE_DT column of the CI_BILL table) is not null

>> Automatic payment stop amount of the bill (i.e. the APAY_STOP_AMT column of the CI_BILL table) is greater than zero (0)

>> Status of the bill (i.e. the BILL_STAT_FLG column of the CI_BILL table) is set to 'C'

H.2 bseg_ext_upgrade.sql

The bseg_ext_upgrade.sql query must be executed only when you are using the charge based billing batches. It does the following:

- If the bill segment extension record is present for a bill segment in the CI_BSEG_EXT table, then the values of the following columns are updated in the CI_BSEG_EXT table:

Table Name	Column Name	Column Value After Data Migration
CI_BSEG_EXT	USAGE_ACCT_ID	The column value is determined based on the contract ID present on the corresponding billable charge in the CI_BILL_CHG table. The column value is set to the account ID to which the contract belongs.

Table Name	Column Name	Column Value After Data Migration
	PRICEITEM_CD	The column value is set to the value defined in the PRICEITEM_CD column of the CI_BILL_CHG table.
	TOU_CD	The column value is set to the value defined in the TOU_CD column of the CI_BILL_CHG table.
	PRICE_ASGN_ID	The column value is set to the value defined in the PRICE_ASGN_ID column of the CI_BILL_CHG table.
	PRICEITEM_PARM_GRP_ID	The column value is set to the value defined in the PRICEITEM_PARM_GRP_ID column of the CI_BILL_CHG table.
	BSEG_TYPE_FLG	If a billable charge is present for a bill segment in the CI_BSEG_CALC table, the column value is set to **RGLR**. However, if a billable charge is not present for a bill segment in the CI_BSEG_CALC table, the column value is set to **POST**.

- If the bill segment extension record is not present for a bill segment in the CI_BSEG_EXT table, then the bill segment extension record is added in the CI_BSEG_EXT table. The values are added in the columns as mentioned in the above table.

H.3 fn_get_grp_id_from_pa.sql

The fn_get_grp_id_from_pa.sql query creates the FN_GET_GRP_ID_FROM_PA function which derives the product parameter group ID for a price assignment. The FN_GET_GRP_ID_FROM_PA function is called from the upgrade_grandfathering procedure. It determines the number of product parameters used to define a price assignment. If no product parameters are used to define a price assignment, the query returns 1. However, if product parameters are used to define a price assignment, the query fetches the product parameter group ID. If no group is defined for a set of product parameters, the query creates the product parameter group ID.

H.4 upgrade_grandfathering.sql

The upgrade_grandfathering.sql query creates the upgrade_grandfathering procedure which is used to update the price assignment end date in a price list. The price assignment end date in a price list is updated only when two or more price assignments are available for the same product and product parameters combination on the price list. For example,

Price List	Product	Price Assignment	PA Usage Flag	Start Date	End Date
	P1	PA1	All Customer	1-Jan-10	31-Jan-10
	P1	PA2	New Customer	1-Feb-10	28-Feb-10
PL1	P1	PA3	All Customer	1-Mar-10	-

The upgrade_grandfathering procedure identifies active price assignments available for the same product and product parameters combination on a price list and then sorts such price assignments based on the start date. In the above example, the procedure considers the first price assignment (i.e. PA1) and checks whether PA1 is applicable to all customers or only to the new customers. If the PA1 is applicable to all customers, the procedure checks whether the price assignment with subsequent start date (i.e. PA2) is applicable to all customers or only to the new customers.

If the PA2 is applicable to all customers, the procedure does not update the end date in PA1. However, if the PA2 is applicable to only new customers, the procedure checks whether the price assignment with subsequent start date (i.e. PA3) is applicable to all customers. If the PA3 is applicable to all customers, the procedure checks the start date and accordingly updates the end date in PA1. It will set the PA1's end date to PA3's start date minus one. In this case, it will change the PA1's end date from 31-Jan-10 to 28-Feb-10 (which is 1-Mar-2010 – 1 Day). Similarly, it will change the end date of all price assignments which are applicable to all customers if there is a gap between two price assignments and there exists a price assignment which is applicable only to new customers during the gap. However, the end date will not be changed in the price assignment with the latest start date irrespective of whether the end date is specified or not.

If the price assignments are applicable only to new customers (for example, PA2), the procedure will set the end date of such price assignments to NULL. This will happen only when there is a price assignment which starts on the subsequent date (i.e. Current PA's End Date + 1 Day).

