Oracle® Revenue Management and Billing

Version 2.7.0.1.0

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
- System Administrators
- 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 2.7.0.0.0 to 2.7.0.1.0	Explains how to upgrade from Oracle Revenue Management and Billing Version 2.7.0.0.0 to 2.7.0.1.0.
Section 3	Additional Tasks	Lists and describes the additional tasks that you need to perform after upgrading the application.
Appendix A	Known Issues	Lists the known issues in the current release of the Oracle Revenue Management and Billing application.
Appendix B	Third Party Software Upgrade	Provides a list of third party software that you need to upgrade before upgrading the application.
Appendix C	New Tables Added in 2.7.0.1.0	Lists and describes the tables that are newly added in the Oracle Revenue Management and Billing Version 2.7.0.1.0 database.
Appendix D	Existing Tables Modified in 2.7.0.1.0	Lists the existing tables and their columns that are modified in the Oracle Revenue Management and Billing Version 2.7.0.1.0 database.

Section No.	Section Name	Description
Appendix E	Algorithms and Algorithm Types Dropped in 2.7.0.1.0	Lists the algorithms and algorithm types which are dropped in Oracle Revenue Management and Billing Version 2.7.0.1.0.
Appendix F	Parameters Added or Removed from Algorithm Types in 2.7.0.1.0	Lists the parameters which are added or removed from the algorithm types in Oracle Revenue Management and Billing Version 2.7.0.1.0.
Appendix G	Option Types Added or Removed from Feature Configurations in 2.7.0.1.0	Lists the option types which are added or removed from the feature configurations in Oracle Revenue Management and Billing Version 2.7.0.1.0.
Appendix H	Characteristic Types Dropped in 2.7.0.1.0	Lists the characteristic types which are dropped in Oracle Revenue Management and Billing Version 2.7.0.1.0.
Appendix I	Changing the DB User Password	Explains how to change the database user password.

Related Documents

You can refer to the following documents for more information:

Document	Description
Oracle Revenue Management and Billing Version 2.7.0.1.0 Release Notes	Provides a brief description about the new features, enhancements, UI and database level changes, supported platforms, framework upgrade, supported upgrades, and technology upgrade made in this release. It also highlights the discontinued features, bug fixes, and known issues in this release.
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
15.1	20-Aug-2019	Section 2: Upgrading from ORMB Version 2.7.0.0.0 to 2.7.0.1.0	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.

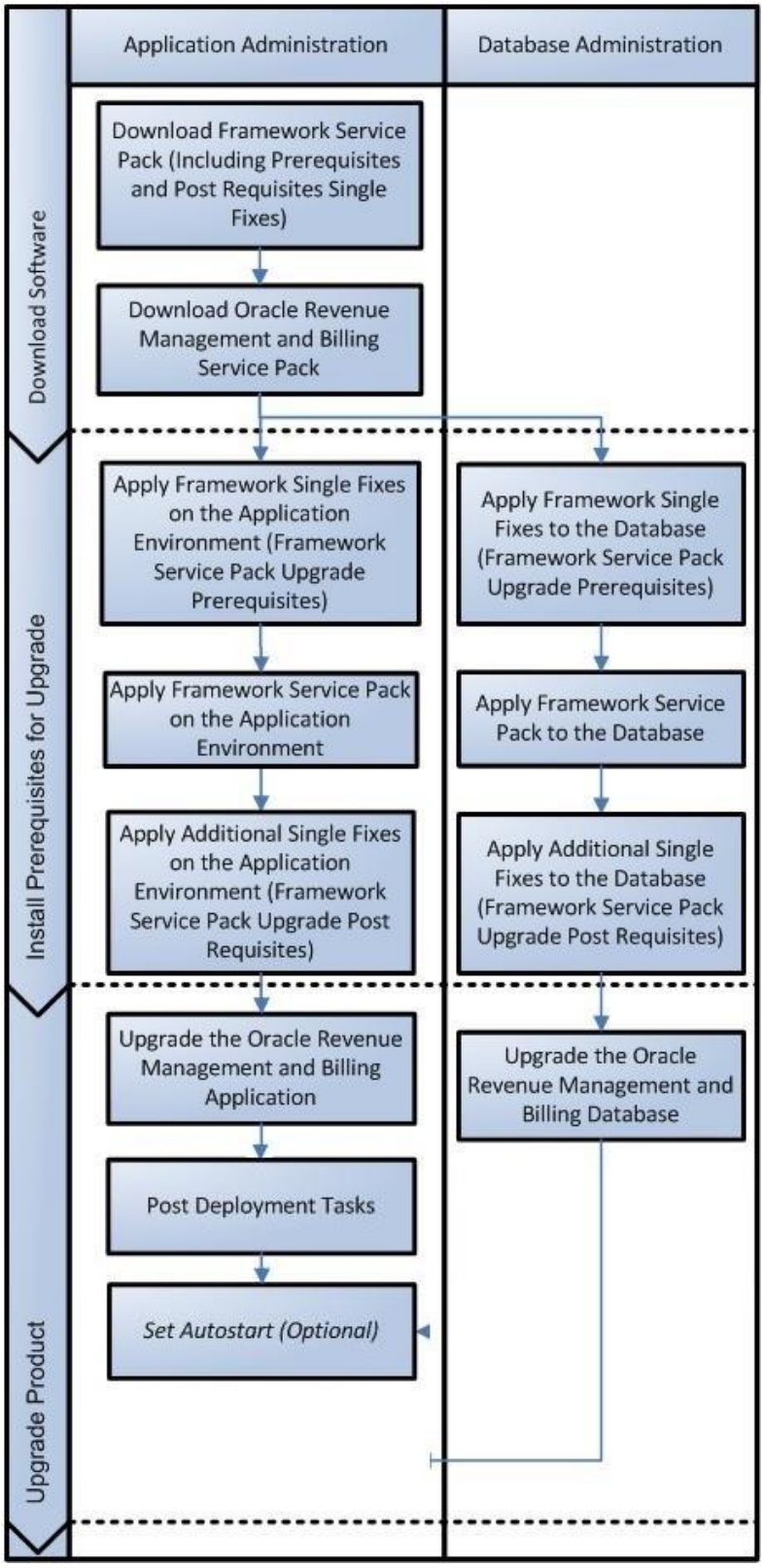

Figure 1: Upgrade Process

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 2.7.0.0.0 to 2.7.0.1.0

Note: For upgrading from any other version of Oracle Revenue Management and Billing other than 2.7.0.0.0, consult with Oracle Support, Oracle Partner, or Oracle Consulting that may be supporting your implementation and upgrade process.

2. Upgrading from ORMB Version 2.7.0.0.0 to 2.7.0.1.0

This section explains how to upgrade from Oracle Revenue Management and Billing Version 2.7.0.0.0 to 2.7.0.1.0. The high-level steps include:

1. Downloading the ORMB Packages and Patches
2. Upgrading Framework on the Database
3. Installing Framework on the Application Environment
4. Installing 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 2.7.0.1.0, 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 2.7.0.0.0 will not happen successfully.
- Transactions which are uploaded using 2.7.0.0.0 must not be in the **Initial Product Determined (INPD)** status. They can be in the **Uploaded (UPLD)**, **Invalid (INVL)**, **Error (EROR**), **Completed (COMP)**, or **Cancelled (CNCL)** status.
- Equal to (=) or tilde (~) symbol is not used in any existing price item parameter code or value. Otherwise, erroneous results might occur.

2.2 Downloading the ORMB Packages and Patches

For upgrading from Oracle Revenue Management and Billing Version 2.7.0.0.0 to 2.7.0.1.0, you must download the following packages from the Oracle Revenue Management and Billing V2.7.0.1.0 media pack which is available on Oracle Software Delivery Cloud:

- Oracle Utilities Application Framework V4.3.0.6.0 Single Fix Prerequisite Rollup for RMB V2.7.0.1.0
- Oracle Revenue Management and Billing V2.7.0.1.0 Multiplatform
- Oracle Revenue Management and Billing V2.7.0.1.0 Oracle Database

You must also download the following package from the Oracle Utilities Customer Care and Billing 2.7.0.0.0 media pack which is available on Oracle Software Delivery Cloud:

- Oracle Utilities Customer Care and Billing 2.7.0.0.0 - Oracle Utilities Application Framework (4.3.0.6.0) Installation Package

In addition, you must download the following patches from My Oracle Support:

- MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 (Patch Number: 29126674)
- UPDATE ORMB VERSION 2.7.0.1.0 ONLINE HELP (Patch Number: 29152481)

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 2.7.0.0.0 to 2.7.0.1.0, you need to install the following on the database:

1. Oracle Utilities Application Framework (OUAF) Version 4.3.0.6.0
2. Rollup Pack for Oracle Utilities Application Framework (OUAF) Version 4.3.0.6.0

To install the framework and its service packs on the database, you must have ability to connect to the database.

2.3.1 Installing OUAF Version 4.3.0.6.0

You can install Oracle Utilities Application Framework (OUAF) Version 4.3.0.6.0 either using the Interactive or Command Line mode of the OraDBI (Java) utility.

To install Oracle Utilities Application Framework (OUAF) Version 4.3.0.6.0 using the Interactive mode of the utility:

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 Oracle Revenue Management and Billing V2.7.0.1.0 Oracle Database package 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 Oracle Revenue Management and Billing V2.7.0.1.0 Oracle Database package using the following command:

   AIX, Linux:

   ```
   unzip <filename>.zip –d <PATH>/<DESTINATION_FOLDER_1>
   ```

   Windows:

   ```
   unzip <filename>.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:

   - FW
   - RMB

6. Set the JAVA_HOME environment variable using the following command:

   AIX, Linux:

   ```
   export JAVA_HOME=<JAVA_HOME_PATH>
   ```

   Windows:

   ```
   SET JAVA_HOME=<JAVA_HOME_PATH>
   ```

Note: The <JAVA_HOME_PATH> is the location where Java Development Kit Version 8.0 is installed.

7. Set the JAR_PATH environment variable using the following command:

   AIX, Linux:

   ```
   export JAR_PATH=<DESTINATION_FOLDER_1>/FW/FW43060/jarfiles
   ```

Note:

The above command is applicable only for AIX and Linux platforms.

The <DESTINATION_FOLDER_1> folder is the location where you have extracted the contents of the Oracle Revenue Management and Billing V2.7.0.1.0 Oracle Database package.

8. Set the CLASS_PATH environment variable using the following command:

   AIX, Linux:

   ```
   export CLASS_PATH=${JAR_PATH}/commons-cli-1.3.1.jar:${JAR_PATH}/commons-codec-1.9.jar:${JAR_PATH}/commons-collections-3.2.2.jar:${JAR_PATH}/log4j-api-2.11.0.jar:${JAR_PATH}/log4j-core-2.11.0.jar:${JAR_PATH}/ojdbc8-12.2.0.1.jar:${JAR_PATH}/oradbi.jar:${JAR_PATH}/spl-shared-4.3.0.6.0.jar
   ```

   Windows:

   ```
   SET CLASS_PATH=<DESTINATION_FOLDER_1>\FW\FW43060\jarfiles\*
   ```

9. Change to the Install-Upgrade directory using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_1>/FW/FW43060/Install-Upgrade
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_1>\FW\FW43060\Install-Upgrade
   ```

10. Execute the OraDBI (Java) utility using the following command:

    AIX, Linux:

    ```
    ${JAVA_HOME}/bin/java -Xmx1500M -cp ${CLASS_PATH} com.oracle.ouaf.oem.install.OraDBI
    ```

    Windows:

    ```
    <Java_Home>\bin\java -Xmx1500M -cp <DESTINATION_FOLDER_1>\FW\FW43060\jarfiles\* com.oracle.ouaf.oem.install.OraDBI
    ```

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

Parameter	Value
Enter the database server hostname	<DB_SERVER>
Enter the database port number(e.g. 1521)	<DB_PORT>
Enter the database name/SID	<DB_NAME>
Enter your database username	<DB_USER> Example: CISADM
Enter your password for username <DB_USER>	<DB_USER_PASSWORD>
Enter the Oracle user with read-write privileges to Database Schema(e.g. CISUSER)	<DB_USER> Example: CISUSER
Enter the Oracle user with read-only privileges to Database Schema(e.g. CISREAD)	<DB_USER> Example: CISREAD
Enter the database role with read-write privileges to Database Schema(e.g. CIS_USER)	<DB_USER_ROLE> Example: CIS_USER

Parameter	Value
Enter the database role with read-only privileges to Database Schema(e.g. CIS_READ)	<DB_USER_ROLE> Example: CIS_READ
Enter the name of the target Schema where you want to install or upgrade	<Schema_Name>

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

    ```
    Ready to upgrade the target database from V4.3.0.4.0 to V4.3.0.6.0, do you want to continue (Y/N)?
    ```

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

To install Oracle Utilities Application Framework (OUAF) Version 4.3.0.6.0 using the Command Line mode of the utility:

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 Oracle Revenue Management and Billing V2.7.0.1.0 Oracle Database package 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 Oracle Revenue Management and Billing V2.7.0.1.0 Oracle Database package using the following command:

   AIX, Linux:

   ```
   unzip <filename>.zip –d <PATH>/<DESTINATION_FOLDER_1>
   ```

   Windows:

   ```
   unzip <filename>.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:

   - FW
   - RMB

6. Set the JAVA_HOME environment variable using the following command:

   AIX, Linux:

   ```
   export JAVA_HOME=<JAVA_HOME_PATH>
   ```

   Windows:

   ```
   SET JAVA_HOME=<JAVA_HOME_PATH>
   ```

Note: The <JAVA_HOME_PATH> is the location where Java Development Kit Version 8.0 is installed.

7. Set the JAR_PATH environment variable using the following command:

   AIX, Linux:

   ```
   export JAR_PATH=<DESTINATION_FOLDER_1>/FW/FW43060/jarfiles
   ```

Note:

The above command is applicable only for AIX and Linux platforms.

The <DESTINATION_FOLDER_1> folder is the location where you have extracted the contents of the Oracle Revenue Management and Billing V2.7.0.1.0 Oracle Database package.

8. Set the CLASS_PATH environment variable using the following command:

   AIX, Linux:

   ```
   export CLASS_PATH=${JAR_PATH}/commons-cli-
   1.3.1.jar:${JAR_PATH}/commons-codec-1.9.jar:${JAR_PATH}/commons-
   collections-3.2.2.jar:${JAR_PATH}/log4j-api-
   2.11.0.jar:${JAR_PATH}/log4j-core-2.11.0.jar:${JAR_PATH}/ojdbc8-
   12.2.0.1.jar:${JAR_PATH}/oradbi.jar:${JAR_PATH}/spl-shared-
   4.3.0.6.0.jar
   ```

   Windows:

   ```
   SET CLASS_PATH=<DESTINATION_FOLDER_1>\FW\FW43060\jarfiles\*
   ```

9. Create the detail.txt file with the following details:

   ```
   -d jdbc:oracle:thin:@<Database-host>:<port>/<DB-SID>,<schema-
   user>,<schema-password>,<read-write-user>,<read-user>,<read-
   write-role>,<read-role>,<schema-user> -l 1,2 -j  <JAVA_HOME> -q
   true
   ```


10. Change to the `Install-Upgrade` directory using the following command:

    AIX, Linux:

    ```
    cd <DESTINATION_FOLDER_1>/FW/FW43060/Install-Upgrade
    ```

    Windows:

    ```
    cd <DESTINATION_FOLDER_1>\FW\FW43060\Install-Upgrade
    ```

11. Execute the `OraDBI` (Java) utility using the following command:

    AIX, Linux:

    ```
    ${JAVA_HOME}/bin/java -Xmx1500M -cp ${CLASS_PATH}
    com.oracle.ouaf.oem.install.OraDBI -f detail.txt
    ```

    Windows:

    ```
    <Java_Home>\bin\java -Xmx1500M -cp
    <DESTINATION_FOLDER_1>\FW\FW43060\jarfiles\*
    com.oracle.ouaf.oem.install.OraDBI -f detail.txt
    ```

    A message appears indicating that the process is completed successfully.

2.3.2 Installing Rollup Pack for OUAF Version 4.3.0.6.0

You can install the rollup pack for Oracle Utilities Application Framework Version 4.3.0.6.0 from a Windows machine or UNIX Standalone server. To install the rollup pack for Oracle Utilities Application Framework (OUAF) Version 4.3.0.6.0 on the database:

1. Login to the database server using the administrator's credentials.
2. Copy the Oracle Utilities Application Framework V4.3.0.6.0 Single Fix Prerequisite Rollup for RMB V2.7.0.1.0 package 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.

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

    AIX, Linux:

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

    Windows:

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

4. Unzip the Oracle Utilities Application Framework V4.3.0.6.0 Single Fix Prerequisite Rollup for RMB V2.7.0.1.0 package using the following command:

   AIX, Linux:

   ```
   unzip <filename>.zip –d <PATH>/<DESTINATION_FOLDER_2>
   ```

   Windows:

   ```
   unzip <filename>.zip –d <PATH>\<DESTINATION_FOLDER_2>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_2>` folder. The contents include the `ORMB-V27010-FW-PREREQ-MultiPlatform.jar` file.

5. Change to the `<DESTINATION_FOLDER_2>` folder using the following command:

   AIX, Linux:

   ```
   cd <PATH>/<DESTINATION_FOLDER_2>
   ```

   Windows:

   ```
   cd <PATH>\<DESTINATION_FOLDER_2>
   ```

6. Decompress the JAR file using the following command:

   ```
   jar -xvf ORMB-V27010-FW-PREREQ-MultiPlatform.jar
   ```

   A sub-directory named `FW-V4.3.0.6.0-Rollup` is extracted. It contains the following two sub-folders:

   - Application
   - Database

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

   AIX, Linux:

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

   Windows:

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

8. Create a directory named `dbpatch_tools` using the following command:

   ```
   mkdir dbpatch_tools
   ```

9. Copy the `db_patch_standalone.jar` file to the `dbpatch_tools` folder.
10. Change to the `dbpatch_tools` folder using the following command:

    AIX, Linux:

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

    Windows:

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


11. Decompress the JAR file using the following command:

    ```
    jar -xvf db_patch_standalone.jar
    ```

    The contents are extracted in the `dbpatch_tools` folder. The contents include the following three sub-folders:

    - bin
    - config
    - lib

12. Set the `TOOLSBIN` environment variable using the following command:

    AIX, Linux:

    ```
    export TOOLSBIN=/TEMPDIR/dbpatch_tools/bin
    ```

    Windows:

    ```
    SET TOOLSBIN=TEMPDIR\dbpatch_tools\bin
    ```

13. Change to the `Database` directory using the following command:

    AIX, Linux:

    ```
    cd <DESTINATION_FOLDER_2>/FW-V4.3.0.6.0-Rollup/Database
    ```

    Windows:

    ```
    cd <DESTINATION_FOLDER_2>\FW-V4.3.0.6.0-Rollup\Database
    ```

Note: The `<DESTINATION_FOLDER_2>` folder is the location where you have extracted the contents of the `ORMB-V27010-FW-PREREQ-MultiPlatform.jar` file.

14. Execute the `ouafDatabasePatch` utility using the following command:

    AIX, Linux:

    ```
    ouafDatabasePatch.sh
    ```

    Windows:

    ```
    ouafDatabasePatch.cmd
    ```

    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 Connection String	`<DB_Server:DBPORT:ORACLE_SID>`

Note: If you have changed the database user password, you will not be able to install the rollup pack for Oracle Utilities Application Framework Version 4.3.0.6.0. You will have to first change the database user password. For more information on how to change the database user password, refer to Appendix I: Changing the DB User Password.

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

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

16. Type **Y** and then press **Enter**. A message appears indicating that the patches are applied successfully.

2.4 Installing Framework on the Application Environment

Once you install the framework and its rollup pack on the database, you need to install the following on the application environment:

1. Oracle Utilities Application Framework (OUAF) Version 4.3.0.6.0
2. Rollup Pack for Oracle Utilities Application Framework (OUAF) Version 4.3.0.6.0

You must not perform these steps on the existing environments. Instead, you must create new development and production/UAT environments on the application server and then perform the steps listed in this section.

2.4.1 Installing OUAF Version 4.3.0.6.0

To install Oracle Utilities Application Framework (OUAF) Version 4.3.0.6.0 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 Oracle Utilities Customer Care and Billing 2.7.0.0.0 - Oracle Utilities Application Framework (4.3.0.6.0) Installation package 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 Oracle Utilities Customer Care and Billing 2.7.0.0.0 - Oracle Utilities Application Framework (4.3.0.6.0) Installation package using the following command:

   AIX, Linux:

   ```
   unzip <filename>.zip –d <PATH>/<DESTINATION_FOLDER_1>
   ```

   Windows:

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

   The contents of the zip file are extracted in the <DESTINATION_FOLDER_1> folder. The contents include FW-V4.3.0.6.0-MultiPlatform.jar file.

6. Decompress the FW-V4.3.0.6.0-MultiPlatform.jar file using the following command:

   ```
   jar -xvf FW-V4.3.0.6.0-MultiPlatform.jar
   ```

   The contents of the JAR file include a folder named FW.V4.3.0.6.0.

7. Install and configure the required third-party software for the application server.

Note: You must install the prerequisite third party software depending on the platform on which you want to install Oracle Utilities Application Framework. For more details, refer to the **Installing Application Server Prerequisite Software** section in the *Oracle Revenue Management and Billing Installation Guide*.

8. Set the Java Home path using the following command:

   ```
   export PATH=/<Java_Home>/bin:$PATH
   ```

Note:

The <Java_Home> is the location where you have installed Java 1.8.

The above command is applicable only for AIX and Linux platforms.

9. Change to the FW.V4.3.0.6.0 folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_1>/FW.V4.3.0.6.0
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_1>\FW.V4.3.0.6.0
   ```

Note: The <DESTINATION_FOLDER_1> folder is the location where you have extracted the contents of the FW-V4.3.0.6.0-MultiPlatform.jar file.

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

    AIX, Linux:

    ```
    ksh ./install.sh
    ```

    Windows:

    ```
    install.cmd
    ```

    The following message appears in the command line:

    ```
    Enter Oracle Client Home Directory (<Enter> quit):
    ```

11. Type <ORACLE_CLIENT_HOME>, and then press **Enter**. The following environment installation menus appear in the command line:
    - 1. Environment ID, Roles, Third Party Software Configuration
    - 2. Keystore Options
    - 50. Environment Installation Options

Note:

The `<ORACLE_CLIENT_HOME>` is the location where Oracle Database Client is installed. This is required to execute the Perl installation utilities.

If the `ORACLE_CLIENT_HOME` environment variable is set, the installation utility will not request you to provide this information.

12. Type **1** to define values for the third party software configuration, and then press **Enter**. The utility prompts you to enter values for a list of menu options.
13. Specify the required value for menu options, and then press **Enter**.

Note: For more details about these menu options, refer to the **Environment ID, Roles, Third Party Software Configuration** section in *Oracle Revenue Management and Billing Installation Guide*.

14. Type **2** to define values for the keystore options, and then press **Enter**. The utility prompts you to enter values for a list of menu options.
15. Specify the required value for menu options, and then press **Enter**.

Note: For more details about these menu options, refer to the **Keystore Options** section in *Oracle Revenue Management and Billing Installation Guide*.

16. Type **50** to define values for the environment installation options, and then press **Enter**. The utility prompts you to enter values for a list of menu options.
17. Specify the required value for menu options, and then press **Enter**. The specified values are stored in the `$SPLEBASE/etc/ENVIRON.INI` file.

Note:
`$SPLEBASE` or `%SPLEBASE%` is the path where the application environment is installed. Before you specify the environment installation options, ensure that you have created an output directory named Log File Mount Point. If this output directory does not exist, the installation will not be successfully executed.

For more details about these menu options, refer to the **Environment Installation Options** section in *Oracle Revenue Management and Billing Installation Guide*.

18. Type **P** to proceed with the installation. The following environment configuration menus appear in the command line:
    - 1. Environment Description
    - 2. Business Application Server Configuration
    - 3. Web Application Server Configuration
    - 4. Database Configuration
    - 5. General Configuration Options
    - 6. OUAF TrustStore Options
19. Type **1,** and then press **Enter**. The utility prompts you to enter the environment description.
20. Specify the environment description, and then press **Enter**.

Note: For more details, refer to the **Environment Description** section in *Oracle Revenue Management and Billing Installation Guide*.

21. Type **2** to define values for the business application server configuration, and then press **Enter**. The utility prompts you to enter values for a list of menu options.
22. Specify the required value for menu options, and then press **Enter**.

Note: For more details, refer to the **Business Application Server Configuration** section in *Oracle Revenue Management and Billing Installation Guide*.

23. Type **3** to define values for the web application server configuration, and then press **Enter**. The utility prompts you to enter values for a list of menu options.
24. Specify the required value for menu options, and then press **Enter**.

Note: For more details, refer to the **Web Application Server Configuration** section in *Oracle Revenue Management and Billing Installation Guide*.

25. Type **4** to define values for the database configuration, and then press **Enter**. The utility prompts you to enter values for a list of menu options.
26. Specify the required value for menu options, and then press **Enter**.

Note: For more details about these menu options, refer to the **Database Configuration** section in *Oracle Revenue Management and Billing Installation Guide*.

27. Type **5** to define values for the general configuration options, and then press **Enter**. The utility prompts you to enter values for a list of menu options.
28. Specify the required value for menu options, and then press **Enter**.

Note: For more details about these menu options, refer to the **General Configuration Options** section in *Oracle Revenue Management and Billing Installation Guide*.

29. Type **6** to define values for the OUAF TrustStore Options, and then press **Enter**. The utility prompts you to enter values for a list of menu options.
30. Specify the required value for menu options, and then press **Enter**.

Note: For more details about these menu options, refer to the **OUAF TrustStore Options** section in *Oracle Revenue Management and Billing Installation Guide*.

31. Type **P** to proceed with the installation. The Oracle Utilities Application Framework Version 4.3.0.6.0 is installed on the application server.

Note:

The utility contains default values for some of the menu options. If required, you can change their values. While executing the `install` utility, you must set the value for all menu options. Otherwise, the installation process will not be completed successfully.

The values that you specify for the menu options are stored in the `$SPLEBASE/etc/ENVIRON.INI` file.

Once the installation process is completed, the following utilities are automatically executed in the specified order:

1. `initialSetup` - The `initialSetup` utility updates the configuration files including the WAR files on the system. On the UNIX machine, this utility is available in the `$SPLEBASE/bin` directory. And, on the Windows machine, this utility is available in the `%SPLEBASE%\bin` directory.

2. `splenviron` – The `splenviron` utility sets the environment variables using the `ENVIRON.INI` file. On the UNIX machine, this utility is available in the `$SPLEBASE/bin` directory. And, on the Windows machine, this utility is available in the `%SPLEBASE%\bin` directory. The following are some of the key environment variables that are set using the `splenviron` utility:

   - → $PATH
   - → $SPLEBASE (%SPLEBASE%) – Indicates the <SPLDIR>/<SPLENVIRON> directory
   - → $SPLOUTPUT (%SPLOUTPUT%) - Indicates the <SPLDIROUT>/<SPLENVIRON> directory
   - → $SPLENVIRON (%SPLENVIRON%) – Indicates the environment name

For future operations or any post installation steps, you need to first execute the following command to connect your session to the new environment:

AIX, Linux:

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

Windows:

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

You need to execute this script each time you want to be connected to the specific environment before performing manual operations such as shutdown, startup or performing an additional application product installation.

When you have finished the install process, your current online session will be connected to the new environment.

2.4.2 Installing Rollup Pack for OUAF Version 4.3.0.6.0

To install the rollup pack for Oracle Utilities Application Framework Version 4.3.0.6.0 on the application environment:

1. Copy the Oracle Utilities Application Framework V4.3.0.6.0 Single Fix Prerequisite Rollup for RMB V2.7.0.1.0 package 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 Oracle Utilities Application Framework V4.3.0.6.0 Single Fix Prerequisite Rollup for RMB V2.7.0.1.0 package using the following command:

   AIX, Linux:

   ```
   unzip <filename>.zip –d <PATH>/<DESTINATION_FOLDER_2>
   ```

   Windows:

   ```
   unzip <filename>.zip –d <PATH>\<DESTINATION_FOLDER_2>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_2>` folder. The contents include the `ORMB-V27010-FW-PREREQ-MultiPlatform.jar` file.

4. Decompress the JAR file using the following command:

   ```
   jar -xvf ORMB-V27010-FW-PREREQ-MultiPlatform.jar
   ```

   A sub-directory named `FW-V4.3.0.6.0-Rollup` is extracted. It contains the following two sub-folders:

   - Application
   - Database

5. Initialize the application environment where you want to install the rollup pack using the following command:

   AIX, Linux:

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

   Windows:

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

6. Change to the `Application` directory using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_2>/FW-V4.3.0.6.0-Rollup/Application
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_2>\FW-V4.3.0.6.0-Rollup\Application
   ```

Note: The `<DESTINATION_FOLDER_2>` folder is the location where you have extracted the contents of the `ORMB-V27010-FW-PREREQ-MultiPlatform.jar` file.

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

   AIX, Linux:

   ```
   chmod a+x installSFgroup.sh
   chmod a+x FW*/*.sh
   ./installSFgroup.sh
   ```

   Windows:

   ```
   installSFgroup.cmd
   ```

   The following message appears in the command line:

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

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

2.5 Installing the ORMB Application

This section explains how to install the application. You need to install the following on the application environment:

1. Oracle Revenue Management and Billing (ORMB) Version 2.7.0.1.0

Note: If you have updated the template files in the `$SPLEBASE/etc` folder, you must also take a backup of these files. Once the application is installed on the new application environment, you need to copy the latest template files in the `$SPLEBASE/etc` folder.

2.5.1 Installing ORMB Version 2.7.0.1.0

To install Oracle Revenue Management and Billing (ORMB) Version 2.7.0.1.0 on the application environment:

1. Login to the application server using the administrator's credentials.
2. Copy the Oracle Revenue Management and Billing V2.7.0.1.0 Multiplatform package 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.

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

   AIX, Linux:

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

   Windows:

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

4. Unzip the Oracle Revenue Management and Billing V2.7.0.1.0 Multiplatform package using the following command:

   AIX, Linux:

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

   Windows:

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

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_3>` folder. The contents include `ORMB.V2.7.0.1.0` folder.

5. 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%
   ```

6. Stop the managed server where the application is hosted using the WebLogic Console.

7. Change to the `ORMB.V2.7.0.1.0` folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_3>/ORMB.V2.7.0.1.0
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_3>\ORMB.V2.7.0.1.0
   ```

8. 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:
   ```

9. Type **Y** and then press **Enter**. A message appears informing you to type P if you want to proceed with the installation.
10. Type **P**, and then press **Enter**.

Note:

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 Post Installation Tasks

Once you install Oracle Revenue Management and Billing (ORMB) Version 2.7.0.1.0, you need to apply the following patches on the application environment:

- MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 (Patch Number: 29126674)
- UPDATE ORMB VERSION 2.7.0.1.0 ONLINE HELP (Patch Number: 29152481)

2.5.2.1 Applying the 29126674 Patch

Once you install ORMB, you need to apply the MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 patch (Patch Number: 29126674). To apply the MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 patch:

1. Copy the MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 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 MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 patch using the following command:

   AIX, Linux:

   ```
   unzip <filename>.zip –d <PATH>/<DESTINATION_FOLDER_4>
   ```

   Windows:

   ```
   unzip <filename>.zip –d <PATH>\<DESTINATION_FOLDER_4>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_4>` folder. The contents include three files - `README.txt`, `MultiPlatform.zip`, and `Bug_29126674_Product_Fix_Design.pdf`.

4. Unzip the `MultiPlatform` file using the following command:

   AIX, Linux:

   ```
   unzip <DESTINATION_FOLDER_4>/MultiPlatform.zip –d
   <PATH>/<DESTINATION_FOLDER_5>
   ```

   Windows:

   ```
   unzip <DESTINATION_FOLDER_4>\MultiPlatform.zip –d
   <PATH>\<DESTINATION_FOLDER_5>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_5>` folder. The contents include the `V2.7.0.1.0-29126674_MultiPlatform` folder.

5. Change to the V2.7.0.1.0-29126674_MultiPlatform folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_5>/V2.7.0.1.0-29126674_MultiPlatform
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_5>\V2.7.0.1.0-29126674_MultiPlatform
   ```

Note: The <DESTINATION_FOLDER_5> folder is the location where you have extracted the contents of the MultiPlatform.zip file.

   The contents include a file named CCB.V2.7.0.1.0-29126674.jar and a folder named database.

6. Decompress the CCB.V2.7.0.1.0-29126674.jar file using the following command:

   ```
   jar -xvf CCB.V2.7.0.1.0-29126674.jar
   ```

   The contents include two folders - META-INF and CCB.V2.7.0.1.0-29126674.

7. Initialize the application environment (on which you want to install the patch) using the following command:

   AIX, Linux:

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

   Windows:

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

8. Change to the CCB.V2.7.0.1.0-29126674 folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_5>/V2.7.0.1.0-
   29126674_MultiPlatform/CCB.V2.7.0.1.0-29126674
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_5>\V2.7.0.1.0-
   29126674_MultiPlatform\CCB.V2.7.0.1.0-29126674
   ```

Note: The V2.7.0.1.0-29126674_MultiPlatform folder is the location where you have extracted the contents of the CCB.V2.7.0.1.0-29126674.jar file.

9. Install the patch using the following command:

   AIX, Linux:

   ```
   ./installSF.sh
   ```

   Windows:

   ```
   installSF.cmd
   ```


2.5.2.2 Applying the 29152481 Patch

Once you apply the MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 patch, you need to apply the UPDATE ORMB VERSION 2.7.0.1.0 ONLINE HELP patch (Patch Number: 29152481). To apply the UPDATE ORMB VERSION 2.7.0.1.0 ONLINE HELP patch:

1. Copy the UPDATE ORMB VERSION 2.7.0.1.0 ONLINE HELP 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 UPDATE ORMB VERSION 2.7.0.1.0 ONLINE HELP patch using the following command:

   AIX, Linux:

   ```
   unzip <filename>.zip –d <PATH>/<DESTINATION_FOLDER_6>
   ```

   Windows:

   ```
   unzip <filename>.zip –d <PATH>\<DESTINATION_FOLDER_6>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_6>` folder. The contents include three files - `README.txt`, `MultiPlatform.zip`, and `Bug_29152481_Product_Fix_Design.pdf`.

4. Unzip the `MultiPlatform` file using the following command:

   AIX, Linux:

   ```
   unzip <DESTINATION_FOLDER_6>/MultiPlatform.zip –d
   <PATH>/<DESTINATION_FOLDER_7>
   ```

   Windows:

   ```
   unzip <DESTINATION_FOLDER_6>\MultiPlatform.zip –d
   <PATH>\<DESTINATION_FOLDER_7>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_7>` folder. The contents include the `V2.7.0.1.0-29152481_MultiPlatform` folder.

5. Change to the V2.7.0.1.0-29152481_MultiPlatform folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_7>/V2.7.0.1.0-29152481_MultiPlatform
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_7>\V2.7.0.1.0-29152481_MultiPlatform
   ```

Note: The <DESTINATION_FOLDER_7> folder is the location where you have extracted the contents of the MultiPlatform.zip file.

   The contents include a file named CCB.V2.7.0.1.0-29152481.jar.

6. Decompress the CCB.V2.7.0.1.0-29152481.jar file using the following command:

   ```
   jar -xvf CCB.V2.7.0.1.0-29152481.jar
   ```

   The contents include two folders - META-INF and CCB.V2.7.0.1.0-29152481.

7. Initialize the application environment (on which you want to install the patch) using the following command:

   AIX, Linux:

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

   Windows:

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

8. Change to the CCB.V2.7.0.1.0-29152481 folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_7>/V2.7.0.1.0-
   29152481_MultiPlatform/CCB.V2.7.0.1.0-29152481
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_7>\V2.7.0.1.0-
   29152481_MultiPlatform\CCB.V2.7.0.1.0-29152481
   ```

Note: The V2.7.0.1.0-29152481_MultiPlatform folder is the location where you have extracted the contents of the CCB.V2.7.0.1.0-29152481.jar file.

9. Install the patch using the following command:

   AIX, Linux:

   ```
   ./installSF.sh
   ```

   Windows:

   ```
   installSF.cmd
   ```

10. Start the managed server using the WebLogic Console.

2.5.3 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	https://<hostname>:<WebLogic_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 2.7.0.0.0 to 2.7.0.1.0, you need to install the following on the database:

1. Oracle Revenue Management and Billing (ORMB) Version 2.7.0.1.0
2. MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 (Patch Number: 29126674)

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.

Pre-requisites:

Before installing Oracle Revenue Management and Billing Version 2.7.0.1.0 on the database, you need to set the MAX_STRING_SIZE parameter to EXTENDED. If you have a non-container database, you need to perform the following steps to set the MAX_STRING_SIZE parameter to EXTENDED:

1. Set the ORACLE_HOME and ORACLE_SID environment variables.

Note: You need to connect as system administrator while executing the below steps.

2. Shutdown the target database using the following command:

   ```
   shutdown immediate
   ```

3. Start the database in the Upgrade mode using the following command:

   ```
   startup upgrade
   ```

4. Set the MAX_STRING_SIZE parameter to EXTENDED using the following command:

   ```
   alter system set max_string_size=extended scope=both;
   ```

5. Execute the `utl32k.sql file using the` following command:

   ```
   @?/rdbms/admin/utl32k.sql;
   ```

6. Restart the database in the Normal mode using the following commands:

   ```
   shutdown immediate
   startup
   ```

However, if you have a container database, you need to perform the following steps to set the MAX_STRING_SIZE parameter to EXTENDED:

1. Set the ORACLE_HOME and ORACLE_SID environment variables.

Note: You need to connect as system administrator while executing the below steps.

2. Set the MAX_STRING_SIZE parameter to EXTENDED using the following command:

```
alter system set max_string_size=extended scope=spfile;
```

3. Start all pluggable databases in the Upgrade mode using the following command:

```
shutdown immediate
startup upgrade
alter pluggable database all open upgrade;
exit
```

4. Create the `utl32k_cdb_pdbs_output` folder to store the log files using the following command:

```
mkdir /scratch/mydir/utl32k_cdb_pdbs_output
```

5. Execute the `utl32k.sql` from the `catcon.pl` file for all pluggable databases using the following command:

```
cd $ORACLE_HOME/rdbms/admin
$ORACLE_HOME/perl/bin/perl $ORACLE_HOME/rdbms/admin/catcon.pl -u
SYS -d $ORACLE_HOME/rdbms/admin -l
'/scratch/mydir/utl32k_cdb_pdbs_output' -b
utl32k_cdb_pdbs_output utl32k.sql
```

6. Restart the database in the Normal mode using the following commands:

```
shutdown immediate
startup
alter pluggable database all open read write;
```

2.6.1 Installing ORMB Version 2.7.0.1.0

You can install Oracle Revenue Management and Billing (ORMB) Version 2.7.0.1.0 either using the Interactive or Command Line mode of the OraDBI (Java) utility. To install Oracle Revenue Management and Billing (ORMB) Version 2.7.0.1.0 using the Interactive mode of the utility:

1. Set the `JAVA_HOME` environment variable using the following command:

   AIX, Linux:

   ```
   export JAVA_HOME=<JAVA_HOME_PATH>
   ```

   Windows:

   ```
   SET JAVA_HOME=<JAVA_HOME_PATH>
   ```

Note: The `<JAVA_HOME_PATH>` is the location where Java Development Kit Version 8.0 is installed.

2. Set the JAR_PATH environment variable using the following command:

   AIX, Linux:

   ```
   export JAR_PATH=<DESTINATION_FOLDER_1>/RMB/jarfiles
   ```

Note:

The above command is applicable only for AIX and Linux platforms.

The <DESTINATION_FOLDER_1> folder is the location where you have extracted the contents of the Oracle Revenue Management and Billing V2.7.0.1.0 Oracle Database package.

3. Set the CLASS_PATH environment variable using the following command:

   AIX, Linux:

   ```
   export CLASS_PATH=${JAR_PATH}/commons-cli-
   1.3.1.jar:${JAR_PATH}/commons-codec-1.9.jar:${JAR_PATH}/commons-
   collections-3.2.2.jar:${JAR_PATH}/log4j-api-
   2.11.0.jar:${JAR_PATH}/log4j-core-2.11.0.jar:${JAR_PATH}/ojdbc8-
   12.2.0.1.jar:${JAR_PATH}/oradbi.jar:${JAR_PATH}/spl-shared-
   4.3.0.6.0.jar
   ```

   Windows:

   ```
   SET CLASS_PATH=<DESTINATION_FOLDER_1>\RMB\jarfiles\*
   ```

4. Change to the Install-Upgrade directory using the following command:

   AIX, Linux:

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

   Windows:

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

5. Execute the OraDBI (Java) utility using the following command:

   AIX, Linux:

   ```
   ${JAVA_HOME}/bin/java -Xmx1500M -cp ${CLASS_PATH}
   com.oracle.ouaf.oem.install.OraDBI
   ```

   Windows:

   ```
   <Java_Home>\bin\java -Xmx1500M –cp
   <DESTINATION_FOLDER_1>\RMB\jarfiles\*
   com.oracle.ouaf.oem.install.OraDBI
   ```

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

Parameter	Value
Enter the database server hostname	<DB_SERVER>
Enter the database port number(e.g. 1521)	<DB_PORT>
Enter the database name/SID	<DB_NAME>
Enter your database username	<DB_USER> Example: CISADM

Parameter	Value
Enter your password for username <DB_USER>	<DB_USER_PASSWORD>
Enter the Oracle user with read-write privileges to Database Schema(e.g. CISUSER)	<DB_USER> Example: CISUSER
Enter the Oracle user with read-only privileges to Database Schema(e.g. CISREAD)	<DB_USER> Example: CISREAD
Enter the database role with read-write privileges to Database Schema(e.g. CIS_USER)	<DB_USER_ROLE> Example: CIS_USER
Enter the database role with read-only privileges to Database Schema(e.g. CIS_READ)	<DB_USER_ROLE> Example: CIS_READ
Enter the name of the target Schema where you want to install or upgrade	<Schema_Name>

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

   ```
   Ready to upgrade the target database from V2.7.0.0.0 to
   V2.7.0.1.0, do you want to continue (Y/N)?
   ```

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

To install Oracle Revenue Management and Billing (ORMB) Version 2.7.0.1.0 using the Command Line mode of the utility:

1. Set the JAVA_HOME environment variable using the following command:

   AIX, Linux:

   ```
   export JAVA_HOME=<JAVA_HOME_PATH>
   ```

   Windows:

   ```
   SET JAVA_HOME=<JAVA_HOME_PATH>
   ```

Note: The <JAVA_HOME_PATH> is the location where Java Development Kit Version 8.0 is installed.

2. Set the JAR_PATH environment variable using the following command:

   AIX, Linux:

   ```
   export JAR_PATH=<DESTINATION_FOLDER_1>/RMB/jarfiles
   ```

Note:

The above command is applicable only for AIX and Linux platforms.

The <DESTINATION_FOLDER_1> folder is the location where you have extracted the contents of the Oracle Revenue Management and Billing V2.7.0.1.0 Oracle Database package.

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

   AIX, Linux:

   ```
   export CLASS_PATH=${JAR_PATH}/commons-cli-1.3.1.jar:${JAR_PATH}/commons-codec-1.9.jar:${JAR_PATH}/commons-collections-3.2.2.jar:${JAR_PATH}/log4j-api-2.11.0.jar:${JAR_PATH}/log4j-core-2.11.0.jar:${JAR_PATH}/ojdbc8-12.2.0.1.jar:${JAR_PATH}/oradbi.jar:${JAR_PATH}/spl-shared-4.3.0.6.0.jar
   ```

   Windows:

   ```
   SET CLASS_PATH=<DESTINATION_FOLDER_1>\RMB\jarfiles\*
   ```

4. Create the `detail.txt` file with the following details:

   ```
   -d jdbc:oracle:thin:@<Database-host>:<port>/<DB-SID>,<schema-user>,<schema-password>,<read-write-user>,<read-user>,<read-write-role>,<read-role>,<schema-user> -l 1,2 -j <JAVA_HOME> -q true
   ```

5. Change to the `Install-Upgrade` directory using the following command:

   AIX, Linux:

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

   Windows:

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

6. Execute the `OraDBI` (Java) utility using the following command:

   AIX, Linux:

   ```
   ${JAVA_HOME}/bin/java -Xmx1500M -cp ${CLASS_PATH} com.oracle.ouaf.oem.install.OraDBI -f detail.txt
   ```

   Windows:

   ```
   <Java_Home>\bin\java -Xmx1500M -cp <DESTINATION_FOLDER_1>\RMB\jarfiles\* com.oracle.ouaf.oem.install.OraDBI -f detail.txt
   ```

   A message appears indicating that the process is completed successfully.

2.6.2 pplying the 29126674 Patch

Once you install ORMB, you need to apply the MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 patch (Patch Number: 29126674). You can apply this patch from a Windows machine or UNIX Standalone server.

To apply the MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 patch:

1. Copy the MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 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 MANDATORY PATCH 1 FOR ORMB VERSION 2.7.0.1.0 patch using the following command:

   AIX, Linux:

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

   Windows:

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

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_3>` folder. The contents include three files - `README.txt`, `MultiPlatform.zip`, and `Bug_29126674_Product_Fix_Design.pdf`.

4. Unzip the `MultiPlatform` file using the following command:

   AIX, Linux:

   ```
   unzip <DESTINATION_FOLDER_3>/MultiPlatform.zip –d
   <PATH>/<DESTINATION_FOLDER_4>
   ```

   Windows:

   ```
   unzip <DESTINATION_FOLDER_3>\MultiPlatform.zip –d
   <PATH>\<DESTINATION_FOLDER_4>
   ```

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_4>` folder. The contents include the `V2.7.0.1.0-29126674_MultiPlatform` folder.

5. Change to the V2.7.0.1.0-29126674_MultiPlatform folder using the following command:

   AIX, Linux:

   ```
   cd <DESTINATION_FOLDER_4>/V2.7.0.1.0-29126674_MultiPlatform
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_4>\V2.7.0.1.0-29126674_MultiPlatform
   ```

Note: The <DESTINATION_FOLDER_4> folder is the location where you have extracted the contents of the MultiPlatform.zip file.

   The contents include a file named CCB.V2.7.0.1.0-29126674.jar and a folder named database.

6. Change to the ORACLE folder using the following command:

   AIX, Linux:

   ```
   cd database/ORACLE
   ```

   Windows:

   ```
   cd database\ORACLE
   ```

   The contents include a zip file named CDXPatch.

7. Unzip the CDXPatch file using the following command:

   AIX, Linux:

   ```
   unzip CDXPatch.zip –d <PATH>/<DESTINATION_FOLDER_5>
   ```

   Windows:

   ```
   unzip CDXPatch.zip –d <PATH>\<DESTINATION_FOLDER_5>
   ```

   The contents of the zip file are extracted in the <DESTINATION_FOLDER_5> folder. The contents include utility files and a folder named 29126674.

8. Ensure that the TOOLSBIN environment variable is set using the following command:

   AIX, Linux:

   ```
   export TOOLSBIN=/TEMPDIR/dbpatch_tools/bin
   ```

   Windows:

   ```
   SET TOOLSBIN=TEMPDIR\dbpatch_tools\bin
   ```

Note: The dbpatch_tools folder is the location where you have extracted the contents of db_patch_standalone.jar file.

9. Change to the <DESTINATION_FOLDER_5> folder using the following command:

   AIX, Linux:

   ```
   cd <PATH>/<DESTINATION_FOLDER_5>
   ```

   Windows:

   ```
   cd <PATH>\<DESTINATION_FOLDER_5>
   ```


10. Execute the `ouafDatabasePatch` utility using the following command:

    AIX, Linux:

    `ouafDatabasePatch.sh`

    Windows:

    `ouafDatabasePatch.cmd`

2.7 Migrating Data

If you are already using the **Administrative Services Only (ASO) Pricing** feature and want to upgrade to the ORMB V2.7.0.1.0, you need to execute the **Pricing Rules Upgrade Batch (C1-PRCUP)** batch to migrate the data from the previous release to the new release. This batch updates the schema of all pricing rules which are created using an Specific Stop-Loss (SSL) or Aggregate Stop-Loss (ASL) pricing rule type at the bill group level. It updates the column values of the records in the following table:

Table Name	Column Name	Column Value After Data Migration
C1_PRC_RULE	BO_DATA_AREA	This column value is updated for all pricing rules which are created using an Specific Stop-Loss (SSL) or Aggregate Stop-Loss (ASL) pricing rule type at the bill group level. Now, it will contain a list of fields related to claim, ancillary, and discount. This is because, now, you can calculate specific stop-loss or aggregate stop-loss not only based on the claim pricing rules or SSL/ASL line items, but also based on the ancillary pricing rules or ancillary billable charge line types and discount pricing rules. **Note:** For existing the specific stop-loss and aggregate stop-loss pricing rules, the ancillary and discount fields are left blank. For each set of claim, ancillary, and discount fields, the pricing rule type is defined as the primary key.

For the existing specific stop-loss pricing rules where the line items of a claim pricing rule are eligible for specific stop-loss, this batch finds the pricing rule type using which the claim pricing rule is created and accordingly updates the pricing rule type in the claim fields section. In this case, the derive option in the claim fields section is set to **Pricing Rules**.

However, for the existing specific stop-loss pricing rules where the line items associated with the **Specific Stop-Loss** pricing rule type category are eligible for specific stop-loss, this batch finds the claim pricing rules where these eligible line items are included, derives the pricing rule type using which the respective claim pricing rules are created and accordingly updates the pricing rule type in the claim fields section. It creates multiple claim fields sections – one for each pricing rule type. In this case, the derive option in the claim fields section is set to **SSL Line Items**. For example,

SSL Pricing Rule	Line Item Eligible for SSL	Claim Pricing Rule	Claim Pricing Rule Type	Claim Fields
SPR1	L1	CPR1	CPRT1	Claim Fields Set 1 with the Claim Pricing Rule Type = CPRT1 and Line Item = L1
		CPR2	CPRT1	
		CPR3	CPRT2	Claim Fields Set 2 with the Claim Pricing Rule Type = CPRT2 and Line Item = L1
	L2	CPR4	CPRT1	Claim Fields Set 1 with the Claim Pricing Rule Type = CPRT1 and Line Item = L2
		CPR5	CPRT3	Claim Fields Set 3 with the Claim Pricing Rule Type = CPRT3 and Line Item = L2
		CPR6	CPRT3	
		CPR7	CPRT4	Claim Fields Set 4 with the Claim Pricing Rule Type = CPRT4 and Line Item = L2

In the above example, the system will create the following sets of the claim fields in the SPR1 pricing rule schema - Set 1, 2, 3, and 4. In the set 1, there will be two line items – L1 and L2. However, in the set 2, 3, and 4, there will be one line item as mentioned in the above table.

For the existing aggregate stop-loss pricing rules where the line items of a claim pricing rule are eligible for aggregate stop-loss, this batch finds the pricing rule type using which the claim pricing rule is created and accordingly updates the pricing rule type in the claim fields section. In this case, the derive option in the claim fields section is set to **Pricing Rules**.

However, for the existing aggregate stop-loss pricing rules where the line items associated with the **Aggregate Stop-Loss** pricing rule type category are eligible for aggregate stop-loss, this batch finds the claim pricing rules where these eligible line items are included, derives the pricing rule type using which the respective claim pricing rules are created and accordingly updates the pricing rule type in the claim fields section. It creates multiple claim fields sections – one for each pricing rule type. In this case, the derive option in the claim fields section is set to **ASL Line Items**. For example,

ASL Pricing Rule	**Line Item Eligible for ASL**	**Claim Pricing Rule**	**Claim Pricing Rule Type**	**Claim Fields**
APR1	L10	CPR11	CPRT11	Claim Fields Set 1 with the Claim Pricing Rule Type = CPRT11 and Line Item = L10
		CPR12	CPRT11	
		CPR13	CPRT12	Claim Fields Set 2 with the Claim Pricing Rule Type = CPRT12 and Line Item = L10
	L11	CPR14	CPRT11	Claim Fields Set 1 with the Claim Pricing Rule Type = CPRT11 and Line Item = L11
		CPR15	CPRT13	Claim Fields Set 3 with the Claim Pricing Rule Type = CPRT13 and Line Item = L11
		CPR16	CPRT13	
		CPR17	CPRT14	Claim Fields Set 4 with the Claim Pricing Rule Type = CPRT14 and Line Item = L11

In the above example, the system will create the following sets of the claim fields in the APR1 pricing rule schema - Set 1, 2, 3, and 4. In the set 1, there will be two line items – L10 and L11. However, in the set 2, 3, and 4, there will be one line item as mentioned in the above table.

The following figure shows the SSL pricing rule schema available in ORMB 2.7.0.0.0.

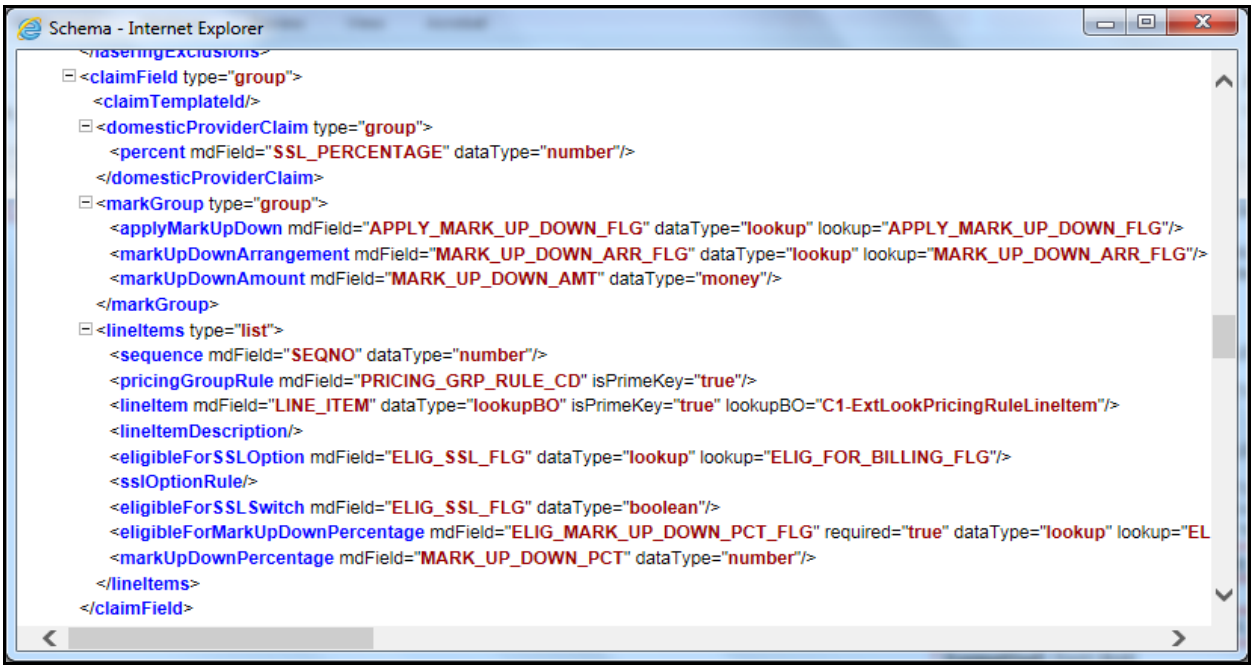

Figure 1 : claimField Tag

However, the following figure shows the SSL pricing rule schema available in ORMB 2.7.0.1.0.

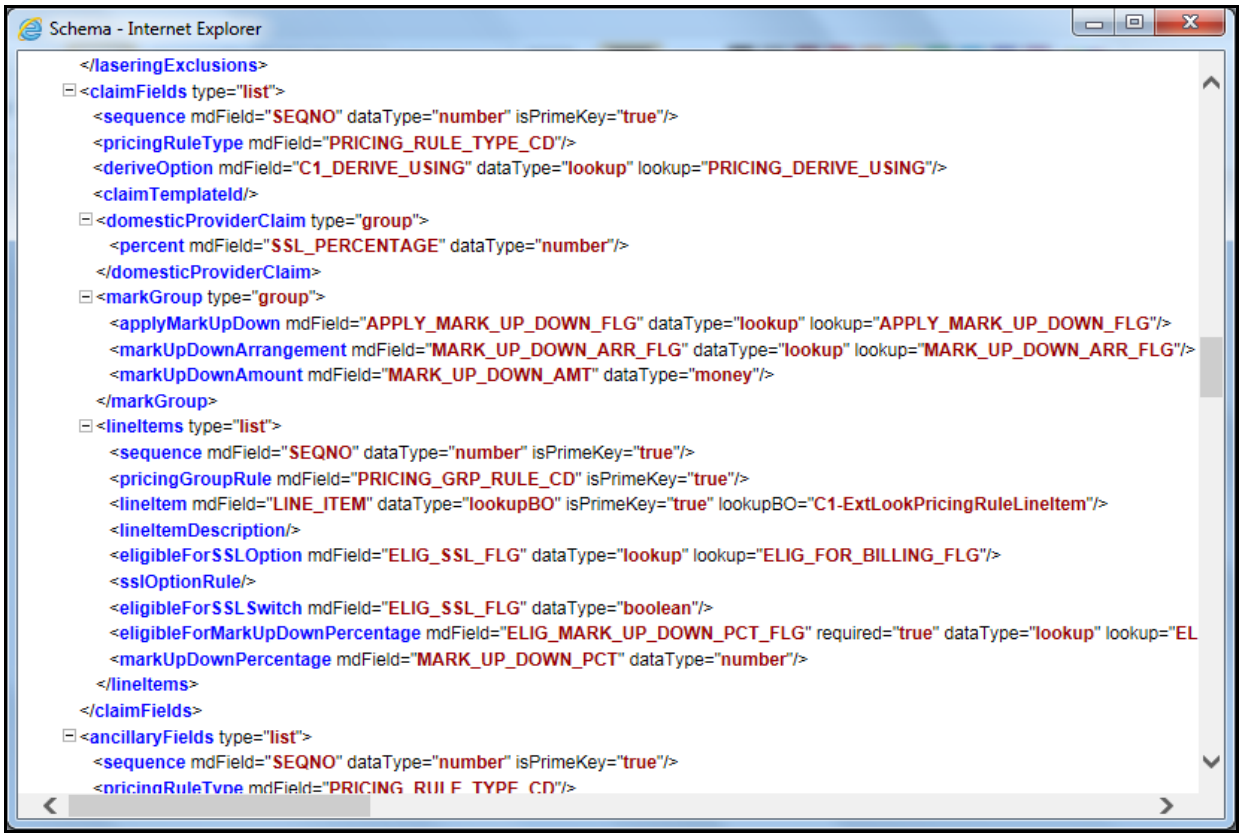

Figure 2 : claimFields Tag

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 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 : Known Issues

To view a list of known issues in the current release, refer to *Oracle Revenue Management and Billing Version 2.7.0.1.0 Release Notes*.

Appendix B : Third Party Software Upgrade

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

Appendix C : New Tables Added in 2.7.0.1.0

This section lists and describes the tables that are newly added in the Oracle Revenue Management and Billing Version 2.7.0.1.0 database.

C.1 C1_ACCRUAL_CALC_LINE

Purpose:	Used to store the calculation lines of an accrual.
Total Number of Columns:	16

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCR_ID	CHAR(19)	No	-
SEQNO	NUMBER(5,0)	No	-
CALC_SEQNO	NUMBER(5,0)	No	-
ENTITY_ID	CHAR(12)	Yes	-
ENTITY_TYPE_FLG	CHAR(2)	Yes	-
BILL_ID	CHAR(12)	Yes	-
INCL_CALC_AMT	NUMBER(15,2)	No	0
CURRENCY_CD	CHAR(3)	No	' '
BILL_CYC_DAYS	NUMBER(5,0)	Yes	-
RC_TOTAL_DAYS	NUMBER(5,0)	Yes	-
RC_CALC_DAYS	NUMBER(5,0)	Yes	-
HIST_CALC_DAYS	NUMBER(5,0)	Yes	-
EXCHRATE_ID	CHAR(10)	Yes	-
VERSION	NUMBER(5,0)	Yes	1
EXCL_CALC_AMT	NUMBER(15,2)	No	0
INCL_BS_CALC_AMT	NUMBER(15,2)	No	0

Primary Key:

Key Type	Column Name
Composite	ACCR_ID
	SEQNO
	CALC_SEQNO

Indexes:

Sr. No.	Index Name	Index Type	Column Name
1.	XF745P0	Unique	ACCR_ID
			SEQNO
			CALC_SEQNO

C.2 C1_ACCUM_GRP_DA

Purpose:	Used to store the accumulation groups created for discount arrangement.
Total Number of Columns:	13

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCUM_GRP_ID	CHAR(12)	No	-
PER_ID	CHAR(10)	Yes	-
SETTLEMENT_DATE	DATE	Yes	-
SETTLEMENT_FREQUENCY_FLG	CHAR(4)	Yes	-
ACCT_ID	CHAR(10)	Yes	-
IS_UNLIMITED	CHAR(1)	Yes	-
MIN_IS_SELECTED	CHAR(1)	Yes	-
MIN_LIMIT_OPT	CHAR(4)	Yes	-
MIN_CONTRACT_AMT	NUMBER(36,18)	Yes	-
MAX_IS_SELECTED	CHAR(1)	Yes	-
MAX_LIMIT_OPT	CHAR(4)	Yes	-
MAX_CONTRACT_AMT	NUMBER(36,18)	Yes	-
VERSION	NUMBER(5,0)	No	1

Primary Key:

Key Type	Column Name
Simple	ACCUM_GRP_ID

Indexes:

Sr. No.	Index Name	Index Type	Column Name
1.	XT994P0	Unique	ACCUM_GRP_ID

C.3 C1_ACCUM_GRP_LF

Purpose:	Used to store the accumulation groups created for level-funding.
Total Number of Columns:	20

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
ACCUM_GRP_ID	CHAR(12)	No	-
PER_ID	CHAR(10)	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(4)	Yes	-
ACCT_ID	CHAR(10)	Yes	-
RUN_IN_SW	CHAR(1)	No	‘N’
RUN_IN_INCURRED_START_DT	DATE	Yes	-
RUN_IN_INCURRED_END_DT	DATE	Yes	-
RUN_IN_PAID_START_DT	DATE	Yes	-
RUN_IN_PAID_END_DT	DATE	Yes	-
THIRD_PTY_SW	CHAR(1)	No	‘N’
THIRD_PTY_INCURRED_START_DT	DATE	Yes	-
THIRD_PTY_INCURRED_END_DT	DATE	Yes	-
THIRD_PTY_PAID_START_DT	DATE	Yes	-
THIRD_PTY_PAID_END_DT	DATE	Yes	-
VERSION	NUMBER(5,0)	No	1

Primary Key:

Key Type	Column Name
Simple	ACCUM_GRP_ID

Indexes:

Sr. No.	Index Name	Index Type	Column Name
1.	XT995P0	Unique	ACCUM_GRP_ID

C.4 CI_DATA_EX_REQ_TYPE_L

Purpose:	Used to store the description of a data extract request type.
Total Number of Columns:	4

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
DATA_EX_CD	CHAR(12)	No	-
LANGUAGE_CD	CHAR(3)	No	-
DESCR	VARCHAR2(60)	Yes	-
VERSION	NUMBER(5,0)	Yes	-

Primary Key:

Key Type	Column Name
Composite	DATA_EX_CD
	LANGUAGE_CD

Indexes:

Sr. No.	Index Name	Index Type	Column Name
1.	XT922P0	Unique	DATA_EX_CD
			LANGUAGE_CD

C.5 CI_DATA_EX_REQ_TYPE

Purpose:	Used to store the details of a data extract request type.
Total Number of Columns:	9

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
DATA_EX_CD	CHAR(12)	No	-
FILTER_CONDITION	VARCHAR2(2000)	Yes	-
DATA_MASKING_RULES	VARCHAR2(2000)	Yes	-
CRE_DTTM	DATE	Yes	-
CREATED_BY	VARCHAR2(254)	Yes	-
VERSION	NUMBER(5,0)	Yes	-
DATA_EXTRACT_FLG	CHAR(4)	No	-
BUS_OBJ_CD	CHAR(30)	Yes	-
EX_DIR_PATH	VARCHAR2(512)	No	-

Primary Key:

Key Type	Column Name
Simple	DATA_EX_CD

Indexes:

Sr. No.	Index Name	Index Type	Column Name
1.	XT921P0	Unique	DATA_EX_CD

C.6 CI_DATA_EX_REQ

Purpose:	Used to store the details of a data extract request.
Total Number of Columns:	8

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
DATA_EX_REQ_ID	CHAR(12)	No	-
DATA_EX_CD	CHAR(12)	No	-
FILENAME	CHAR(100)	No	-

Column Name	Data Type	Nullable (Yes or No)	Default Value
EXTRACT_DTTM	DATE	Yes	-
STATUS_CD	CHAR(12)	No	-
SUCCESS_REC_CNT	NUMBER(10,0)	No	-
FAILED_REC_CNT	NUMBER(10,0)	No	-
VERSION	NUMBER(5,0)	Yes	-

Primary Key:

Key Type	Column Name
Simple	DATA_EX_REQ_ID

Indexes:

Sr. No.	Index Name	Index Type	Column Name
1.	XT927P0	Unique	DATA_EX_REQ_ID

C.7 C1_FILE_POLLER_LOG

Purpose:	Used to store logs generated while executing the C1-FPOLR batch.
Total Number of Columns:	12

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
POLLER_LOG_ID	CHAR(15)	No	-
FILE_NAME	CHAR(60)	No	' '
JOB_NAME	VARCHAR2(128)	No	' '
RULE_CD	CHAR(12)	No	' '
RULE_TYPE_CD	CHAR(12)	No	' '
RULE_PARAMETER_OBJ	VARCHAR2(32000)	No	' '
NOTIFICATION_STATUS	CHAR(10)	No	' '
ERROR_DETAILS	VARCHAR2(4000)	No	' '
ILM_ARCH_SW	CHAR(1)	No	' '
ILM_DT	DATE	Yes	-
LOG_DATE	DATE	Yes	-
VERSION	NUMBER(5,0)	No	1

Primary Key:

Key Type	Column Name
Simple	POLLER_LOG_ID

Indexes:

Sr. No.	Index Name	Index Type	Column Name
1.	XC1010P0	Unique	POLLER_LOG_ID

C.8 CI_PRICEASGN_LOG

Purpose:	Used to store logs of a price item pricing.
Total Number of Columns:	20

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
PRICE_ASGN_ID	CHAR(12)	No	-
SEQNO	NUMBER(5,0)	No	-
LOG_ENTRY_TYPE_FLG	CHAR(4)	No	' '
LOG_DTTM	DATE	No	-
BO_STATUS_CD	CHAR(12)	No	' '
DESCRLONG	VARCHAR2(4000)	No	' '
MESSAGE_CAT_NBR	NUMBER(5,0)	No	0
MESSAGE_NBR	NUMBER(5,0)	No	0
CHAR_TYPE_CD	CHAR(8)	No	' '
CHAR_VAL	CHAR(16)	No	' '
ADHOC_CHAR_VAL	VARCHAR2(254)	No	' '
CHAR_VAL_FK1	VARCHAR2(50)	No	' '
CHAR_VAL_FK2	VARCHAR2(50)	No	' '
CHAR_VAL_FK3	VARCHAR2(50)	No	' '
CHAR_VAL_FK4	VARCHAR2(50)	No	' '
CHAR_VAL_FK5	VARCHAR2(50)	No	' '
SRCH_CHAR_VAL	VARCHAR2(50)	No	' '
USER_ID	CHAR(8)	No	' '

Column Name	Data Type	Nullable (Yes or No)	Default Value
VERSION	NUMBER(5,0)	No	1
BO_STATUS_REASON_CD	VARCHAR2(30)	Yes	-

Primary Key:

Key Type	Column Name
Composite	PRICE_ASGN_ID
	SEQNO

Indexes:

Sr. No.	Index Name	Index Type	Column Name
1.	C1T011P0	Unique	PRICE_ASGN_ID
			SEQNO
2.	C1T193S1	Non Unique	CHAR_TYPE_CD
			CHAR_VAL_FK1

C.9 CI_PRICEASGN_LOG_PARM

Purpose:	Used to store the price item pricing log parameters.
Total Number of Columns:	6

Column Details:

Column Name	Data Type	Nullable (Yes or No)	Default Value
PRICE_ASGN_ID	CHAR(12)	No	-
SEQNO	NUMBER(5,0)	No	-
PARM_SEQ	NUMBER(3,0)	No	-
MSG_PARM_TYP_FLG	CHAR(4)	No	' '
MESSAGE_PARM	VARCHAR2(2000)	No	' '
VERSION	NUMBER(5,0)	No	1

Primary Key:

Key Type	Column Name
Composite	PRICE_ASGN_ID
	SEQNO
	PARM_SEQ

Indexes:

Sr. No.	Index Name	Index Type	Column Name
1.	C1T012P0	Unique	PRICE_ASGN_ID
			SEQNO
			PARM_SEQ

Appendix D : Existing Tables Modified in 2.7.0.1.0

This section lists the existing tables which are modified in Oracle Revenue Management and Billing Version 2.7.0.1.0. It also indicates the columns that are newly added, dropped, or modified in these tables.

D.1 C1_ACCT_ECR_ELGIBILITY

The following table lists the columns that are either newly added or modified in the C1_ACCT_ECR_ELGIBILITY table:

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	FT_DIST_OBJ_VAL	Newly Added	-	CHAR(30)	No	-
2.	FT_DIST_OBJ_BO	Newly Added	-	VARCHAR2(254)	No	-

D.2 C1_ACCUM_DISC_ARG_AMT

The following table lists the columns that are either newly added or modified in the C1_ACCUM_DISC_ARG_AMT table:

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	CREDIT_PREV_BILLED_AMT	Newly Added	-	NUMBER(36,18)	No	-
2.	PREV_BILLED_AMT	Newly Added	-	NUMBER(36,18)	No	-

D.3 C1_ACCUM_LF_AMT

The following table lists the columns that are either newly added or modified in the C1_ACCUM_LF_AMT table:

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	PREV_BILLED_AMT	Newly Added	-	NUMBER(36,18)	No	-
2.	RO_BILLABLE_CHG_ID	Newly Added	-	CHAR(12)	No	-
3.	RO_PREV_BILLED_AMT	Newly Added	-	NUMBER(36,18)	No	-

D.4 C1_ADDRESS

The following table lists the columns that are either newly added or modified in the C1_ADDRESS table:

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	SEASON_EFF_STATUS	Newly Added	-	CHAR(1)	No	-

D.5 C1_FUNDING_REQ_DTLS

The following table lists the columns that are either newly added or modified in the C1_FUNDING_REQ_DTLS table:

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	FUND_CUR_EXCHRATE	Newly Added	-	NUMBER(36,18)	No	-
2.	OPEN_BILLS_SW	Newly Added	-	CHAR(1)	No	-

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
3.	ORIG_OUTSTANDING_AMT	Newly Added	-	NUMBER(15,2)	No	-
4.	THRESHOLD_RANGE_FROM	Newly Added	-	NUMBER(15,2)	No	-
5.	THRESHOLD_RANGE_TO	Newly Added	-	NUMBER(15,2)	No	-

D.6 C1_FUNDING_REQ_TYPE

The following table lists the columns that are either newly added or modified in the C1_FUNDING_REQ_TYPE table:

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	ACCT_FUND_CUR_CHAR_CD	Newly Added	-	CHAR(8)	No	-
2.	CC_ADJ_ALG_CD	Newly Added	-	CHAR(12)	No	-
3.	CC_PAY_ALG_CD	Newly Added	-	CHAR(12)	No	-

D.7 CI_CIS_DIV_CST_LNG

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

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	CST_LNG_CD	Newly Added	-	CHAR(3)	No	-

D.8 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 V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	PRICE_ASGN_ID	Newly Added	-	CHAR(10)	No	-

D.9 CI_FILE_REQUEST

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

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	APP_TXN_ID	Newly Added	-	CHAR(15)	No	-
2.	FILE_PATH	Newly Added	-	VARCHAR2(150)	No	-
3.	REFERENCE_ID	Newly Added	-	VARCHAR2(30)	No	-

D.10 C1_FILE_REQUEST_TRANSFORM_DTL

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

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	SOURCE_FIELD_PATH	Newly Added	-	VARCHAR2(255)	No	-

D.11 CI_FILE_REQUEST_TYPE

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

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	APPROVAL_REQUIRED	Newly Added	-	CHAR(1)	No	-

D.12 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 V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	ORIG_PAY_AMT	Newly Added	-	NUMBER(15,2)	No	-
2.	ORIG_PAY_CCY_CD	Newly Added	-	CHAR(3)	No	-

D.13 CI_PER

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

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	CUST_TIER_FLG	Newly Added	-	CHAR(4)	No	-
2.	CUST_SEG_FLG	Newly Added	-	CHAR(4)	No	-

D.14 CI_ROLLBACK_TXN_DETAIL

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

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	REPROCESS_SW	Newly Added	-	CHAR(1)	No	-

D.15 CI_TXN_DETAIL

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

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	RUN_GRP_ID	Newly Added	-	NUMBER(22,0)	No	-

D.16 CI_TXN_DETAIL_STG

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

Sr. No.	Column Name	Modification Type	Data Type in V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	RUN_GRP_ID	Newly Added	-	NUMBER(22,0)	No	-

D.17 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 V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	PRICE_ASGN_ID	Newly Added	-	CHAR(10)	No	-
2.	SUMM_HASHCODE	Newly Added	-	NUMBER(10,0)	No	-

D.18 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 V2.7.0.0.0	Data Type in V2.7.0.1.0	Data Migration Required (Yes or No)	Column Value After Data Migration
1.	PRICE_ASGN_ID	Newly Added	-	CHAR(10)	No	-

Appendix E : Algorithms and Algorithm Types Dropped in 2.7.0.1.0

This section lists the algorithms and algorithm types which are dropped in Oracle Revenue Management and Billing Version 2.7.0.1.0.

E.1 Algorithm Type

No algorithm types are dropped in Oracle Revenue Management and Billing Version 2.7.0.1.0.

E.2 Algorithm

The following table lists the algorithms which are dropped in Oracle Revenue Management and Billing Version 2.7.0.1.0:

Algorithm	Description
C1-CUSTRPT	Custom Report Creation
C1-CUSTSUBMT	Transition from Customer Submit
C1-PDOV-BLAD	Match by Bill ID, Pay Target Bill & create Adj if required
C1_BNKBLEXPS	Banking Bill Extract Algorithm Type - New Format

Appendix F : Parameters Added or Removed from Algorithm Types in 2.7.0.1.0

This section lists the parameters which are newly added or removed from the existing algorithm types in Oracle Revenue Management and Billing Version 2.7.0.1.0.

Algorithm Type	Parameters (Removed from 2.7.0.1.0)	Parameters (Added in 2.7.0.1.0)
C1-NCPAY-FT	-	Create Extra FTGL Entries in Original Payment Currency(Y or N)
	-	Payment Distribution Code Characteristic Type
PSEG-AC	-	Create Extra FTGL Entries in Original Payment Currency(Y or N)
	-	Payment Distribution Code Characteristic Type
PSEG-CA	-	Create Extra FTGL Entries in Original Payment Currency(Y or N)
	-	Payment Distribution Code Characteristic Type
PSEG-NM	-	Create Extra FTGL Entries in Original Payment Currency(Y or N)
	-	Payment Distribution Code Characteristic Type
C1-BLDDEBARR	-	Division
		Contract Type

Appendix G : Option Types Added or Removed from Feature Configurations in 2.7.0.1.0

This section lists the option types which are newly added or removed from the existing feature configurations in Oracle Revenue Management and Billing Version 2.7.0.1.0.

Feature Name	Option Type (Removed from 2.7.0.1.0)	Option Type (Added in 2.7.0.1.0)
C1-ASOBLLNG	-	Approval Workflow Group for Discount Arrangement
	-	Approval Workflow Group for Level Funded
C1-HOLDSRCH	-	Funding Exclusion Reason
C1_FM	-	Use C1-TXNPS During Transaction Aggregation

Appendix H : Characteristic Types Dropped in 2.7.0.1.0

No characteristic types are dropped in Oracle Revenue Management and Billing Version 2.7.0.1.0.

Appendix I : Changing the DB User Password

If you have changed the database user password, you need to execute the following steps before installing the rollup pack for Oracle Utilities Application Framework Version 4.3.0.6.0:

1. Download and apply the single fix available for Bug 22505470 - PATCHES APPEND EXTRA SPACE TO STRINGS AND ADD DB SERVICE CONNECTION SUPPORT on the application and database environments.
2. Perform the following steps on the application environment:
    a. Change the DB Name using the `configureEnv` command.
    b. Execute the `initialSetup` utility using the following command:

    AIX, Linux:

    ```
    $SPLEBASE/bin/initialSetup.sh
    ```

    Windows:

    ```
    %SPLEBASE%\bin\initialSetup.cmd
    ```

    c. Execute the `invokeDBUpdatePatch` utility to change the database user name and password using the following command:

    AIX, Linux:

    ```
    $SPLEBASE/bin/invokeDBUpdatePatch.sh -b
    ```

    Windows:

    ```
    %SPLEBASE%\bin\invokeDBUpdatePatch.cmd –b
    ```

